Latest developments in Solvency II

Emma Ferris examines some of the issues arising from the third wave of consultation papers on the Level 2 implementing measures and how they may affect the insurance industry.

2009 has seen significant developments in the area of Solvency II which have led companies to be more active in their preparations.

In April, the Level 1 Framework Directive was adopted by the European Parliament which fixed the implementation date for Solvency II to 31 October 2012. On three occasions (March, July and November) the Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS) released a number of consultation papers on the Level 2 implementing measures (over 2,150 pages in total). The second wave of papers alone gave rise to over 20,000 sets of comments from the European insurance industry during the consultation period. Final advice to the European Commission on the first two waves was also released on 10 November 2009. Further details on the internal model approval process, including its high-level timeline, were set out by the FSA. Finally, there has been significant press attention with Solvency II making the headlines in the 'Financial Times', along with numerous follow-on articles highlighting some of the concerns over the current direction of the regulations and the potential costs to the industry.

A brief summary of the final advice in relation to some of the more contentious issues highlighted by the UK insurance industry in respect of the second wave of consultation papers is shown in Figure 3 at the end of this article. Further details on issues such as partial internal models and the liquidity premium are covered in more detail in other articles within this publication.

A total of 16 papers were published on 2 November 2009 in the third wave of advice which covered a wide range of issues including: the calibration of the correlations; stress tests for equity and other market risks; non-life underwriting risks and health underwriting risks for the Solvency Capital Requirement (SCR) standard formula. Other issues covered include the calibration of the Minimum Capital Requirement (MCR), partial internal models; treatment of participations and ring fenced funds; and simplifications for technical provisions and the SCR. Overall, CEIOPS has recommended substantial further strengthening of capital requirements from those set out in Quantitative Impact Study 4 (QIS4). If adopted by the Commission, the impact will be significant. Some of the key changes in this third wave of advice are examined in this article.

Correlations

Consultation paper 74 proposes significant changes in correlation parameters from those set out in QIS4, in particular for market risks where CEIOPS' choice of correlation parameters has been heavily influenced by the events of the last two years (but with little statistical analysis to support any of the proposed parameters). The increases in correlations should come as no surprise given the comments made by CEIOPS in its paper 'Lessons learned from the crisis', in which they stated, "in light of the highly correlated nature of current stress events, we may want to strengthen the dependency structures underlying the standard formula". In addition, the CRO Forum internal models benchmarking study conducted in October/November 2008 also found that many participants were reviewing risk dependencies (correlation) assumptions in light of the events over 2008.

CEIOPS is proposing to increase the market correlations sharply compared to QIS4, so that they would all be in the range of 50 per cent to 75 per cent. Figure 1 shows a comparison of the typical correlation assumptions used for YE08 ICA submissions, those set out in QIS4 and those in CP74. It shows that many of the assumptions are also stronger than those used by companies in their ICA models. CEIOPS estimates that the changes to market risk correlations will halve the diversification benefits in the market risk module for a typical life insurer, leading to an increase in the Basic SCR of about 21 per cent compared to QIS4. Within the life underwriting risk module, the

correlations have also been strengthened so that, with a few exceptions, all the correlations are now 25 per cent.

CEIOPS is also proposing to increase the correlation between life underwriting risk and health underwriting risk from 25 per cent to 75 per cent, the correlation between health underwriting risk and non-life underwriting risk from 0 per cent to 25 per cent and the correlation between market risk and counterparty risk from 25 per cent to 50 per cent. These proposed correlations exceed those set out in the Framework Directive.

Overall, the Basic SCR for a typical life insurer is expected to increase by 24 per cent versus QIS4, which is a very significant increase and is before you allow for the proposed strengthening for nearly all of the stress tests. If these proposals for higher correlations are adopted, it may reduce the incentive for good risk management through diversification. More insurers might decide that they should seek full or partial internal model approval to alleviate this problem. However, CEIOPS' frequent references to the events of 2008 and abandonment of statistical analysis may signal a difficulty for insurers in gaining approval for internal models with much lower correlations.

Figure 1 | Correlation assumptions between major market risks

Correlation	Typical values used in ICAs as at YE08	CP74	QIS4
Equity – interest	0% – 25%	50%	0%
Property – interest	0% – 25%	50%	50%
Equity – credit	40% – 60%	75%	25%
Interest – credit	25% – 50%	50%	25%

Equity risk

Consultation paper 69 sets out the design and calibration of the equity risk sub-module and in particular, covers the calibration of the standard equity stress (the equity price stress), the symmetric adjustment mechanism (which overlays the standard equity stress) and duration-based approach stress. A stress for equity volatility has also been introduced such that the total capital requirement for equity risk is the maximum of the standard equity stress combined with an increase in volatility or a decrease in volatility.

CEIOPS' paper on lessons learned from the crisis states that "developments in various asset classes have provided fresh insights on the amount of volatility the system will have to absorb and the resulting calibration of the market risk module", and therefore it is no surprise that the equity stress has increased from that in QIS4 from 32 per cent to 45 per cent (see Figure 2).

This increase is also probably more in line with current stresses applied in internal capital models (also shown in Figure 2) where we have also seen a slight strengthening in the equity stress tests applied at YE08. However, the derivation of the stress test for 'other' equities (those not listed in an EEA or OECD countries), does seem a little more arbitrary and is particularly high when the symmetric adjustment mechanism is applied to it. This may discourage investment in equities (or other asset classes) which fall into this category.

The symmetric adjustment mechanism is designed to prevent fire sales of equities (if the market has fallen) and probably does help in that respect. The choice of a relatively long averaging period used to calculate the adjustment (one-year) means that it will tend to be quite volatile and hit the 10 per cent limits quite frequently. However, the adjustment is derived using the MSCI Developed World Index, and individual

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equity holdings may perform quite differently which may mean that the dampener does not activate.

The equity volatility shock applied is either + 60 per cent (or −15 per cent if more onerous) of current implied volatilities. This stress is generally included in firms' internal capital models but was not included in QIS4. It has been calibrated to relatively short-term options, and as implied volatilities for longer-term options tend to be more stable, the 60 per cent stress proposed may be too high. It is certainly stronger than the stress used by many insurers in their internal capital models, and so will have an impact on products with guarantees or optionality. In addition, the equity volatility stress is multiplicative and so will produce a large stress when volatilities are high, which may create some undesirable pro-cyclical effects.

Other market risks

Consultation paper 70 sets out the calibration of the market risk stresses for the SCR standard formula (excluding equity risk). Overall, as anticipated, the stresses have increased from those set out in QIS4 and, as per the equity stress, this appears to be mainly due to events in financial markets over the last two years. This is also in-line with current practice in the ICA, where on average we saw some strengthening in market risk stresses at YE08. The stress tests for the major market risks from CP70 are shown in Figure 2, along with a comparison to current ICA practice and QIS4.

In particular, the credit spread stress has increased significantly from QIS4 (increasing by a factor of 3.5 for a typical bond holding) and now varies by duration and rating of bonds. Although we have seen a significant strengthening in the stresses applied for this risk by some companies under the ICA, the proposed stress in the paper is very high even compared to this. This is potentially further exacerbated if there is no offsetting illiquidity premium increase. It is also interesting to note that some of the proposed stresses are larger than the equity stress (45 per cent) which seems counterintuitive. In addition, the stress to be applied to credit default swaps (CDS) is very severe (requiring CDS to be revalued after a 600 per cent widening in spreads or 75 per cent narrowing). This implies that holding cash plus credit default swaps will be treated much more harshly than the equivalent holding in corporate bonds. It is currently proposed that unrated residential mortgages, covered bonds and loans to local and regional governments

Figure 2 | Market risk stress tests

Risk	Typical values range of ICA stress tests YE08	CP69/CP70	QIS4
Equity	40% to 50% fall in equity prices	35% to 55% fall in equity prices ('global' equities) 50% to 70% fall in equity prices ('other' equities)	32% fall in equity prices ('global' equities) 45% fall in equity prices ('other' equities)
Property	25% to 35% fall in property prices	25% to 30% fall in property prices	20% fall in property prices
Fixed interest	On average between 100 and 200 bps shift in the yield curve	175 bps up, 120 bps down*	145 bps up, 120 bps down*
Credit spreads	AAA – 100 to 150 bps AA – 150 to 200 bps A – 200 to 250 bps BBB – 200 to 400 bps	AAA – 110 bps AA – 200 bps A – 430 bps BBB – 460 bps**	AAA – 25 bps AA – 25 bps A – 103 bps BBB – 125 bps**

* This is based on the 10-year point on the swap curve as at YE08. The absolute level of stress will vary depending on the base yield curve.

** This is based on the 7-year duration.

Figure 3 | Final advice from CEIOPS on issues highlighted by the UK insurance industry in second wave of consultation papers

Issue	Final advice
Liquidity premium	Potential inclusion for business in force prior to 31 October 2012, but significantly lower than currently allowed.
Risk-free rate	No change (based on AAA government bonds), although apparent rejection of FSA analysis of gilt curve.
Risk margin	No change, diversification across lines of business still not allowed.
Treatment of hybrid capital	Some relaxation with high-quality hybrid capital allowed in Tier 1, subject to a maximum of 20% of Tier 1.
Winding up gap	No change, still treated as Tier 3 capital.
Prudence in the SCR	Some relaxation (for example reduction of mortality catastrophe stress from 2.5 per mille back to 1.5 per mille, removal of additional charges for externally managed funds and management actions in operational risk and a 30% reduction in factors applied to premiums and technical provisions).
Reinsurer recovery rate	Reverted to previous rate of 50 per cent.

would be treated in the same way as unrated corporate bonds. This would have extremely adverse consequences for some lines of business in a number of European markets.

The other increases in market risk stresses from QIS4 (see Figure 2) do not appear to be unreasonable and are in line with most economic capital models, is widely accepted in the UK that the calibration shown in QIS4 was too weak. The interest rate risk stress is similar in strength to QIS4, but it now includes an allowance for implied volatility (picking a point on the current implied volatility surface that is representative of the characteristics of the liabilities). In order to derive the capital required, companies will have to test four combinations of yields up/down and implied volatilities up/down. Interest rate implied volatility stresses are + 95 per cent and – 20 per cent of the current implied volatilities, which is relatively onerous (and at last year end this would have resulted in very extreme shocks to interest rate implied volatilities, particularly in the Eurozone, and could have had strongly negative consequences for policies with embedded interest rate guarantees). The multiplicative approach to the yield curve and implied volatility stress means that the absolute value of the stresses will be high when yields and volatilities are high and potentially leads to pro-cyclicality as in the equity implied volatility stress.

Looking ahead

It will be interesting to see the industry's response to this latest set of consultation papers, particularly regarding the increased conservatism in the calibrations. Overall, we might see that the reduced recognition of risk reduction through diversification and increased market risk capital requirements for the SCR standard formula prompt more insurers to consider applying for internal model approval. It will be vital for firms to take part in QIS5 next year in order to assess the full impact of these latest proposals (or even earlier if possible). However, there is a significant danger that these tougher calibrations will put upward pressure on internal model assumptions and the industry may be left facing significant overall increases in capital requirements, regardless of their chosen approach to the SCR. The ball is now in the court of the European Commission to draw up a workable set of Level 2 guidance.

The consultation period for the third wave of draft advice on the Level 2 implementing measures ends on 11 December 2009 and final advice is due to be sent to the European Commission in January 2010. There will be a further consultation paper in December 2009 on the issue of third country equivalence, which will be an important read for most multinationals. We also anticipate some Level 3 guidance on the Own Risk and Solvency Assessment around the third quarter of 2010.

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