QIS5 results: Life Technical Provisions

March 2011

EIOPA has published the results of the fifth Quantitative Impact Study conducted across reinsurance and insurance undertakings throughout Europe in 2010. While the report demonstrates increased participation in the latest study it also highlights significant work which needs to be done to reduce complexity in the guidance and to ensure consistency across territories.

INTRODUCTION

On 14 March 2011 EIOPA issued its report on QIS5. Milliman has produced this detailed summary of the Internal Models section of the EIOPA report. Additional summaries are available from Milliman relating to the other sections of the QIS5 report. This is part of a series of Milliman summaries covering the key areas of QIS5.

A short Milliman summary is available giving an overview of the whole QIS5 report. The full report is available on eiopa.europa.eu.

The sections of this summary are listed below with some of the key findings from each section:

- **Comparison with Solvency I** – Overall gross technical provisions for all lines of business decreased by 1.4% from Solvency I to QIS5.
- **Illiquidity Premium** – Overall, the resulting impact of including the illiquidity premium was found to be 1%
- **Risk Margin** – The calculation using the full approach is considered too complicated. Interestingly, EIOPA comments that no major concerns were raised over the current cost of capital (of 6% per annum).
- **Segmentation** – A number of undertakings indicated that the segmentation of policy contracts used in QIS5 was difficult or unclear
- **Contract boundaries** – Participants found the definition of contract boundaries unclear which has led to a wide range of inconsistent interpretations being used. Participants suggested that the standard in the IASB's exposure draft on insurance contracts could be used.
- **Other feedback** – Companies identified several areas of practical difficulty in calculating the technical provisions.
- **Reinsurance recoverables** – Difficulties were encountered with calculating the probability of expected default of counterparties.

COMPARISON WITH SOLVENCY I

Overall, EIOPA believes that the exercise demonstrates that there is general support for the approach to the valuation of technical provisions proposed for Solvency II.

Overall gross technical provisions for all lines of business decreased by 1.4% from Solvency I to QIS5. The main differences between technical provisions under the QIS5 and Solvency I methodologies can be explained by the following:

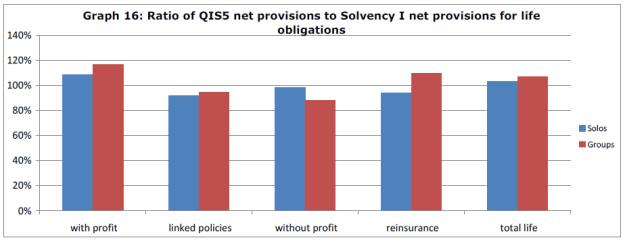
- the use of a new discounting model including the use of an illiquidity premium;
- the absence of any surrender floor;
- the recognition of future premiums and charges; and
- the use of realistic assumptions in the best estimate calculation (i.e. no implicit prudence margin, although this is partly offset by the

inclusion of an explicit risk margin in addition to the best estimate).

In the valuation of QIS5 liabilities, management actions and policyholders' behaviour, such as lapses, renewals and surrenders, were taken into account.

For life business in aggregate, there was little change relative to Solvency I reserves - gross technical provisions fell by 1% compared to the current regime, whereas net technical provisions increased by 3%. The value of reinsurance recoverables decreased under the QIS5 Technical Specification in comparison with Solvency I.

The graph below shows a comparison of life net provisions for all QIS5 participants under QIS5 and Solvency I.



For most non-life lines of business net provisions have decreased from Solvency I to QIS5; gross provisions for non-life decreased by 24.9%.

The decrease between Solvency I and QIS5 for non-life business is mainly due to the discounting of future cash flows, and the exclusion of the implicit safety margin included in technical provisions through prudent and cautious assumptions, partially offset by the inclusion of an explicit risk margin.

EIOPA has highlighted a number of key issues requiring further guidance and development, which are discussed further below.

ILLIQUIDITY PREMIUM

There has been much debate around whether an allowance for an illiquidity premium should be included in the risk-free curve. Overall, the resulting impact of including the premium was found to be 1% after taking into consideration the illiquidity premium risk sub-module. However, there are significant variations in different markets.

A number of firms cited practical issues around calibrating economic scenario generators and obtaining negative forward rates after applying the illiquidity premium.

The application of the various illiquidity premium buckets was found to be inconsistent between participants. Detailed guidance was requested on which products an illiquidity premium should be applied to – particularly for with profits products, unit-linked products (where cashflows can be determined with much less certainty than for, say, an annuity), and those products with a negative technical provision.

Despite four buckets being available to use (0%, 50%, 75%, 100%), where an illiquidity premium can be applied most undertakings used the 50% and 75% buckets. The table below shows the most common product types that were applied to each bucket.

50%	75%	100%
- Unit-linked - Index linked - Without profit	- With profits - Pure savings - Unit-linked with guarantees - Annuities - Index linked with guarantees	- Annuities

The number of buckets that should be applied was queried, with a suggestion that a two bucket (0%/100%) system would be more appropriate. Furthermore, some participants questioned whether the size of the illiquidity premium should vary over the economic cycle to reflect increased illiquidity in times of market stress.

Even though the majority of firms did not see transitional measures as material in their market, a number did carry out further calculations to assess the effect of transitional measures on the QIS5 balance sheet. The impact on technical provisions of applying the transitional measure relating to the application of the illiquidity premium varied from 1% to 7% depending on the illiquidity premium bucket used. Many firms did not apply the transitional measure surrounding discount rates as this was considered not to be applicable under current legislation, while others stated that it was unclear which products it applied to.

RISK MARGIN

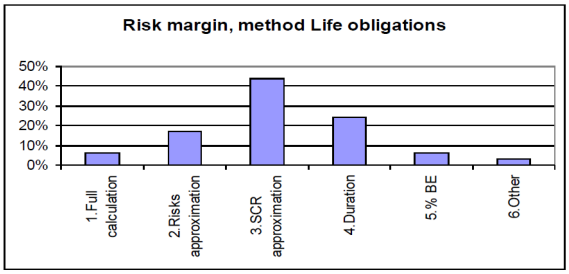
EIOPA has noted that few participants used the full calculation approach for the risk margin as it was too complex and time-consuming, especially when compared with the relatively small impact on the size of the technical provisions. Instead, many opted for one of the proposed simplifications - an

approach supported by many supervisory authorities.

However, the authorities did express concerns that this approach was not without difficulties as the different approaches led to a wide range of results, and they requested that either more guidance be issued or the number of permissible approaches be reduced.

The reliability of those simplifications where the SCR is assumed to be a proportion of the best-estimate was also called into question (for example, when the best-estimate is negative). This has led to some authorities requesting the development of new approaches that are robust in all cases.

The following graph shows the approach taken to calculate the risk margin across European life companies. The proportion of companies using each method was consistent across different product types.

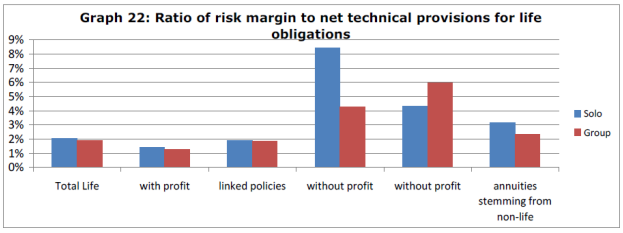


Participants also stated that the guidance in the Technical Specifications surrounding the calculation of the unavoidable market risk portion of the risk margin was not sufficiently detailed. As such, many different approaches for calculating unavoidable market risk were used for the QIS5 submissions. The report notes that sources of unavoidable market risk included:

- The impact of mismatching when the duration of the company's liabilities exceeded the maturity of assets available in the market. This maturity point was usually taken to be around 30 years. A common calculation approach in this case was to use the proposed simplification by recalculating the interest rate sub-module to tackle the mismatch;
- The mismatch between the company's replicating portfolio and one that can be bought in the market; and
- The illiquidity premium risk where the company uses a replicating portfolio to value its liabilities.

The majority of European supervisors feel that further clarification is needed around the allowance for unavoidable market risk, and it is expected that EIOPA will issue further guidance in due course.

The graph below shows the size of the risk margin as a proportion of the net best-estimate technical provisions for life obligations by product type.



Surprisingly, no issues were raised around the assumption used for the cost of capital (6% per annum).

SEGMENTATION

Many participants revealed that their current reporting systems did not allow the QIS5 results to be segmented at the required level of detail and that a pragmatic approach was used instead. Once again, many companies stated that the guidance was unclear and was therefore open to different interpretations. In particular, the handling of hybrid contracts and the unbundling of contracts are areas where further guidance is required.

The second level of segmentation into death, survival, disability/morbidity and savings appeared to present a challenge to a number of life companies with some arguing that the main risk driver of a policy may change over time. It was suggested that the segmentation should not be determined by the main risk driver at policy inception but at the reporting date instead.

CONTRACT BOUNDARIES

Participants have identified a lack of clarity and consistency in some of the definitions for the boundary of a contract. This has led to a wide range of inconsistent interpretations being used. It is possible that the technical provisions in some submissions materially misrepresent the level of obligations to policyholders, due to the contract boundary used being too wide or too narrow.

Again, it is felt that further guidance is needed on this issue.

A concern has been raised that the inclusion of contract boundaries may have an undesired effect on the industry as the definitions can have a large impact on unit-linked products, savings products and group business. Companies may seek to counteract this impact by making changes to the terms and conditions and the benefits offered on products to expand the boundaries that can be used in the calculations.

The final definition of the contract boundaries will also have knock-on impacts on other areas of the Solvency II balance sheet such as the Expected Profit in Future Premiums ("EPIFP") and the calculation of the lapse risk sub-module.

One concrete suggestion from participants is that contract boundaries could adopt the standard in the exposure draft on insurance contracts from the International Accounting Standards Board ("IASB").

Under the IASB standard, the boundary of contract is defined as being where:

- *The insurer is no longer required to provide coverage; or*
- *The insurer has the right to reassess the risk of a particular policyholder, and, as a result, set a premium which fully reflects the risk.*

This is in contrast with the QIS5 definition, where the definition is phrased in terms of the company having an "unlimited ability" to amend premiums or benefits. The unlimited ability to set a new premium rate does not necessarily ensure that the new premium rate fully reflects the risk of the policyholder.

The view of supervisors on this issue was mixed. Some support the view that the IASB definition is a suitable approach, whereas others felt that this approach was potentially "cherry picking".

OTHER ISSUES

Companies also identified several areas of practical difficulty such as: the lack of resources; experience; and data. Some also felt that the effort and cost of changes required to meet the guidance in its current form were disproportionate when compared to the impact on the liability. Other specific areas where issues were identified include:

- The valuation of options and guarantees;
- Future discretionary benefits;
- Future policyholder behaviour;
- Allowance for management actions; and
- Calibration (and run times) of stochastic models.

Overall, the allowance for management actions was generally less than 2% of the technical provisions, although in some countries the impact exceeded 5%. Some companies chose not to model the impact of management actions.

Monte Carlo simulations, closed form stochastic approaches and deterministic approaches were used to calculate technical provisions.

REINSURANCE RECOVERABLES

Supervisors indicated that determining the unadjusted best estimate reinsurance recoverables did not seem to present any particular challenges. However there was more uncertainty around the calculation of the expected counterparty default adjustment, with extensive reliance on rating agency assessments for probability of default.

SUMMARY

In general, the increased participation for QIS5 relative to QIS4 demonstrates that the industry is engaging with EIOPA on the development of Solvency II. This should help create a final Solvency II solution that is better aligned with a wider range of companies' needs and expectations.

The report highlights a number of issues surrounding the calculation of life technical provisions and areas where further guidance is expected from EIOPA.

QIS5 is expected to be the last in the series of impact studies and, as such, any further improvements to the Solvency II regime will be through ad hoc work and tests leading to the finalisation of the delegated acts (formally know as the Level 2 Implementing Measures) later this year and the subsequent consultation on the Level 3 guidance.

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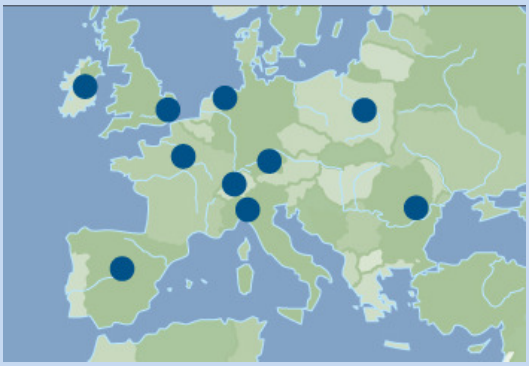

CONTACT

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