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Solvency II Update—QIS5 Results

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Solvency II is an economic and risk-based regulatory framework for the supervision of European insurance companies. As such, Solvency II capital requirements reflect the specific risk profile of an enterprise as well as the risk management framework employed to manage these risks. The primary difference from Solvency I is the treatment of the balance sheet. Solvency II mandates that assets and liabilities be measured on a market consistent basis.

Solvency II specifies two target levels of capital: Minimum Capital Requirement (MCR)¹ and Solvency Capital Requirement (SCR).² The purpose of Solvency II is to promote sound risk management practices through the explicit quantitative measurement of the specific risks faced by the enterprise. MCR defines the threshold below which regulatory action is authorized.

EUROPEAN INSURANCE AND OCCUPATIONAL PENSIONS AUTHORITY FIFTH QUANTITATIVE IMPACT STUDY

In advance of Solvency II implementation in January of 2013, the European Insurance and Occupational Pensions Authority (EIOPA) has been conducting a series of quantitative impact studies (QIS). The objectives of these studies are:

- to identify areas of the directive where further improvements are necessary, for example, finalizing the standard formula; and
- to encourage insurance companies and regulatory authorities to prepare for Solvency II in advance of the implementation deadline.

The Fifth Quantitative Impact Study (QIS5) is likely the last of these exercises before Solvency II implementation.

Sixty-eight percent of insurance companies participated in QIS5, greater than the EIOPA's target participation rate. This corresponds to 95 percent of reserves and 85 percent of premium for companies subject to Solvency II. The high participation rate for small- and medium-size companies helped EIOPA recognize the need for more simplicity in certain areas.

RESULTS

Overall, the reduction in the surplus is approximately 12 percent compared to Solvency I (this includes solo

and group participants). This was driven by an increase in capital requirements offset by a decrease in technical provisions and an increase in own funds³, although the results vary widely depending on the size of the company, utilization of an internal model or the standard formula, and the company's line of business (life, P&C or health).

Fifteen percent of the participants failed to meet the Solvency Capital Requirement, and 5 percent could not meet the Minimum Capital Requirement. Failure in meeting SCR can bring a regulatory action, and an insurance authority may step in when a company cannot cover MCR.

Figure 1 below illustrates the impact of SCR and MCR relative to the current framework, Solvency I, by comparing the surplus under each (this includes solo participants only).

Current regime and QIS5 surpluses (€bn) (solo)

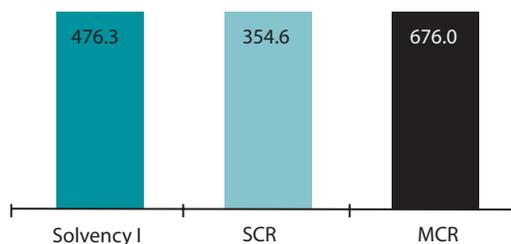


Figure 1 (Source: EIOPA Report on the fifth Quantitative Impact Study (QIS5) for Solvency II)

FOOTNOTES

- ¹ The Minimum Capital Requirement is defined as the potential amount of own funds that would be consumed by unexpected events whose probability of occurrence within a one-year time frame is 15 percent. In order to ensure the smooth functioning of graduated supervisory intervention (often referred to as "the ladder of intervention"), the result produced by the MCR calculation is bounded between 25 percent and 45 percent of the SCR, subject to an absolute minimum.
- ² The Solvency Capital Requirement is defined as the potential amount of own funds that would be consumed by unexpected large events whose probability of occurrence within a one-year time frame is 0.5 percent. This definition allows (and sometimes mandates) the replacement of all or part of the standard formula with an internal model in cases where it can be shown to be better able to fulfill the directive requirements with respect to an undertaking's particular risk profile.
- ³ Own funds: the excess of assets over liabilities and subordinated liabilities, valued in accordance with the directive.



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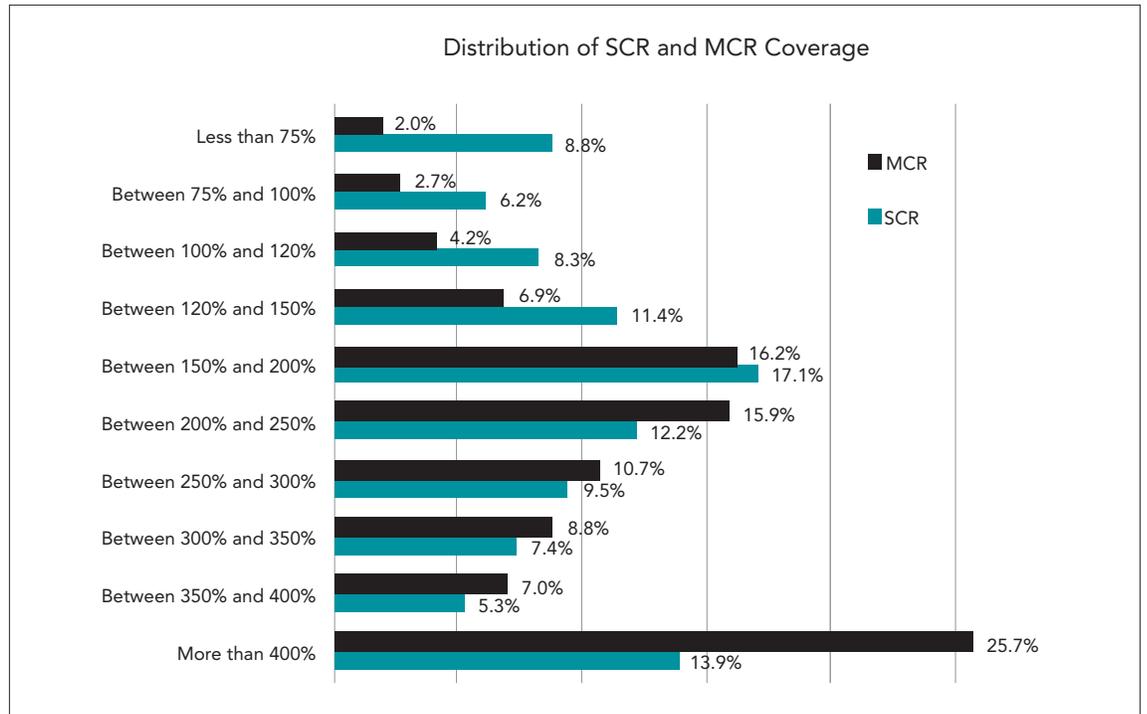


Figure 2 (Source: EIOPA Report on the fifth Quantitative Impact Study (QIS5) for Solvency II)

Figure 2 below shows the distribution of SCR and MCR coverage. For example, 8.8 percent of participating companies failed to meet even 75 percent of SCR.

To calculate the SCR, insurance companies can choose either the standard formula or a full or partial internal model. Generally, solo⁴ insurance companies’ required capital results calculated using an internal model are not significantly different than those calculated by the standard formula. For groups⁵ however, the internal model calculation results in an overall capital requirement 20 percent lower than from the standard formula. Groups tend to utilize the deduction and aggregation method more often than account consolidation method to calculate SCR. The former approach results in significantly higher surplus due to the application of diversification effects.

Although QIS5 results indicate that 96 percent of the group participants have plans to use internal models, the EIOPA does not believe that all participants’ internal models follow the guidelines. The difference

between partial and full internal model, needs to be better understood by insurance companies as QIS5 responses have shown that a misunderstanding exists. When a company declares a full internal model, it must be certain that all risks are considered. For example, some participants touted their model as a full internal model even though operational risk was not included. In other cases, the use of the standard formula with some Undertaking-Specific Parameters (USPs), which allow the replacement of certain risk parameters in the standard formula with company specific parameters, is misunderstood as an internal model.

Many participants used external models for natural catastrophe modeling, Economic Capital Scenario

FOOTNOTES

- ⁴ A solo insurance company is any independent business entity. A solo insurance company may be a member of a group.
- ⁵ This group information is on a worldwide basis and includes non-insurance business. Because some group information overlaps with solo, group and solo results are reported separately.

Generators, or tools for the calculation of best estimates. These external models can be a black box and as such do not comply with the directive.

For life insurance companies the primary driver of the SCR is market risk. In standard formula calculations, 67 percent of the SCR is due to market risk. For health and P&C companies, underwriting risk is the most significant factor. Among underwriting sub-risks, disability is the key component for health insurance, and number of claims and potential estimation errors on reserves are the key components for P&C insurance.

Figure 3 illustrates the composition of the Basic Solvency Capital Requirement (BSCR) and SCR for solo companies. BSCR is the sum of market risk, counterparty default risk, life underwriting risk, health underwriting risk, P&C underwriting risk, and intangible assets, reduced by the effect of diversification. The total SCR is the sum of BSCR and Operational Risk less an adjustment for risk absorbing capacity, deferred taxes, and adjustment for the notional SCR of RFF.⁶ Results for group companies are similar except for a higher diversification benefit of 46 percent compared to 32 percent for solo companies.

Figure 4 shows the contribution of each risk to the BSCR before taking into account the impact of diversification.

Components of BSCR and SCR for Solo Companies

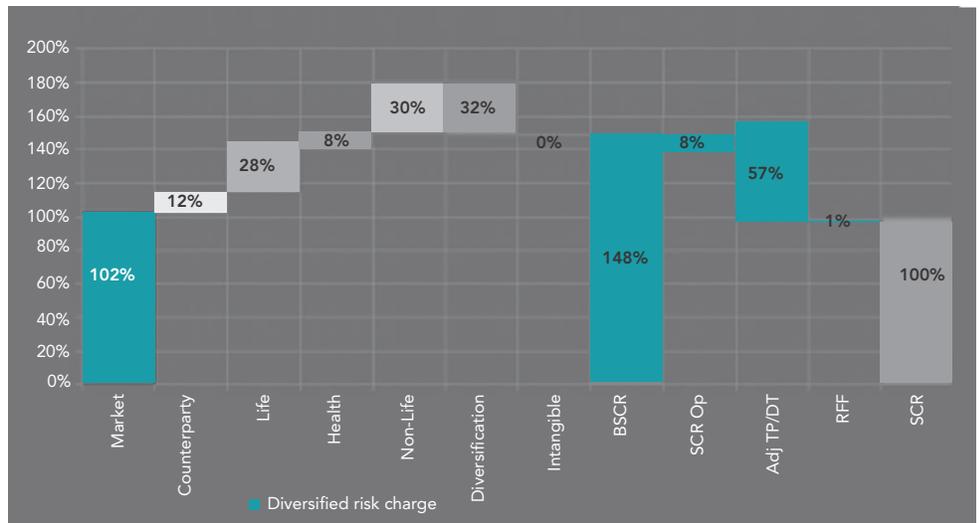


Figure 3 BSCR Structure (Solo) (Source: EIOPA Report on the Fifth Quantitative Impact Study (QIS5) for Solvency II)

BSCR Before Diversification

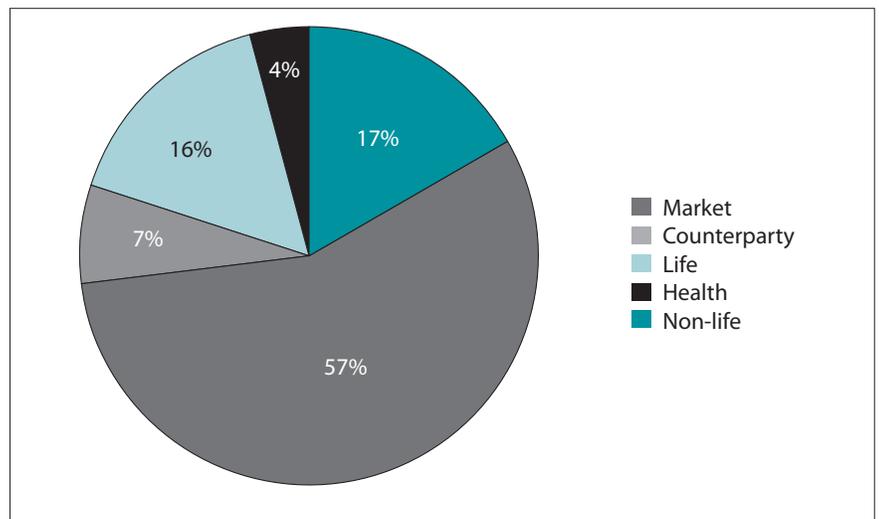


Figure 4 BSCR Detail (Source: EIOPA Report on the fifth Quantitative Impact Study (QIS5) for Solvency II)

FOOTNOTES

⁶ RFF: Ring-Fenced Funds. This includes profit participation business where assets can only be used to cover losses for particular policyholders. There are restrictions on the use of assets to meet losses outside of the funds and any excess assets are usually maintained within the fund, which provides only a limited capacity of absorbing losses. An adjustment is required to eligible own funds and to the SCR. A notional SCR is calculated for each RFF and an SCR for the risks arising from the rest of the business outside the RFF. Any restricted own funds (i.e., those in the ring-fenced fund) that are in excess of the notional SCR of each RFF are deducted from the total SCR.

Weighting of the main risk in the SCR

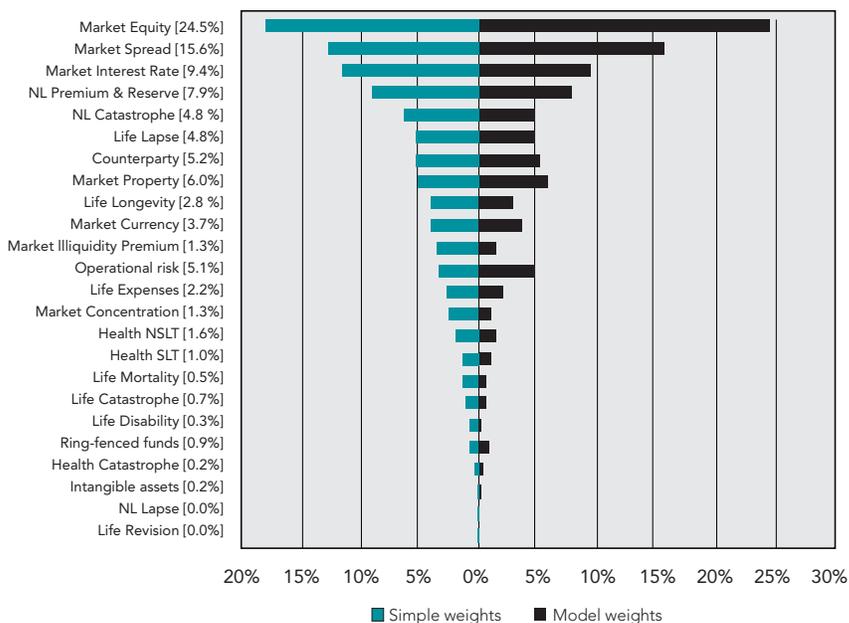


Figure 5 (Source: EIOPA Report on the fifth Quantitative Impact Study (QIS5) for Solvency II)

The main concern of QIS5 participants was complexity of the risk modules. All major components of the capital requirement were criticized by participants for their complexity. The spread risk sub-module was also criticized for its calibration methodology.

In addition, the life underwriting lapse risk sub-module, and the catastrophe risk module generated a variety of comments.

Many participants reported difficulty in determining Undertaking-Specific Parameters (USP). These difficulties were due to a lack of suitable data and strict methodology. Some participants suggested the use of country-specific parameters instead of USP or the option to use alternative methods.

Concerns were voiced regarding operational risk, but due to the difficulty of developing operational risk models, most participants will choose to use the stan-

dard formula. Consequently, many companies will use a partial internal model even if they implemented a full internal model for all of the other risks.

From Solvency I to QIS5, technical provisions decreased by 1.4 percent. For the first time an illiquidity premium was applied to the discount rate. This change on average reduced technical provisions by 1 percent.

Because of its complexity, only a few participants were able to fully calculate the risk margin. Many participants commented on its complexity and the effort required especially considering its immateriality, and requested guidance for a consistent simplification.

Participants also raised the need to clarify the definition of contract boundaries to prevent misinterpretations. The current document from EIOPA does not provide consistent guidelines.

IMPLEMENTATION CHALLENGES

Most participants are not fully ready for Solvency II, but plan to complete the preparation by the end of 2012. Some reported that they might not be able to meet the deadline.

The main roadblock reported was the quantity and quality of resources, particularly actuarial and risk management resources.

The following graph and the table below show the overall estimated cost and the estimated resource costs to prepare for Solvency II in the United Kingdom.

CONCLUSION

Overall QIS5 results and participant’s comments were positive, but highlighted areas requiring further work. These include:

1. Reducing complexity while appropriately reflecting risks.
2. Refining the calibration of certain risk modules.
3. Development of internal models and transition rules.
4. Developing guidance for ambiguous specifications.

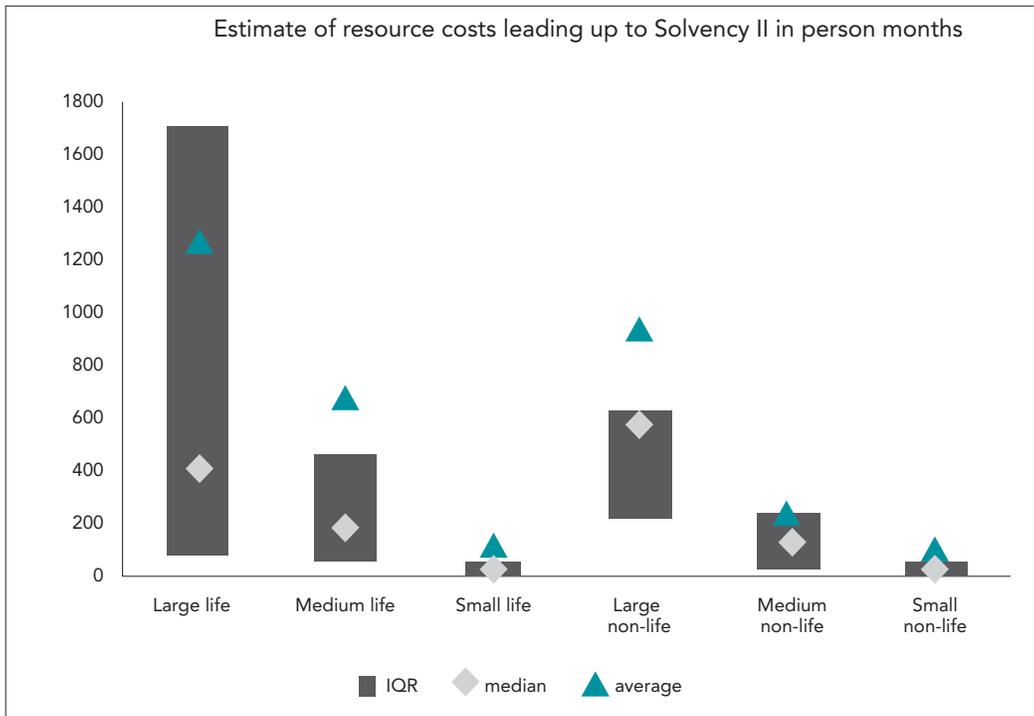


Figure 6 (Source: FSA UK Country Report: The Fifth Quantitative Impact Study (QIS5) for Solvency II)
 Note: the interquartile range (IQR) represents the difference between the 75th and 25th percentiles

The U.S. regulators have initiated a Solvency Modernization Initiative to assess the current U.S. solvency regulation framework in light of international developments in insurance and bank supervision and accounting standards. Along with the implementation of the upcoming IFRS standard for insurance contracts, the introduction of Solvency II in Europe will likely raise standards and expectations around risk and capital management in the U.S. insurance market.

Estimate of resource costs leading up to Solvency II by type in person months

Average resource costs in person months	Life				Non-life			
	all	large	medium	small	all	large	medium	small
Actuarial	242	583.6	263.2	31.7	104	244.4	78.3	14
IT	140.5	320.7	156.8	26	91.7	305	55.4	18.5
Other	209	436.7	247.3	53.3	162	380.7	118.1	33.6
Total	591.5	1341	667.3	111	357.7	930.1	251.8	66.1

Table 1 (Source: FSA UK Country Report: The Fifth Quantitative Impact Study (QIS5) for Solvency II)

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