

Capital requirements spiral upwards

EMB has assessed the impact of CEIOPS consultation papers introduced since QIS4 on the Standard Formula solvency capital requirement (SCR) of UK insurance entities. The results make alarming reading as Raj Ahuja describes.

Background

In the eighteen months since the last Quantitative Impact Study carried out by CEIOPS (QIS4) much has changed in the Solvency II landscape. In particular the Level 1 framework directive has been adopted by the European Commission, and much Level 2 implementing advice has been issued by CEIOPS.

In order to quantify the potential impact of the changes in the Standard Formula since QIS4 we updated the solo results for a number of UK firms. We did not update any of the underlying scenarios (which in many cases also changed), but restricted our attention to the QIS4 spreadsheet itself.

The scope of the study included the changes as noted in the table below.

It is worth noting that most firms completed QIS4 in the summer of 2008, before much of the recent financial turmoil and its wider implications. As such, when QIS5 is carried out firms will need to update many data, such as business plan volumes, business mix, catastrophe exposures, reserves, discount rates, asset holdings, and reinsurance security. We will need to wait until QIS5 for the full impact to be felt.

Change	Implemented?	Change	Implemented?
Removal of undertaking specific data	✓	Removal of geographic diversification	✓
Updated operational risk parameters	✓	Non-life premium and reserve risk calibration (CP71)	✓
Health (Short Term) and Workers Compensation premium and reserve risk calibration (CP71 & CP72)	✓	Market risk correlations (CP74)	✓
Non-life module correlations (premium and reserve risk to CAT) (CP74)	✓	SCR correlations (CP74)	✓
Counterparty default simplifications (CP51)	✗	Equity risk sub-module stresses (CP69)	✗
Interest rate scenario stresses (CP70)	✗	Currency risk stresses (CP70)	✗
Property risk stresses (CP70)	✗	Spread risk scenarios (CP70)	✗
Catastrophe risk factor (CP71)	✗	Undertaking specific parameters (CP75)	✗
Simplifications (CP76 & CP77)	✗		

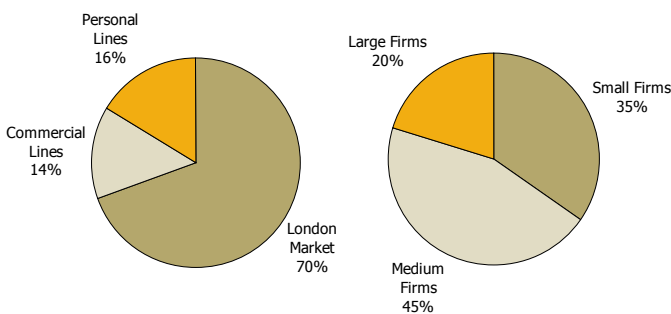
Participants

49 entities elected to take part in the study, with aggregate net written premiums of approximately €11bn, and an aggregate QIS4 SCR of €8bn.

These firms covered a broad range of non-life insurance sectors, with participants from the Personal Lines, Commercial Lines, Lloyd's, P&I clubs, and other London Market sectors.

There were a range of different sized companies represented in the study. For the purposes of this study we grouped firms according to the size of their QIS4 SCR, and had participants ranging from a €2m SCR, to a €1bn SCR.

Figure 1: Split of participants



Results

The results of our study have shown a material increase in the Standard Formula capital requirement since QIS4. On average, the firms we surveyed saw an increase of 62% from their QIS4 SCR to our updated results.

- P&I clubs were the most adversely affected, with an average increase of 90% over QIS4 levels
- Personal Lines firms saw an increase of 54%
- Commercial Lines firms, Lloyd's syndicates, and other London Market firms all saw average increases of 60% - 62%

However these averages hide a wide variety of impacts on individual firms. Our analysis found firms' increases over QIS4 levels varying from 10% to 120%. Interestingly, there did not appear to be any change in the impact for companies of different sizes; larger firms saw similar levels of increase to smaller entities. (see figure 2 below)

Drivers

The major driver of change was the updated premium and reserve risk factors specified in CEIOPS consultation paper 71, contributing a 43% increase in the total SCR. Other major drivers of the increase were the correlation between catastrophe risk and premium and reserve risk, the loss of geographic diversification, and the updated operational risk factors. Market risk correlations and basic SCR correlations (between non-life risk and default risk for example) did not appear to have a material effect on the overall SCR for non-life firms (see figure 3 overleaf).

Interestingly, removing the mechanical implementation of undertaking specific data embedded within QIS4 did not lead to a material change in the projected capital levels, although there were some big winners and losers. It seems as though the method for taking credit for firms' own history was calibrated in line with the QIS4 factors.

As both the method for calculating this credit, and the base premium and reserve risk factors have now changed it remains to be seen whether the new Undertaking Specific Parameters will be broadly neutral for the industry as a whole, or will cause a decrease, or increase, in the results shown here.

There have also been some material changes which affect scenarios feeding into the SCR calculation, and which we did not update. In particular the counterparty default changes appear to have simplified, and potentially reduced the SCR calculation, while many of the market risk scenarios

Figure 2: Increase on QIS4 capital: company range

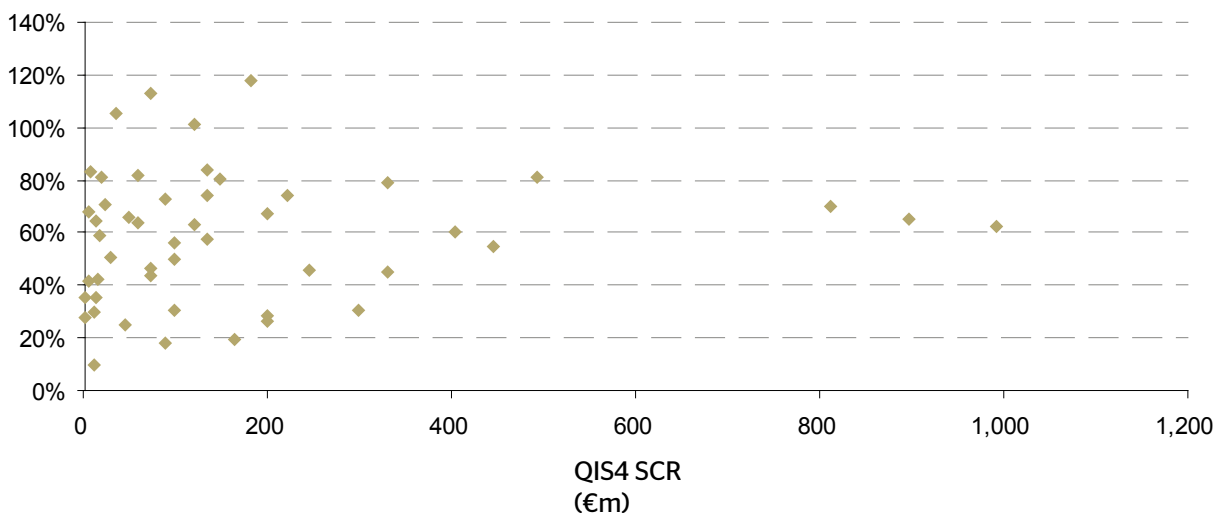
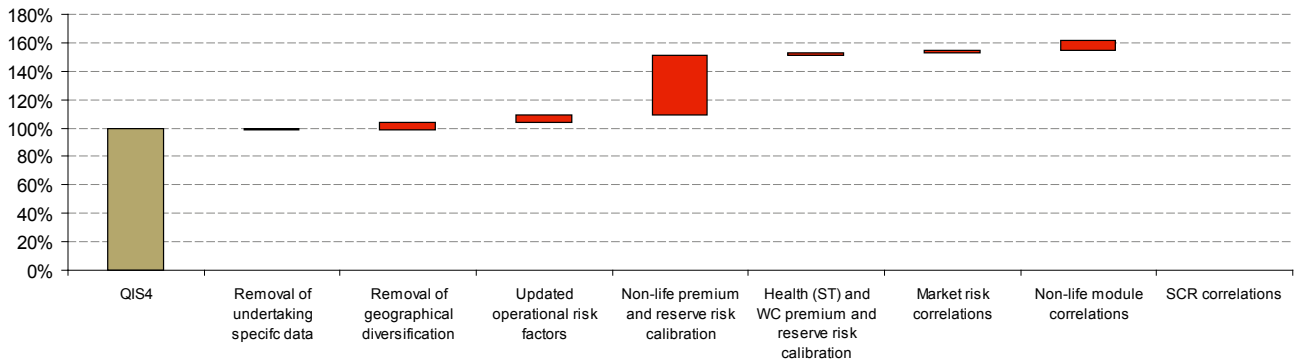


Figure 3: Waterfall chart - market average



appear to have increased. The catastrophe risk factors have also changed to a gross, rather than net of reinsurance, basis which should increase the risk-sensitive nature of this component, however again we will not know until QIS5 whether the significantly increased factors, once netted down, will lead to broadly neutral capital results.

Conclusion

Clearly if these results hold it will seriously damage the business model of several firms. For complex insurers and reinsurers, the standard formula approach is unlikely to be representative of the true underlying risk profile. Companies should ensure they undertake specific parameter reviews and build internal models which are tailored to each company. These are subject to regulatory approval and, consequently, adequate planning is needed. The clock is already ticking and the results of our study should add further impetus to firms' Solvency II implementation plans. The cost of failure just became much higher.

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