MILLIMAN BRIEFING NOTE

Milliman Market Practice Survey

Highlights of surveys conducted to date

Eamon Comerford, FSAI, FIA, CERA
Karl Murray, FSAI

Introduction

The Milliman Market Practice Survey series examines aspects of market practice within the Irish insurance industry. This survey is regularly undertaken to gauge the development of generally accepted actuarial principles and provide a reference resource for actuarial and risk functions.

We have conducted three Market Practice surveys to date, as well as a further Solvency II Pillar 3 survey. This briefing note gives a summary of the key findings from each of the surveys undertaken as well as noting the current survey in progress. For each one of the series, the full survey results are only available to the participating companies.

The response level for each survey ranged from 23 to 34 participants, most of which were domestic or cross-border Irish life (re)insurers. The respondent to most surveys to date was the Head of Actuarial Function ('HoAF') or a suitable deputy.

We plan to continue conducting periodic surveys in the latter half of 2019 and in 2020.

Solvency II Expense Assumptions, Contract Boundaries and Segmentation

Following the first annual reporting under Solvency II in respect of financial years ending in 2016, we surveyed Irish life (re)insurers to understand the market practice in terms of expense assumptions & methods, contract boundaries, contract recognition and segmentation.

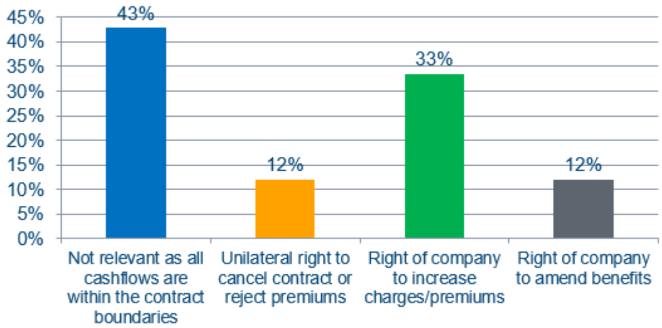
The Solvency II Directive requires that the technical provisions calculations make use of market consistent information. One interpretation is that **expenses** should be set based on market consistent data rather than relying purely on company specific data. The vast majority of respondents to the survey (82%) used only company specific data at the time of the survey, while the remainder used a combination of company specific data and market-sourced data.

Nearly half of those companies surveyed considered themselves to be sub-scale, due to either having a closed-book or reducing book of business or a growing book of business. Similar to above, this indicates that companies are generally reflecting the specific nature of their business rather than following a purely market consistent approach.

The majority of participants based their **expense inflation** assumption on market yields on inflation-linked bonds, which would be considered a market consistent approach. There was mixed practice in relation to the application of expense inflation. For example, some companies applied inflation to investment expenses whereas others did not.

We asked participants which contract features they relied on when determining **contract boundaries**. The following chart shows the results of this question.

What features of contracts allow you to exclude cashflows due to a contract boundary?



For nearly half of respondents, no future cashflows were excluded from the calculation due to a contract boundary being applied. For the remainder of participants, the right of the company to increase premiums of charges was cited as the main reason that a contract boundary was applied.

Contracts must be included within the technical provisions once they have been recognised as a liability. We asked participants at which point they **recognise a contract**. On this question, we received a variety of responses, with "when contract is signed", "at start date on policy schedule" and "when premium is invested in units" being the most common. These differences likely lead to inconsistencies between companies, although of course there are differences in the types of business written e.g. investment of premium is only relevant to unit-linked business.

Under Solvency II, technical provisions must at least be split by line of business. As part of this **segmentation**, companies are expected to split these lines of business into homogeneous risk groups, which are managed together and which have similar characteristics. The majority of companies set homogeneous risk groups at a product level, with the remainder of companies split approximately evenly between more granular and less granular breakdowns.

In order to ensure technical provisions are split by line of business, contracts covering risks from different lines of business must be unbundled and allocated into the appropriate line of business. About a quarter of respondents were unbundling some contracts as part of their technical provision calculation at the time of the survey.

Solvency II Simplifications, Future Management Actions, Materiality and Expert Judgement

The second instalment of the Milliman Market Practice Survey considered simplifications, future management actions, materiality, and expert judgements in the context of the technical provisions and the solvency capital requirement ('SCR') for standard formula firms.

Simplifications are permitted under Solvency II within the calculation of the technical provisions and SCR, provided they are proportionate to the nature, scale and complexity of the risks underlying the (re)insurance contracts.

Most companies (65%) indicated they were not using any simplifications in the calculation of the SCR. The remaining companies used the prescribed SCR simplifications and/or simplifications not set out in the Solvency II regulations. A similar percentage of companies indicated they were not using any simplifications in the calculation of the BEL.

We also asked firms about their approaches to giving the Board comfort around the use of simplifications. The most common approaches are for simplification to be reviewed by the HoAF, simplifications to be presented to the Board, simplifications to be documented with rationale for their use, and quantitative assessments of materiality to be carried out. Simplifications are an important part of the 2018 and 2020 reviews of Solvency II.

In a Central Bank of Ireland ('CBI') letter[1] addressed to HoAFs in February 2017, the CBI stated "*we consider the application of a management action is a key assumption….where this is the case the HoAF should ensure that the management action is adequately justified*". Therefore, it is important that the HoAF and the Board are comfortable that any **management actions** applied are consistent with the business plan and past practice.

Half of respondents indicated they did not use any future management actions in the calculation of the SCR. The most common use of management actions related to the expense assumption in the mass lapse stress. The next most common usage of management actions was in relation to business with discretionary benefits (e.g. with-profits business).

Where companies are using management actions, the company needs to have in place a board-approved management action plan. In relation to the mass lapse stress, a CBI letter in December 2016 highlighted instances where SCR stresses were assumed to reduce a firm's expenses but were not supported by a Board-approved management action. In the expense survey above, we asked firms whether they allow expenses to reduce in the mass lapse stress i.e. no change to per-policy expense assumptions. Most assumed no change to expense assumptions, with only some companies having a Board-approved management action covering this at the time.

In general, most companies are using more than one method to give their boards comfort around the use of management actions. Having a board-approved management action plan was the most common approach used to give the board comfort (76%). Many of these companies are also providing boards with an assessment of the impact of management actions (58%). Three respondents indicated they had sought an independent review of management actions or that management actions were in scope of the Reviewing Actuary's role.

In December 2017, the CBI issued feedback[2] on the Actuarial Opinon on Technical Provisions ('AOTP') and the Actuarial Report on Technical Provisions ('ARTP'). The CBI flagged that "*materiality thresholds are rarely defined in the ARTP*" and that it expects "*Board discussion on materiality thresholds around which decisions are made*". The Solvency II Delegated regulations describes materiality as something that "*could influence the decision-making or the judgement of the users of that information, including the supervisory authorities*".

Nearly four fifths of respondents indicated that the HoAF had selected the **materiality threshold** for technical provisions in response to the CBI feedback. A further 13% indicated that they already had in place a board-approved materiality threshold prior to the CBI letter. The remaining respondents indicated that they had a materiality policy in place but that it had not been approved by the Board. This has likely changed since the time of the survey.

As shown in the table below, our respondents indicated a variety of metrics with no clear consensus on the most appropriate.

	0–2.5%	2.5–5%	5–10%	Other	Total
% BEL[3]	4%	17%	0%	0%	**22%**
% TPs	9%	13%	4%	0%	**26%**
% SCR	13%	4%	0%	0%	**17%**
% Own Funds	9%	4%	0%	4%	**17%**
% Net Assets	9%	0%	0%	0%	**9%**
Nominal Amount	0%	0%	0%	4%	**4%**
Other	0%	4%	0%	0%	**4%**
Total	**43%**	**43%**	**4%**	**9%**	**100%**

Almost all companies are using a number of methods to assess whether a given simplification, expert judgement, etc., is in breach of their chosen materiality threshold. The most common

[1] https://centralbank.ie/docs/default-source/Regulation/insurance-reinsurance/solvency-ii/requirements-and-guidance/20170207---letter-to-hoaf.pdf?sfvrsn=4
[2] https://www.centralbank.ie/docs/default-source/Regulation/industry-market-sectors/insurance-reinsurance/solvency-ii/requirements-and-guidance/dear-head-of-actuarial-letter---re-actuarial-opinion-on-technical-provisions-and-actuarial-report-on-technical-provisions.pdf?sfvrsn=4

3 Some companies clarified where they had unit linked business they only considered materiality in respect of the "non-unit BEL".

assessment relates to the use of sensitivity testing, with 65% of respondents stating they use this method. The next most common methods are high level out-of-model estimations (62%) and qualitative arguments (43%).

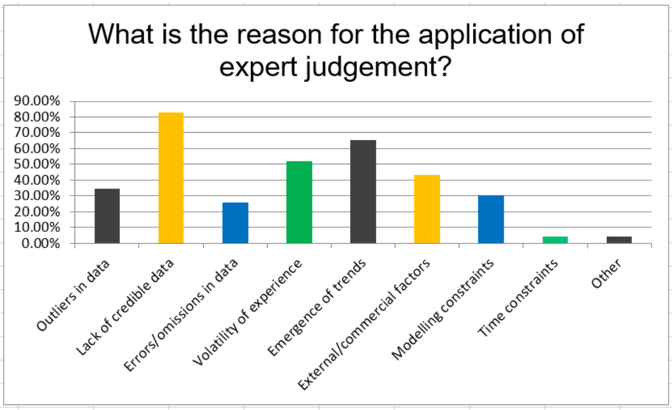
Expert judgement is a central element of the principles underlying Solvency II. It is important that companies consider what is appropriate in light of the nature, scale and complexity of the undertaking.

The table below illustrates the top five items where companies are exercising expert judgement, according to the survey responses.

Item	% of respondents exercising judgement in this area
Lapse rate adjustments relative to experience	87%
Period over which lapse investigation is considered	78%
Setting the expense assumption	74%
Risk margin methodology	74%
Choice of base life table (e.g. 2015 VBT vs 2008 VBT)	70%

Segmentation and application of contract boundaries were among the areas where the least expert judgement was applied. Less than 50% of respondents indicated that expert judgement was applied to their data (e.g. remediation of data errors/omissions, when to use external data etc.).

Despite the relatively low number of companies who apply expert judgement driven adjustments to the underlying data, respondents indicated that the most common reason for the application of expert judgement is the lack of credible data. The other key drivers relate to the emergence of trends and volatility in experience.



The CBI letter on the AOTP and ARTP stated that, "*the Central Bank recommends that HoAFs detail all material simplifications and expert judgements along with an estimate of their impacts and uncertainties*". We asked companies how they intended to estimate the impact of expert judgements in practice. 83% of respondents indicated they would use sensitivity testing, while 57% indicated they made qualitative arguments. Almost all companies were using a combination of methods.

A key point around the use of expert judgements is the overall documentation and governance surrounding their usage. All respondents indicated that expert judgements were reviewed by the HoAF to ensure they remain relevant. It is best practice to have an expert judgement policy or framework in place.

Solvency II Risk Margin

The risk margin is one of the most complicated features of the Solvency II Pillar 1 rules and it has a material impact on the balance sheet of many firms.

A large majority of firms surveyed are using an approximation of individual risks within some or all modules for the calculation of future SCRs. This is mostly done using risk drivers, with a variety of different drivers used. Most firms said they justify this simplification primarily on a qualitative basis. Going forward we would expect more attention given to quantitative validation as well.

Market risks excluded from the calculation of the risk margin must be hedgeable. Whilst some risks are hedgeable at a reasonably low cost, and others are not currently hedgeable in the capital markets, there are many that fall somewhere between these categories.

Most respondents stated that they do not include any elements of market risk in the risk margin calculation. There are mixed approaches in terms of documenting the rationale for excluding market risk fully. Other companies include some elements of market risk. There are also some differences between companies in the counterparty default risk SCR components that are included in the risk margin.

In our experience, the greater focus since the outset of Solvency II has been on the mechanics of the risk margin calculation whereas we expect to see more focus developing in relation to the pricing and performance measurement aspects of business impacted by the risk margin as well as management of the overall level of the risk margin. Business decisions need to be made based on risk budget and risk/return optimisation relating to different lines of business and risks, and the risk margin is an important factor in this.

Pillar 3 Reporting

The Milliman Pillar 3 Survey covered both the narrative reports - the Solvency and Financial Condition Report ('SFCR') and the Regular Supervisory Report ('RSR') - and the Quantitative Reporting Templates ('QRTs').

Our survey results show different approaches to, and different experiences with, a number of areas related to Pillar 3 reporting. Whilst certain differences are to be expected, with the time taken to prepare reports and populate QRTs depending on the size and complexity of individual companies, there are some areas where there is scope for market practice to emerge.

For example, a number of different means have been used to give comfort to the Board that the SFCR, RSR and QRTs are all correct and compliant with the Solvency II requirements. Companies could consider enhancing the methods they use to give comfort to their Boards. In particular, companies that only rely on a single means of giving comfort would appear to be at odds with the industry at large. This is important in the context of directors' responsibility to sign a statement "attesting the accuracy of the information submitted" in the QRTs and the CBI's and EIOPA's remarks regarding certain shortcomings in Pillar 3 submissions, particularly for the first reporting periods.

It was clear from the survey that a significant amount of time was needed to prepare the QRTs and narrative reports, with many companies needing well in excess of 100 days in total elapsed time to cover all requirements. While we expect most companies will have achieved greater efficiency in production since the initial valuation dates, there have also been additional QRTs added (such as variation analysis QRTs) and these have brought further complexity.

The CBI has since provided a lot more clarity on narrative reporting issues, RSR reporting timelines, and the form that interim reporting should take, through communications with industry and industry workshops. Companies should consider this information in their year-end reporting plans, addressing any deficiencies (both industry-wide and company-specific) in their reports. Companies should ensure they keep abreast of best practice and the latest information available.

It is also worth noting that EIOPA has recently proposed a series of changes to SFCRs and QRTs as part of the 2020 review of the Solvency II regulation. It could take time and effort for companies to implement these changes, if approved, though it is also worth noting that some of the changes are simplifications to existing requirements.

Solvency II Solvency Capital Requirement methods

We are currently conducting our latest instalment of the Market Practice Survey series. This survey is focussing on the calculation of the SCR under the standard formula approach for life and health (re)insurers. As per usual, the full findings will be shared with participants only.

How Milliman Can Help

Our consultants have been involved in advising our clients on Solvency II issues since its conception. We have undertaken a range of work for clients across all three pillars of Solvency II. Our services include:

- Independent review of assumption setting process;
- Independent review of Solvency II pricing assumptions and profit testing approach;
- Independent review of Solvency II balance sheet, technical provisions and SCR;
- Extensive experience of modelling projected balance sheets, technical provisions and SCR calculations;
- Independent review and gap analysis of Solvency II requirements;
- Assessment of standard formula SCR appropriateness;
- Preparation and review of SFCR and RSR;
- Independent review of QRTs;
- Solvency II training; and
- Discharging statutory roles such as Head of Actuarial Function and Reviewing Actuary.

Milliman also has a range of software available to support companies in the ongoing Solvency II requirements including:

- Solvency II Compliance Assessment Tool (link)
- Milliman Star Solutions - Vega®: An automated Pillar 3 reporting and standard formula aggregation system (link)
- Milliman Star Solutions - Navi®: A liability proxy modelling tool (link)

As a result, we have a wide range of experience that can be brought to bear to benefit your business.

GLOBAL NETWORK

Milliman has 64 offices worldwide, with more than 3,000 employees, providing a comprehensive network to deal with any business needs that may arise.

With over 250 consultants and 13 offices spread throughout Europe, Milliman is ready to assist with queries related to any territory.

Milliman is among the world's largest providers of actuarial and related products and services. The firm has consulting practices in life insurance and financial services, property & casualty insurance, healthcare, and employee benefits. Founded in 1947, Milliman is an independent firm with offices in major cities around the globe.

milliman.ie

Milliman

CONTACT

Eamon Comerford
eamon.comerford@milliman.com

Karl Murray
karl.murray@milliman.com

LinkedIn

Follow our 'Milliman Ireland' page:
http://www.linkedin.com/company/milliman-ireland