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countdown

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Guide to undertaking QIS5

The fifth Quantitative Impact Study (QIS5) provides a last chance to gauge the likely capital requirements and balance sheet impact on your business of using the Solvency II European Standard Formula. Here is a quick guide to undertaking QIS5 including timings, preparations and key people required.

QIS5 runs from the beginning of July 2010 to the end of October for solo entities and until mid-November for group results, ahead of the planned publication of the QIS5 report in April 2011. This is likely to be the last QIS ahead of implementation and will reflect the European Commission's most likely view about the parameters to be included in the standard formula, though the Commission will be using the study to test certain specific hypotheses.

Although the study will be an essential preparation for Solvency II for many insurers, a significant amount of effort will be needed to complete it and companies should allow up to eight weeks depending on the size and complexity of their business.

Dedicating the necessary resources over the summer months is a challenge in itself. If you have not participated in such a study before, mastering the learning curve quickly and mobilising the right skills to get the maximum value out of completing it is essential, especially as this is probably the last chance for insurers to complete a QIS and to influence the final guidelines for the standard formula.

What is QIS5?

QIS5 will calculate the expected capital that an EU insurance or reinsurance entity will be required to hold when Solvency II comes into force on 1 January 2013.

A key aim is finalising the calibration of the 'European Standard Formula', the default calculation method for all (re)insurance firms that will not be using an approved internal model to calculate their solvency capital requirements. Firms that plan to use 'partial' internal models will also need to rely on these calculations for areas of the business not covered by their model.

Two measures of solvency capital are calculated, a minimum capital requirement ('MCR'), and a solvency capital requirement ('SCR'). QIS5 calculates the capital required for each of health, life and non-life underwriting risk, market risk, counterparty default risk (credit risk) and operational risk. It then makes explicit allowance for correlations between, and within, these risk categories to arrive at an overall capital requirement.

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Firms need to decide whether they have the required internal expertise (and whether this expertise can be mobilised over the summer months) and intend to carry out the exercise without external assistance.

Why carry out QIS5?

- QIS5 determines the change in capital requirements from the current requirements of Solvency I to Solvency II or between earlier QIS and QIS5.
- QIS5 identifies capital inefficiencies and potential capital implications for the entity's asset and liability structure. This could prompt better redistribution of asset holdings, change in counterparty arrangements and limits on capital-intensive lines of business.
- QIS5 results will assist in deciding if a full or partial internal model should be built and can help to improve business planning, including capital allocation and scenario testing.
- As mentioned on page 1, this will be the final chance for (re)insurers to participate in a QIS and to test the appropriateness of using a standard formula versus a full or partial internal model.

Who should be involved?

Firms need to decide whether they have the required internal expertise (and if this expertise can be mobilised over the summer months) and whether they intend to carry out the exercise without external assistance.

In the past month, the European Commission has published the draft Technical Specification for the QIS5 study. This document is more than 450 pages long and highlights the need for dedicated internal and external resources to obtain the maximum value out of carrying out the QIS5 study.

The finance function should ideally be responsible for the balance sheet, counterparty default and operational risk inputs. The underwriting risk inputs will almost certainly require actuarial input. In order to produce the required asset and liability data segregations by class of business and event year, the assistance of the entity's IT function may also be required.

Preparation and completion

Spreadsheet calculations

Based on QIS4, there will be interlinked Solo and Helper Tabs spreadsheets. Each entity will have to carry out a certain amount of pre-processing of asset and liability information before it can be input into the Helper Tabs spreadsheet. This pre-processing can be carried out in bespoke Excel spreadsheets, depending on the nature and complexity of the entity's asset and liability structure.

The key pre-processed elements are:

- A determination of the net of reinsurance expected future claims and unearned premium reserve cash flow payment amounts, frequency and average payment duration for each of the 15 classes of business.
- A determination of the coupon and redemption cash flow payment amounts and incidence for all fixed interest assets.
- An assessment of the credit rating and amount invested with/recoverable from/owed by all counterparties, including cedent reinsurers, intermediaries, banks and all other investment entities and structures.

Higher level claims and premiums

In addition to automatic data input feeds from the Helper Tabs Excel spreadsheet, it will also be necessary to input additional higher level claims and premium information into some of the Solo spreadsheet tabs.

While there is some element of automation of calculations within the Solo spreadsheet, considerable expertise is required to ensure that the inputs into the Solo spreadsheet have been calculated appropriately. Certain elements of the spreadsheet are pre-determined by the European Commission including correlation structures which produce the capital charges for each risk type and overall MCR and SCR.

Figure 1 sets out the key asset and liability data input requirements, together with an indication of the challenges and importance attached to those data inputs.

Figure 1 | **Key QIS5 asset and liability data input requirements**

Risk	Data requirements	Common challenges and issues
Non-life underwriting risk	1. Gross and net claims development triangles (paid claims and incurred claims) for each of 15 classes of business 2. Booked UPR (gross and net; at the valuation date, by class of business) 3. Booked OSCR (gross and net, at the valuation date, by class of business) 4. GWP, GEP, NWP, NEP (for the 12 months prior to valuation date, for each class of business and territory)	1. Allocating claims into 15 classes of business 2. Clean and sufficiently representative data 3. Determining best estimate loss ratios for each class for each event year 4. Determining claims payment patterns 5. Evaluating appropriate catastrophe and life scenarios 6. Forecasting next year's premium volumes
Life underwriting risk	1. In-force data 2. Assumptions to calculate the best estimate reserve under several stress scenarios, e.g. assumptions on costs, future profit sharing, policyholder actions	1. Calculation of the best estimate reserve under several stress scenarios 2. Risk mitigation effects of future profit sharing for each risk sub-module as well as by using the 'Single equivalent approach' 3. Ascertaining cash flows in relation to costs of certain unit linked products
Market risk	1. Management accounts (including current Solvency I position) 2. Listing of invested assets – for each asset, details of asset type (bond/equity/ deposit etc), counterparty, counterparty financial strength rating, market value and book value 3. Details of bonds (coupon, maturity date)	1. Determining the number of coupon or interest rate payments per year 2. Mapping out the coupon and redemption proceeds in terms of cash flow payments 3. Determining the ratings of each counterparty
Counterparty risk	1. Details of all counterparty exposures arising from reinsurance, derivatives, intermediaries, other credit exposure; for each exposure detail amount receivable and financial strength rating of counterparty	1. Achieve no holes/no overlap with the Spread Risk module 2. Allocate exposures between Class 1 (mostly reinsurance) and Class 2 (mostly policyholder and intermediary debtors) 3. Calculating Risk Mitigating Effect of each counterparty

Source: PricewaterhouseCoopers

Giving you the edge

PricewaterhouseCoopers is helping a range of insurers to get to grips with the practicalities of Solvency II implementation. If you would like to know more about undertaking QIS5 and assessing the results, please contact:

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