Welcome to this special edition of the Insurance Market Update

Market Consistent Embedded Value (MCEV) reporting has not enjoyed a smooth ride since its birth in 2008. It was unfortunate timing that MCEV came into force during one of the most severe financial crises in more than 60 years. The volatile MCEV numbers reported by insurers over the last few years, coupled with the very slow progress towards applying a consistent methodology and the seemingly complex nature of this reporting metric, resulted in analysts and investors questioning the merits of MCEV. The 2010 MCEV reporting season showed some signs of convergence in methodology forced by regulatory regimes (mainly Solvency II). It was also characterised by the steady decline in the prominence of MCEV in insurers’ financial reports with more focus being given to IFRS earnings, cash flow and capital generation. Even with the uncertain future of MCEV, it is still one of the key metrics within the insurance sector and the knowledge developed in producing these numbers forms the cornerstone of the quantitative skills required for Solvency II and IFRS 4 Phase II.

This year’s special edition of the Insurance Market Update analyses the results published by 19 major European insurers, although our focus is principally on those companies with UK operations.

In this article we draw out some of the key themes that have emerged over the last couple of years, by comparing embedded values across the industry. We also analyse the disclosures and their merits, and the relationship between embedded value and share price. Finally, we discuss what the future of embedded value might look like.

We are always interested to get your feedback and hear your views on the topics we cover. If you would like to contribute to the debate, or ask questions of our experts, please speak to your usual Deloitte contact, or one of the team listed at the end of this article.

Roger Simler
Partner – Actuarial & Insurance Solutions
MCEV: Methodology and assumptions

2010 could be the point at which convergence in approach to determining MCEV started in earnest. Most insurers in our sample are now adjusting their yield curve for illiquidity premium and are calculating their Cost of Residual Non-Hedgeable Risk (CRNHR) using the cost of capital methodology in a very similar way to the Solvency II framework.

In 2010 we have seen a mix of market consistent and non-market consistent embedded values. As the MCEV Principles are not currently compulsory, and with the CFO Forum’s move away from making MCEV the sole reporting methodology, we do not expect to see an increase in convergence in this area.

Economic variance

Some insurers in our sample showed significant (negative) economic variance. As ‘economic variance’ includes both market movements and economic assumption changes it is difficult to analyse the genuine impact of market movements as opposed to management decisions.

Disclosure

There has been a clear sign in disclosures of the increased prominence of cash flow, capital generation and IFRS earnings. Market reaction to the complexity of MCEV is likely to have played a large part in this trend. In our view, cash flow reporting is a useful addition to insurers’ disclosure but it should not be relied upon exclusively as an indicator of performance. The cash flows rely on the same embedded value assumptions and do not help in understanding the economic risk affecting shareholder value.

Embedded value versus share price

Since the start of the financial crisis and the resulting sell-off of insurance stocks, the life sector performance has dropped and has been consistently lower than the market. If embedded values are believed to be a good reflection of an insurer’s value then market capitalisation should be higher than embedded value; this has not been the case for the majority of our sampled companies. There are a number of reasons why market capitalisation and embedded value will always diverge, however in our view the combination of the complexity and volatility of MCEV with the frequent changes in methodologies, does not help investors’ or analysts’ acceptance of this metric.

Embedded value post Solvency II and IFRS 4 Phase II

Could we be seeing the end of the embedded value era? With Solvency II and IFRS 4 Phase II coming into force in the near future, will embedded value survive? Both these regimes use calculation techniques similar to those applied in embedded value and will, with potentially minor changes, convey similar information. This may reduce the impetus for embedded value reporting. It is our view that insurers should consider how Solvency II and IFRS 4 Phase II can be used to convey management’s view of value. This may be used as an opportunity to simplify their reporting.
Methodology

As compliance with the MCEV Principles was not mandatory as at year-end 2010, insurers continued to publish embedded value using a variety of approaches. Based on our sample of 19 companies, 11 reported under the MCEV Principles published by the CFO Forum in October 2009, four companies reported under the EEV Principles using a market consistent approach and the remaining four reported under the EEV Principles without being market consistent.

In April 2011, the CFO Forum withdrew its intention that MCEV should be the only recognised format of embedded value reporting from 31 December 2011. This decision was driven by the ongoing development of insurance reporting under Solvency II and IFRS. The CFO Forum, however, remains committed to supplementary reporting, including embedded value. Given this situation, we do not expect to see further convergence in approaches any time soon.

In addition to the above mentioned embedded value methodologies, Aviva introduced a new variant of embedded value called ‘Equivalent Embedded Value’. Aviva’s aim is to “provide enhanced embedded value information to allow a direct comparison to EEV”. Contrary to some of its UK peers publishing a non-market consistent EEV, Aviva uses a market consistent approach which does not give credit to any return due to spreads earned on corporate bonds.

Aviva considers that its experience in managing credit and insurance risk means it is confident of realising the spread margins in the real-world. Figure 1 below represents the main difference in the yield assumptions between the ‘Equivalent Embedded Value’ and the MCEV approaches, and looks at the impact that this has on Aviva’s shareholders’ equity.

Aviva’s aim of this additional reporting is to make the comparison to its UK peers publishing under the EEV methodology easier for analysts and investors, as well as showing investors that there is more value in the business than currently reflected in the share price. We acknowledge Aviva’s concerns regarding its MCEV figures and recognise the importance of reflecting an accurate view of value. However, adding yet another variant to embedded value may only serve to increase analysts’ perception of the complexity of life insurance, while moving further away from the CFO Forum’s aim of harmonising embedded value reporting.

![Figure 1. Aviva ‘Equivalent Embedded Value’ vs. MCEV](image)

Source: Aviva disclosure & Deloitte analysis

1 Aviva analyst presentation as at January 2011.
Assumptions

For year-end 2010 there is evidence of assumptions converging towards the expected Solvency II specifications. For example, in Allianz’s MCEV presentation the three main assumption changes were clearly made to achieve greater consistency with its peers and the Solvency II Directive. These changes are summarised in Table 1.

A table summarising each sampled company’s assumptions is provided in the appendix. Below we comment on the key features and emerging trends in these assumptions.

Liquidity premium

Most insurers (13 out of the 19 companies in our sample) are now adjusting their yield curve to allow for an illiquidity premium. This includes some of the major European players who were initially sceptical about the case for illiquidity premium, such as Allianz and Zurich Financial Services (the latter who plans to include an illiquidity premium by year-end 2011). Furthermore, of the 12 out of 13 companies that disclosed the methodology used to calculate the illiquidity premium, half used the CFO/CRO Forum and QIS 5 recommended formula \[\text{Max}(0, 50\% \times (\text{Spread} – 40\text{bp}))\]. All companies using this approach bucketed their liabilities in-line with the recommendations so that the different levels of illiquidity premium (i.e. 100%, 75% and 50%) are applied in-line with the nature of the liabilities.

Cost of residual non-hedgeable risk (CRNHR)

The CRNHR used to be an area where insurers diverged significantly; this year we have seen the first signs of convergence beginning. Of our sample, 11 calculated the CRNHR as a cost of capital charge applied to the capital required to cover the non-hedgeable risks. The capital charge applied by 5 of those 11 companies was 4.0% (including Zurich Financial Services which will apply the 4.0% at year-end 2011). This is consistent with the CFO Forum recommendation which indicated that a suitable charge is in the range 2.5% – 4.5%. The capital charge for the CRNHR is lower than the charge applied in calculating the risk margin under the Solvency II framework. Insurers may be using the publication of MCEV as a means to lobby the regulator to lower the Solvency II capital charge.

Volatility and reference rates

Volatility and reference rates are the two assumptions with greater consistency. During the financial crisis when markets were dislocated, insurers applied different adjustments to volatilities and reference rates. Now that markets are generally accepted to have returned to more normal levels, all insurers reporting under a market consistent approach are using the swap rates (where there is a deep and liquid market) and implied volatilities at the calculation date.

Table 1. Allianz’s key assumptions changes

<table>
<thead>
<tr>
<th>Allianz assumption change</th>
<th>Impact on (EUR)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>New business value</strong></td>
<td><strong>MCEV</strong></td>
</tr>
</tbody>
</table>
| Inclusion of illiquidity premium:  
In-line with the CFO/CRO Forum recommendation | +113m | +1.7bn |
| Yield curve extrapolation:  
In-line with EIOPA guidance | +45m | +0.6bn |
| Cost of capital charge for non-hedgeable risk:  
In-line with major European peers  
(equivalent to 4% charge on risk capital calculated at 99.5% confidence level) | +47m | +0.5bn |

Source: Allianz analyst presentation as at 25 February 2011

There remain differences in the treatment of diversification between covered and non-covered businesses in the CRNHR. MCEV Principle 9.7 prohibits the use of this diversification. Some companies believe that this does not reflect the risk management process and have made some allowance for diversification. If the CFO Forum introduces future amendments to the MCEV Principles, this might be an area for review.

Results

We have expanded the number of insurers in our sample from 16 in last year’s special edition to 19 in this year’s. The comparisons below with last year’s numbers are done on a like-for-like basis.

2010 was a year where most insurers in our sample saw an increase in embedded value. 15 out of the 19 companies produced a positive return on embedded value (in local currency) bringing the aggregate embedded value for long term covered business to £201bn, an increase of 7.6% (including the effect of exchange rate changes) compared to 2009.

Of the £201bn, £43bn is written in the UK, £99bn in Continental Europe and £59bn in the rest of the world. Figure 2 below shows the total embedded value for each company over the last three years (in descending order) split by region.

Figure 2. Global Life embedded value by region for years 2008 – 2010 (£m)

Source: Companies’ disclosure & Deloitte analysis

Notes:
- Baloise did not publish an MCEV in 2008.
- Groupama: the embedded value for Europe is only that of French business. The rest of the world figure contains all other businesses.
- Resolution: Continental Europe represents the embedded value of Lombard.
- Standard Life: the rest of the world figure contains the embedded value of the German and Irish branches as well as the rest of the international business.
- Swiss Life: the embedded value includes the private placement life insurance through Singapore.
AXA remains the largest insurer (measured by the embedded value of the covered business) in our sample with a considerable margin over Allianz and Generali. In 2010, AXA sold most of its UK business to Resolution (with the combined portfolio of Friends Provident, AXA and BUPA now renamed Friend’s Life) which significantly reduced its UK embedded value. AXA has subsequently taken over full control of its Asia-Pacific business after almost 18 months of negotiation. This consolidation, which happened in April 2011, does not show in the embedded value numbers in this article.

The UK life insurers have reported a strong set of results for 2010 with upbeat messages from their CEOs and an increase in dividend payments. Both Aviva and Prudential reported significant increase in new business contribution in the UK market (see page 9).

The top three performers in terms of return on embedded value (ignoring the effect of Resolution’s acquisition of AXA’s UK business) were Old Mutual, Swiss Life (based on return in CHF) and Prudential. Old Mutual attributed this to positive market movements, lower yield curves and tax deductions on income and gains as a result of the current tax position of the UK tax group. In addition, the strengthening of the Rand, Dollar and Krona relative to Sterling had a significantly positive effect on the MCEV (which is reported in Sterling). Swiss Life’s increase in MCEV was largely driven by assumption changes such as future mortality, morbidity and longevity rates. The effect of the ongoing cost reduction programme and a revised policyholder bonus approach, driven by the low interest rate environment, gave the MCEV a significant upswing. The effect of these changes represented 20% of the opening MCEV. It is not clear what level of management discretion has been applied in arriving at these changes. Prudential’s embedded value increased by 19%, largely driven by the 31% increase in its Asian business embedded value.

The worst performer was Groupama with a drop in embedded value of 21%, attributed largely to economic conditions, the new tax regime in France and an increase in future bonus rates assumption.

One of the striking features of embedded value results in 2010 was that nearly two thirds of insurers in our sample reported negative economic variance. Most companies with negative economic variance attributed this to lower interest rates, widening sovereign bond spreads, higher interest rate volatilities and higher credit spreads. As shown in Table 2 below, the economic environment mainly had an adverse effect on Continental European insurers, whereas the UK based insurers seem to have weathered the market situation much better. Under the current MCEV guidelines, companies are not obliged to split the impact on embedded value of the market movement and the economic assumption changes, hence the economic variance is the total of those two elements. This approach lacks the transparency needed to understand the genuine impact of market movement as opposed to management decisions. For example, over optimism on illiquidity premium does not show up as a separately disclosed item, but is buried within the economic variance.

Table 2. Economic variance as % of opening embedded value

<table>
<thead>
<tr>
<th>Economic variance as % of opening embedded value</th>
<th>Old Mutual</th>
<th>Std Life</th>
<th>Storebrand</th>
<th>Resolution</th>
<th>LBG</th>
<th>Legal &amp; General</th>
<th>Aviva</th>
<th>Prudential</th>
<th>Axa</th>
<th>CNP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source: Companies’ disclosure &amp; Deloitte analysis</td>
<td>13%</td>
<td>10%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>2%</td>
<td>1%</td>
<td>-1%</td>
<td>-4%</td>
<td>-5%</td>
</tr>
</tbody>
</table>

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We have analysed the available economic sensitivities to better gauge the potential impact of market movement on the insurers’ embedded value. Table 3 below summarises those sensitivities.

### Table 3. Economic sensitivities

<table>
<thead>
<tr>
<th>Company</th>
<th>Illiquidity premium</th>
<th>Risk free rate</th>
<th>Equity/property values</th>
<th>Volatilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10bp increase to reference rates</td>
<td>Remove premium</td>
<td>+100bps</td>
<td>-100bps</td>
</tr>
<tr>
<td>Axa</td>
<td>2%</td>
<td>-4%</td>
<td>2%</td>
<td>-6%</td>
</tr>
<tr>
<td>Allianz</td>
<td>-</td>
<td>-6%</td>
<td>8%</td>
<td>-15%</td>
</tr>
<tr>
<td>Aviva</td>
<td>2%</td>
<td>-</td>
<td>-1%</td>
<td>-1%</td>
</tr>
<tr>
<td>Baloise</td>
<td>-</td>
<td>-9%</td>
<td>24%</td>
<td>-32%</td>
</tr>
<tr>
<td>CNP</td>
<td>0%</td>
<td>-</td>
<td>0%</td>
<td>-1%</td>
</tr>
<tr>
<td>Ageas</td>
<td>2%</td>
<td>-8%</td>
<td>5%</td>
<td>-15%</td>
</tr>
<tr>
<td>Generali</td>
<td>1%</td>
<td>-6%</td>
<td>4%</td>
<td>-8%</td>
</tr>
<tr>
<td>Groupama</td>
<td>-</td>
<td>-</td>
<td>-7%</td>
<td>6%</td>
</tr>
<tr>
<td>KBC</td>
<td>-</td>
<td>-</td>
<td>0%</td>
<td>-1%</td>
</tr>
<tr>
<td>Legal &amp; General</td>
<td>-</td>
<td>-</td>
<td>-2%</td>
<td>2%</td>
</tr>
<tr>
<td>LBG</td>
<td>1%</td>
<td>-</td>
<td>-</td>
<td>2%</td>
</tr>
<tr>
<td>Munich Re</td>
<td>3%</td>
<td>-</td>
<td>6%</td>
<td>-11%</td>
</tr>
<tr>
<td>Old Mutual</td>
<td>1%</td>
<td>-</td>
<td>-3%</td>
<td>3%</td>
</tr>
<tr>
<td>Prudential</td>
<td>1%</td>
<td>-</td>
<td>-3%</td>
<td>3%</td>
</tr>
<tr>
<td>Resolution</td>
<td>-</td>
<td>-7%</td>
<td>-2%</td>
<td>2%</td>
</tr>
<tr>
<td>Standard Life</td>
<td>-</td>
<td>-</td>
<td>0%</td>
<td>-2%</td>
</tr>
<tr>
<td>Storebrand</td>
<td>-</td>
<td>-</td>
<td>6%</td>
<td>-19%</td>
</tr>
<tr>
<td>Swiss Life</td>
<td>-</td>
<td>-</td>
<td>10%</td>
<td>-17%</td>
</tr>
<tr>
<td>ZFS</td>
<td>1%</td>
<td>-</td>
<td>-1%</td>
<td>-4%</td>
</tr>
</tbody>
</table>

Source: Companies’ disclosure & Deloitte analysis

Notes:
- ZFS did not include an illiquidity premium in the year-end 2010 embedded value but will include one at year-end 2011. The ZFS illiquidity premium sensitivity listed above was shown to illustrate the potential impact.
- Allianz did not disclose the impact of the illiquidity premium in the embedded value report but showed its impact in the analyst presentation.
Embedded value reporting is currently the main reporting metric showing a wide range of sensitivities, allowing investors and analysts to understand the economic risk affecting shareholder value. Analysing sensitivities gives a view of the companies’ potential asset and liability mismatch, and the opportunity for reducing volatility through hedging. The first MCEV reporting coincided with the beginning of the financial crisis which dislocated the market and resulted in unpredictable and volatile embedded value results. This made it difficult for investors, analysts and even insurers themselves, to accept that the embedded value numbers fully represented the true outlook for the underlying business. As the insurance industry moves closer to the implementation of market consistent techniques through Solvency II and IFRS 4 Phase II, stakeholders will develop a better understanding of the embedded value results (assuming embedded value reporting survives – see page 12).

Given the decrease in the yield curves between 2009 and 2010 in most countries (except Sweden which mainly affects the results of Storebrand) the economic variance shown in Table 2 is largely consistent with the sensitivities of the embedded value to interest rate movements. These sensitivities are shown in Figure 3 below. Aviva shows one of the smallest sensitivities to interest rate movement (as well as the smallest economic variance); this is likely to be due to its hedging strategy. Baloise is showing the biggest sensitivity to a decrease in interest rate movement (-33%) probably explained by an asset and liability mismatch. Compared to Swiss Life, one of its peers in the Swiss market, the contrast is marked. Swiss Life’s interest rate sensitivity dropped from -37% in 2009 to -17% in 2010. This implies that Swiss Life took action to protect its financial position from interest drops whereas Baloise, which is still showing a similar level of sensitivity as in 2009, seems to be betting on an increase in interest rates.

Figure 3. Embedded value sensitivity to interest rate movement

Source: Companies’ disclosure and Deloitte Analysis

Note: Lloyds Banking Group and Old Mutual do not report sensitivity to interest rate movement.
New business

The total volume of new business of our 19-company sample (as measured by present value of new business premium – PVNBP) increased by 4% to £329bn. Over the same period the value of new business (net of tax) increased to £7.8bn, an increase of 15%, reflecting an improvement in the underlying margins.

Figure 4. New business volumes (measured by PVNBP) by region for years 2008 – 2010 (£m)

Source: Companies’ disclosure and Deloitte Analysis

Figure 5. Value of New Business (net of tax) by region for years 2008 – 2010 (£m)

Source: Companies’ disclosure and Deloitte Analysis
The UK value of new business showed a significant increase in 2010, helping drive embedded value and operating profits higher. Lloyds Banking Group has the largest value of new business in the UK, but Legal & General has narrowed the gap. Based on our sample insurers, the UK value of new business increased by 17%, although volume (as measure by PVNBP) only increased by 6% indicating a shift towards higher margin business such as protection and annuities in addition to improving capital efficiency and better market conditions. Bulk annuity business contribution to new business volumes showed significant increase, particularly at Aviva and Prudential (four fold increase to £871m and 13% increase to £820m respectively). The area where Aviva and Prudential differ significantly is in their US new business. Despite improvements in 2010, Aviva’s US business continues to underperform, with a reported negative value of £(194)m (with an IRR of 14% and a payback period of four years) and continued speculation around future sale of this business. Prudential’s US business is seen as an important contributor to growth with value of new business of £495m (with an IRR in excess of 20% and a payback period of one year). It should be noted that as Aviva uses an MCEV approach compared to Prudential’s EEV approach a direct comparison of these numbers cannot be made.

A key development that will affect new business volumes in the UK is the implementation of the Retail Distribution Review (RDR) which will take effect on 1 January 2013. As intermediaries will no longer be able to accept commissions for recommending insurance products to UK retail customers, it is expected that RDR will reduce churning of business and hence affect new business volumes. It remains to be seen what the full impact of the RDR will be, but different companies are clearly pursuing different strategies.

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3 Value on new business calculated on an MCEV basis. IRR and payback period calculated on a “real world” basis.
Disclosure

Disclosure of insurers’ results is continuously evolving and each year provides new additions. The annual reports of Aviva and Prudential have become so exhaustive that they are now nearly as big as companies such as Barclays. There is a fine line between increasing volumes of useful information and information overload, and companies should guard against the latter.

Insurers, in particular UK based ones, are shifting the focus of their disclosure from embedded value to IFRS earnings and cash flows. This is partly driven by the market reaction to the complexity of MCEVs. By disclosing cash flow and capital generation, the insurance industry hopes to show investors that the life industry can generate cash in the short term. This is also apparent in insurers’ push to shorten the payback period for new business.

A clear example of this trend in disclosure is illustrated by Prudential’s cash flow reporting which has been developed from the now typical five year grouping of cash flows, into an annual cash flow disclosure (see Figure 6 below). We expect other companies to follow Prudential’s approach in 2011 and Legal & General, at their analyst meeting, committed to providing enhanced disclosures.

Cash and capital generation has become a metric that investors are using to judge life insurers’ performance and drive their share price. Investors and analysts were disappointed when Legal & General lowered its cash flow target for 2011 (to £700m from £728 generated in 2010). While the additional disclosure of cash and capital generation met with approval from investors and helped to improve the transparency of the results, it should not be relied on exclusively to judge a company’s performance. One should not forget that those cash flows are generated using the same assumptions as the embedded value and are not certain. Reality might prove the assumptions used to be wrong. In addition, cash flows do not tell us about the risk underlying the insurers’ liability. In our view cash flow reporting is a useful addition to the insurers’ disclosure, but it should not be relied on exclusively as an indicator of performance.

Figure 6. Prudential and Aviva cash flow disclosure

Source: Aviva and Prudential disclosure

Note: Aviva’s free surplus reporting is based on the ‘Equivalent Embedded Value’ cash flows.
Embedded value versus share price (including non-covered business)

The life insurance industry historically performed broadly in line with the market. Since the start of the financial crisis and the resulting sell-off, the sector has not returned to its previous highs and has consistently underperformed the market (see Figure 7).

One would expect that embedded value (including non-covered business) should give a reasonable indication of what the market capitalisation of an insurance company should be. There are many reasons why embedded values and market capitalisation will diverge, including the absence of new business in an embedded value, timing issues and the complexity of some of the calculations.

Assuming an insurer is writing profitable new business its market capitalisation should, all other things being equal, exceed the embedded value. Based on insurers in our sample, only Zurich Financial Services (which has a substantial non-life business not reflected in the embedded value) and Baloise (which is well positioned to benefit from a potential increase in interest rate – see page 8) were trading at a higher multiple to the embedded value as at year-end 2010 (see Figure 8).

Figure 7. Market vs. life assurance sector performance

Figure 8. Group embedded value vs. market capitalisation (£m)

Source: Companies’ disclosure and Deloitte analysis

Note:
- Market cap as at 31 December 2010.
- Lloyds Banking Group, KBC (bankassurer), Munich Re (reinsurer) and Groupama (mutual) were excluded from this analysis as their market cap is not directly comparable to embedded value.
- Aviva, Generali, Legal & General, Old Mutual, Prudential, Resolution, Standard Life, Storebrand analyst target based on Thomson Reuters.
- The analyst target for Allianz is based on Commerzbank report, AXA and CNP is based on Societe Generale report, Ageas is based on KBC report, Swiss Life and Baloise is based on Deutsche Bank report and ZFS is based on Collins Stewart report.
Is this telling us that embedded value has become disconnected from the share price? Or has the insurance industry simply confused investors and analyst with a myriad of metrics? It should be noted that our sample insurers have their business primarily in the UK, Europe and US with the exception of Prudential with substantial Asian presence. Looking at insurers’ valuations in South East Asia we observe that when AXA took full ownership of AXA APH the deal valued AXA APH at more than twice its 2010 embedded value. AIA is currently valued at 1.5 x embedded value and Ping An (a Chinese insurer) is currently valued at 3 x embedded value. A possible conclusion is that investors do not believe in the growth prospects of life insurance in Europe and are more interested in the potential of the emerging markets. This results in investors discounting more heavily European based insurers with no presence in those markets. European based insurers are all striving to improve their share prices, in part supported by their extensive disclosures, though arguably this has not had the desired effect. Perhaps insurers should try to simplify their disclosure, report using a main metric which is kept consistent year-on-year to allow their key messages to come through in their results. With Solvency II and IFRS 4 Phase II now on the horizon, the insurers’ task will be rendered even more challenging unless action is taken to cut through the range of competing measures.

A history of embedded value or… is embedded value history?

A recent article4 published by Deloitte considered whether embedded value will still have a future alongside Solvency II and IFRS 4 Phase II. In the new world, post Solvency II and IFRS 4 Phase II, investors looking to back business models and management teams over the long term may be reluctant to digest complex presentations of profits prepared using two or three potentially contradictory methodologies. Solvency II and IFRS 4 Phase II are based on market consistent techniques similar to those of MCEV. The article questioned if it is now time to consign embedded value to the history books, replacing its function with a version of the balance sheets and analysis that will emerge from Solvency II. For this proposal to work the analysis will need to reflect management’s view of the business and not just the regulator’s.

The industry still feels there are a number of areas where the regulator is taking an overcautious view and that the proposed regulations do not appropriately reflect the management view. Companies could use the ‘Own Risk and Solvency Assessment’ (ORSA) as a tool to put forward their view of the business. The article suggests three key criteria to ensure this alternative approach would work. First, allow very limited scope for assumption changes to minimise inconsistencies. Secondly, management’s view should diverge from Solvency II in only the most material areas where there is a perception of excessive strength in the regulatory view. Thirdly, open and direct dialogue with the investment community will be required to support a full understanding of the underlying business dynamics.

The reality is that we are on a journey that will see significant changes in financial reporting over the coming years. Companies should include in their Solvency II programmes a view of how they would like Solvency II and IFRS 4 Phase II to affect the way they communicate to the market, and start making the necessary preparations now.

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Conclusion

Embedded values have been around since the 1980s and have seen continuous developments and changes, receiving mixed reactions from the investment community. Embedded value is again at a turning point, with the new world of Solvency II and IFRS 4 Phase II on the horizon. Only time will tell which direction it will take. Looking back at 2010, the embedded value reporting season has provided some conflicting messages. On the one hand there have been some tentative signs of convergence in methodology and assumptions, driven by regulatory changes, which should improve investors’ and analysts’ acceptance of this metric and fulfil the long term aim of the CFO Forum. On the other hand, the information presented has shown that embedded value has slipped down the list of key reporting metrics with IFRS earnings, cash flow and capital generation taking more prominent roles. Life insurance in general and embedded value in particular is perceived as complex. The opacity of some of its elements such as economic variance and CRNHR does not help dispel this image. This lack of transparency may explain why most insurers in our sample were trading at year-end 2010 at a discount to embedded value. In whatever shape embedded value emerges, post Solvency II and IFRS 4 Phase II, in our view insurers should consider how they can convey management’s view of value in a consistent, stable and transparent way. These changes present an opportunity to reduce and simplify a company’s reports rather than being viewed as increasing the reporting burden and complexity.
Appendix: Embedded Value year-end 2010 assumptions summary
<table>
<thead>
<tr>
<th>Company</th>
<th>Methodology</th>
<th>Implied Discount Rate (IDR)</th>
<th>Reference Rates</th>
<th>Illiquidity Premiums (Methodology)</th>
<th>Illiquidity Premiums (Value in bps)</th>
<th>Volatilities</th>
<th>CRNHR</th>
</tr>
</thead>
</table>
| Ageas           | EEV (Market Consistent) | Not disclosed               | Swap rate at 31 December 2010 for the relevant currencies with 10 bps deduction across the entire curve. | Ageas uses a weighted average liquidity premium for each insurance company based on their liability mix. | • EUR: 23 – 34  
• Hong Kong: 28 – 35  
• US: 46 – 50 | Implied volatility 31 December 2010, except for property volatilities where historic market data is used.  
Charge of 0.5% on projected total required equity. |                                                               |
| Allianz         | MCEV            | Not disclosed               | Swap rates 31 December 2010 CFO/CRO Forum and QIS 5 illiquidity formula * | • EUR: 59  
• CHF: 7  
• USD: 64 | Implied volatility 31 December 2010, except for property volatilities where best estimate levels are used.  
Equivalent 4% cost of capital on the risk capital (99.5% quantile, 1-year). |                                                               |
| Aviva           | MCEV            | 9.90%                       | Swap rates 31 December 2010 CFO/CRO Forum and QIS 5 illiquidity formula * (for the US business x = 60%) | • UK: 109  
• EUR: 36  
• US immediate annuities: 66  
• US other: 56 | Implied volatility 31 December 2010, except for property volatilities where best estimate levels are used.  
Capital charge of 3.3% applied to group-diversified capital. |                                                               |
| AXA             | EEV (Market Consistent) | 6.90%                       | Swap rates 31 December 2010 CFO/CRO Forum and QIS 5 illiquidity formula * | • EUR: 36  
• GBP: 79  
• USD: 56  
• JPY: 0  
• CHF: 8  
• AUD: 65 | Implied volatility 31 December 2010  
Allowance for non-financial risk assuming a higher locked-in capital base (corresponding to local AA capital requirement). |                                                               |
| Baloise Group   | MCEV            | Not disclosed               | Swap rates 31 December 2010 CFO/CRO Forum and QIS 5 illiquidity formula * | • CHF: 10  
• EUR: 35 | Implied volatility 31 December 2010, except for property volatilities where historic market data is used.  
A capital charge of 4% is applied to the projected SST capital. |                                                               |
| CNP             | MCEV            | 7.70%                       | Swap rates 31 December 2010 CFO/CRO Forum and QIS 5 illiquidity formula * | • EUR: 55 | Implied volatility 31 December 2010  
Allowance for non-financial risk assuming a higher locked-in capital base. |                                                               |
| Generali        | EEV (Market Consistent) | 6.99%                       | Swap rates 31 December 2010 CFO/CRO Forum and QIS 5 illiquidity formula * | • EUR: 36  
• CHF: 8  
• USD: 56  
• GBP: 79 | Implied volatility 31 December 2010  
Allowed for as a charge of 4% applied to relevant risk-capital (less tax). |                                                               |
| Groupama        | EEV (Market Consistent) | Not disclosed               | The risk-free rate curve was constructed by weighting the government yield curves by the corresponding proportions of sovereign bonds in the portfolio, to take account of the discrepancy at 31 December 2010 between the spread of the main government debts and their underlying credit risk.  
The calculation methodology is based on the difference between two indicators:  
– An indicator of the spread on the bond market, which therefore includes the illiquidity discount  
– An indicator based on CDS premiums which does not include this discount.  
The liquidity premium is amortised after 15 years coming to an end after 20 years. | • EUR: 16 | Implied volatility 31 December 2010, except for property volatilities where historic market data is used.  
Additional risk premia of 25bps and 50bps for operational risk and technical risks respectively added to the CoC calculation. |                                                               |
| KBC             | MCEV            | Not disclosed               | Swap rates 31 December 2010 CFO/CRO Forum and QIS 5 illiquidity formula * | | | |
| Legal & General | EEV             | #/N/A                       | • UK RDR = 7.3%  
• USA RDR = 6.6%  
• Europe RDR = 6.5% | #/N/A | Determined using market data and said to be comparable to implied volatilities | #/N/A |
| LBG             | EEV             | #/N/A                       | • 15 year UK gilt yield for non-annuity business  
• An equivalent single risk free rate for annuity business based on UK gilt yield curve increased to allow for illiquidity premium | Not disclosed | Capital charge of 3% calculated based on internal economic capital. | #/N/A |
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<td>Munich Re</td>
<td>MCEV</td>
<td>Not disclosed</td>
<td>Swap rates 31 December 2010 (except for countries where markets are not deep and liquid)</td>
<td>No allowance for liquidity premium</td>
<td>#N/A</td>
<td>Implied volatility 31 December 2010</td>
<td>Capital charge of 7%. No allowance for diversification between covered and non-covered business.</td>
</tr>
</tbody>
</table>
| Old Mutual | MCEV        | Not disclosed                | Swap rates 31 December 2010 | Only allow for it on two products. Methodology undisclosed | • US: 75  
• OMSA’s Retail Affluent  
Immediate Annuity: 45 | Implied volatility 31 December 2010 for deep and liquid market. Historic data and expert judgment elsewhere | Allowed for as a charge of 2.9% applied to the group diversified capital required in respect of such non-hedgeable risks |
| Prudential | EEV         | #N/A                         | Weighted RDR:  
• 8.1% (Asia),  
• 6.9% (Jackson),  
• 9.9% (UK annuity)  
• 7.0% (UK others) | Top down approach | UK annuity: 92 | Combination of actual market data, historic market data and an assessment of longer-term economic conditions. | Allowed as a margin in the discount rate. Defined as:  
• 100 bps for UK annuity business  
• 50 bps for Group’s other business  
• additional 100 to 250 bps for Group’s Asian operations |
| Resolution | MCEV        | Not disclosed                | Swap rates 31 December 2010 | Two approaches used:  
1) A component of the difference between the spread on a corporate bond and a credit default swap; and  
2) Use of option pricing techniques to decompose the spread into its components including illiquidity premium | UK annuity: 75 | Market implied volatilities | Capital charge of 2% on projected Group required capital for all non-hedgeable risk. |
| Standard Life | EEV       | #N/A                         | RDR = risk free government bond yield + a risk margin:  
• 7.09% (UK Heritage WPF)  
• 6.19% (UK other)  
• 6.89% (Canada)  
• 6.56% (Europe Heritage WPF)  
• 5.66% (Europe other)  
• For Asia, risk neutral approach and an allowance for non-market risk was used | #N/A | #N/A | Implied volatility 31 December 2010 | Allowed as a margin in the discount rate. Defined as:  
• 1.80% (UK Heritage WPF)  
• 1.60% (UK other)  
• 2.80% (Canada)  
• 1.80% (Europe Heritage WPF)  
• 1.60% (Europe other)  
• Not disclosed for Asia |
| Storebrand | MCEV        | Norway: 8.9%  
Sweden: 10.0%  
Total: 9.2% | • Market interest rates are applied to the liquid part of the interest rate curve up to 10 years  
• A long-term equilibrium level is applied from 20 years and onwards  
• Linear interpolation is used between 10 years and 20 years | • No allowance for liquidity premium | #N/A | Implied volatility 31 December 2010, except for property volatilities where historic market data is used. | Capital charge of 2.5% on the diversified risk capital for all non-hedgeable risk. |
| Swiss Life | MCEV        | Not disclosed                | Swap rates 31 December 2010 | • No allowance for liquidity premium | #N/A | Implied volatility 31 December 2010, except for property volatilities where historic market data is used. | Capital charge of 4% per annum has been applied to the resulting projected capital at risk. |
| ZFS       | MCEV        | Not disclosed                | Swap rates 31 December 2010 | • No allowance for liquidity premium  
• Will include liquidity premium in the 2011 MCEV based on the CFO/CRO Forum and QIS 5 illiquidity formula * | #N/A | Implied volatility 31 December 2010, except for property volatilities where historic market data is used. | • Capital charge of 2.5% applied to the diversified risk capital  
• Will increase the capital charge from 2.5% to 4% in the 2011 MCEV |

Source: Companies’ disclosure and Deloitte analysis  
* CFO/CRO Forum and QIS 5 illiquidity formula: LP = MAX (0, x% × (Spread – y bps))  
Where: x = 50% and y = 400bps  
Liabilities are classified in 4 buckets in function of their nature. Different proportions of the LP are applied (100%, 75%, 50% and 0%).
Deloitte focuses on adding value for all our clients’ stakeholders through our combination of actuarial, consulting, tax, audit and corporate finance expertise. We are involved as strategic advisers to many companies in the industry and advise many of the largest companies in areas such as MCEV, Solvency II, replicating portfolios, risk and capital management, M&A and Finance Transformation.

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