Welcome to Milliman’s Risk Webinar

- The webinar will begin in a few minutes.

18th November 2020
Virtual Meeting Best Practices

- Mute: As an attendee, you will be on mute automatically for the duration of the briefing.
- Video: Only presenters will be on video. Video is turned off for attendees.
- Q&A: Use the chat function within the meeting for questions.

Agenda

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Solvency II Update
What were your plans for 2020?
Solvency II had big plans for 2020 too…

Solvency II Directive requires that, by 1 January 2021, the Commission shall review:

- LTG measures and equity risk measures
- Methods, assumptions & parameters used in calculating standard formula SCR
- Calculation of the MCR
- Group supervision & capital management
But the best laid plans of mice and (wo)men..
So what has Solvency II been up to during the pandemic?

- Not that much has changed in Solvency II’s life since March 2020.

- The deadline of the information request for the holistic impact assessment of the 2020 Solvency II Review was extended by two months, to 1 June 2020.

- A supplementary information request was issued to a sub-sample of the previous request participants. This used a reference date of 30 June 2020 and was to be completed from July to mid-September 2020.

- EIOPA’s advice to the European Commission was delayed from end June 2020 to end December:

  “EIOPA, in close coordination with the European Commission, has decided to deliver its advice to the European Commission at end December 2020, to take into account the importance of assessing the impact of the current Covid-19 situation on the Solvency II Review.”
What will 2021 hold in store for Solvency II

- See some new proposed regulatory text in Q3 2021

- So this is the new timeline for the commission’s proposed text. But after that, how long will it take to be agreed by the legislators and then transposed into national law?
So...any other news?
General schedule of taxonomy releases

EIOPA’s planned updates to QRTs

- EIOPA have stated that they expect one taxonomy release per year but that there may be more than one in extraordinary circumstances (EIOPA website)
- This update is part of Taxonomy 2.5.0
- The next update, Taxonomy 2.6.0 is expected in July 2021.
QRTs - Taxonomy 2.5.0 Changes

- URL to download SFCD
- Addition of the missing information in S.04.01.01
- Relabelling a wide set of items due to the dash change from '–' to '-'
- Minor typos addressed
- Removal of the crossed-out cells in tables due to technical reasons
- Crossing-out rows in templates that are not reportable
- Addition of Ad hoc XBRL technical fields in SPV template
- Additional consideration for Brexit and domain members
Central Bank of Ireland – National Specific Templates

No 2020 updates

DPM and Taxonomy - Version 1.5.0

There will no updated version of the NST taxonomy published in 2020

Source: Central Bank of Ireland [website]
CP131 - Regulations for pre-emptive recovery planning for (re)insurers

Overview

Pre-emptive of SII 2020 Review

Regulations & Guidelines

Insurers Captives Irish Branches

PRISM High/Medium High to submit to CBI

Reviewed Annually & approved by Board

Responses 30th October

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CP131 - Proposed layout of the recovery plan

Proposed format of recovery plan

Part A
Summary

Part B
Change since last recovery plan

Part C
Approval of recovery plan

Part D
Governance

Part E
Strategic analysis

Part F
Recovery indicators

Part G
Recovery options

Part H
Scenario analysis

Part I
Communication plan

Part J
Information on preparatory measures

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Quarterly SCR calculations

- EIOPA Statement on Solvency II supervisory reporting in the context of COVID-19
  - Solvency II solo quarterly Own Funds template (S.23.01) with a reference date between 30 June and 31 December 2020, a calculation (if it is available as of reference date) or at least an estimation of the Solvency Capital Requirement at the end of each quarter reference date instead of the last calculated one as indicated in the Instructions of the Implementing Technical Standards.

- CBI wrote to all insurance undertakings on 7th September, outlining their expectation that the quarterly returns would include updated calculation (or at least an estimation) of the SCR. The resubmission of the previously submitted SCR (as currently allowed) will not be sufficient for reporting purposes.

Source: Central Bank of Ireland [website](https://www.centralbank.ie)
Would you be happy if we moved to Level 3?
“EIOPA identified the need to develop **specific guidance** on information and communication technology (ICT) security and governance in relation to Articles 41 and 44 of **Directive 2009/138/EC** ….

These Guidelines shall apply from
1 July 2021

Source: EIOPA website
# 25 New Guidelines

<table>
<thead>
<tr>
<th>Proportionality</th>
<th>ICT within the system of governance</th>
<th>ICT strategy</th>
<th>ICT and security risks within the risk management system</th>
<th>Audit</th>
</tr>
</thead>
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<tr>
<td>Information security policy and measures</td>
<td>Information security function</td>
<td>Logical security</td>
<td>Physical security</td>
<td>ICT operations security</td>
</tr>
<tr>
<td>Security monitoring</td>
<td>Information security reviews, assessment and testing</td>
<td>Information security training and awareness</td>
<td>ICT operations management</td>
<td>ICT incident and problem management</td>
</tr>
<tr>
<td>ICT project management</td>
<td>ICT systems acquisition and development</td>
<td>ICT change management</td>
<td>Business continuity management</td>
<td>Business impact analysis</td>
</tr>
<tr>
<td>Business continuity planning</td>
<td>Response and recovery plans</td>
<td>Testing of plans</td>
<td>Crisis communication</td>
<td>Outsourcing of ICT services and ICT systems</td>
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Conclusion
Reporting Deadlines 2021

Annual Deadlines Solo & Group
- 8 Apr
- 20 May

Quarterly Deadlines Solo & Group
- 5 Feb
- 18 Mar
- 6 May
- 17 Jun
- 5 Aug
- 16 Sep
- 5 Nov
- 17 Dec

Quarterly Solo Reporting (EIOPA, ECB and NST templates)
- Q4 2020
- Q1 2021
- Q2 2021
- Q3 2021

Quarterly Group Reporting (EIOPA, ECB and NST templates)
- Q4 2020
- Q1 2021
- Q2 2021
- Q3 2021

Annual Solo QRT reporting
- Year end 2020

Solo SFCR
- Year end 2020

Solo RSR
- Year end 2020

Annual Group QRT reporting & SFCR/RSR
- Year end 2020

Also due on 8th April 2021:
- External Audit report
- Directors’ accuracy statement on SFCR
- Directors’ accuracy statement on Annual QRTs
- Directors’ compliance certificate

For undertakings who submitted the full RSR for year-end 2017, the next full RSR will be required for year-end 2020.

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### In Summary

#### What to know for Year-End 2020

| Minor changes to EIOPA QRTs | No changes to EIOPA log files | No changes to the CBI NSTs |

#### What to expect in future

| Recovery & Resolution | Level 3 Guidelines (June 2021) | Annual changes expected to the QRTs | Delegated Regulations will see substantial changes again following the “2020 review” |

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For more information:

https://ie.milliman.com/en-gb/insurance/solvency-ii

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ORSA: COVID-19 & Other Considerations
ORSA - overview

- ORSA with us for a number of years now

- Question arises as to how to keep it fresh and relevant

- Number of current/upcoming factors to be considered in 2020 and beyond:
  - COVID-19
  - Solvency II Review
  - Climate Risk
  - Brexit

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Domhnall Cullinan, Director of Insurance Supervision, noted the following in relation to ORSA:

- “…the ORSA has not been fully embedded within decision making and planning processes, and there has been little evidence of engagement at board level”

- “…stress and scenario testing should be enhanced. The COVID-19 crisis has reinforced our view that the ORSA should consider a wide range of stresses, of different stresses occurring concurrently, and include their impact on solvency and liquidity. Analysis should consider risks arising from combinations of stresses not previously experienced and with a low likelihood of occurrence. These might cover group dependencies – such as intra-group reinsurance, lending and parental…. ”

- “Recovery plans should build on and be integrated into the existing risk management framework, particularly the ORSA and risk appetite statements.”
COVID-19 - CBI Newsletter

- Consider impact and different possible stresses and scenarios including combinations not previously explored.
- Stronger processes show firms subjecting material group links to robust risk management and stress testing.
- Where firms face potential claims which are subject to a range of possible outcomes (e.g. BI claims under litigation) consider worst-case scenarios.
- Consider liquidity risk exposures and contingency plans in stressed situations.
- Consider if scenarios considered in last ORSA are no longer adequate, or if there has been a change in risk profile to the extent that results of a new ORSA would materially affect the decision making of the board.

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COVID-19 Considerations in the ORSA

- In preparing forward-looking projections, firms will need to consider the impact of COVID-19

- Base case will need to consider best estimate of future experience

- Stresses will need to allow for uncertainty in most material assumptions, ideally on a combined basis (multi-factor stresses)

- May also need to allow for uncertainty in relation to timing

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COVID-19 – Assumptions

- Lapses
- PUPs
- Claims
- Other: BI, Unemployment
- Premium Refunds
- Morbidity
- Mortality

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COVID-19 – Other Impacts

- Impact on new business volumes?
- Impact on product design?
- Impact on business model?
- Impact on reinsurance arrangements?
- Increased operational risk?
COVID-19 and Dividends

- CBI COVID-19 – Regulated Firms FAQ
  - “….we consider that insurance firms should postpone any payment of dividend distributions or similar transactions until they can forecast their costs and future revenues with a greater degree of certainty. Where the board of an insurance firm forms the view that a high level of certainty has been reached and wishes to make a distribution, the Bank expects the firm to engage with their supervision team before proceeding with the distribution, demonstrating satisfactory forward looking solvency, liquidity and operational resilience positions in light of the current environment.”

- Therefore, ORSA will be important source of evidence to support planned dividends.

- Should ORSA show dividends in 2020 if engagement with CBI has not started?
Other ORSA Considerations - Solvency II Review

- Impact assessments considered impact of potential changes already flagged in consultations:
  - Yield Curve
  - VA
  - SCR

- But also risk margin

\[ RM_{scenario} = CoC \cdot \sum_{t \geq 0} \frac{SCR(t) \times \max(\lambda^t, 0.5)}{(1+r(t+1))^{t+1}}, \text{ where } \lambda = 0.975 \]

- Deadline for EIOPA advice extended to end December 2020

- Should companies consider impact of changes in solvency position when looking forward a number of years?
Other ORSA Considerations – Climate Risk

- CBI’s September 2019 Insurance Newsletter
  - “We expect Irish insurance undertakings to ensure that they give appropriate consideration to assessment of climate related risks and adopt a longer-term perspective than typical business planning and strategy setting processes. Risk management frameworks, and the ORSA in particular, should reflect these considerations.”

- Also recent EIOPA consultation on the supervision of the use of climate change scenarios in ORSA
  - [https://www.eiopa.europa.eu/content/eiopa-consults-supervision-use-climate-change-scenarios-orsa](https://www.eiopa.europa.eu/content/eiopa-consults-supervision-use-climate-change-scenarios-orsa)
  - “Supervisors should expect insurers to subject material climate change risks to at least two long-term climate scenarios, where appropriate…”
Other ORSA Considerations – Brexit

- Transition period ends on 31 December 2020
  - Still a lack of clarity on trade agreements etc.
  - Most firms clear of implications for insurers selling into/from UK
  - What about agreements with UK providers?

- Question over UK Solvency II equivalence in long-term
  - UK has begun a review of Solvency II
  - Solvency II review ongoing
  - Reinsurance and group reporting impacts
Other ORSA Considerations - CBI Consultation Paper on Recovery Planning – CP131

- CBI acknowledges that there is a link between recovery plans and ORSA

- CP envisages scenario analysis covering a range of scenarios and assessment of recovery options

- Capital indicators should be aligned with the ORSA and medium-term capital management plan.
Recommended Reading

Milliman COVID-19 ORSA Guide:

https://www.milliman.com/-/media/milliman/pdfs/articles/covid-19-orsa-guide.ashx
For more information:

https://ie.milliman.com/en-gb/risk/oroa

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Effective Key Risk Indicators

Eamonn Phelan

18 NOVEMBER 2020
“An early warning monitoring may tell you the likelihood of a risk materializing is increasing, and further caution should be applied to avoid being hampered…other monitoring may show that the risk is less likely to materialize, and may allow you to take more risks at this particular point in time”

- Hans Læssøe (“Prepare to Dare”)
**KRI value proposition**

- Common risk management thread throughout the organisation
- Avoidance of unwanted surprises
- Crisis management
- Identification of opportunities
- Communication and engagement
- Risk culture

**Health Warning!** Don’t let your KRIIs become KPIs!
So, what does “good” look like?

Integrated and coherent framework
Buy-in from key stakeholders
Forward-looking
Monitoring the right exposures
Dynamic
Informed
Common understanding
Automated
Top Down or Bottom-up?
What we want to achieve

- Emphasis on key risks & opportunities
- Identify key underlying risk drivers
- Avoid anchoring bias
- Reflect current risk profile
- Create coherent framework
Top-down design process

Overview

Stakeholder buy-in

- ORSA / RAS *
- Brainstorming
- Risk register

Identify key risks

Drivers of those risks

KRIs

Risk Reporting

* Risk Appetite Statement ("RAS")
Understanding the risks

Causal mapping

- Drivers of risk can be identified by a process called **causal mapping**
- It can show how various risk drivers, for the same or different risks, are **interconnected**
- It allows us to move from looking at a risk as a single thread to looking at risks as **interacting parts**
- Causal mapping also ties back to the brainstorming process used in risk identification
- It involves **experts** from key risk areas to identify the drivers of those risks
Understanding the risks

Example – drill down into lapse risk

- **Causal drivers** associated with lapse risk:
Understanding the risks
Specific features of expected fund returns

- Policyholder fund returns is one of the most important causal drivers
- Identify a suitable forward-looking indicator

Policyholder fund returns

- Returns since policy inception
- Expected future market interest rate levels
- Market volatility
- Monitor yield curve
KRI: Calibration of risk levels
Calibration of risk levels

Individual risk levels

Risk aggregation calibration
Individual risk levels
RAYG system

- A red/amber/yellow/green (RAYG) system can be used to calibrate the risk limits of the KRI's. This system acts as an approach to distinguish the status of KRI's.

- Setting limits should involve consideration of:
  - Triggering timely action
  - Upwards escalation
Individual risk levels

Quantitative measure

- The calibrated thresholds could be of a quantitative measure, where warnings for further action are triggered if metrics fall either side of a certain numerical level.

For example, numerical triggers for reputational risk, could be:

<table>
<thead>
<tr>
<th>Number of negative coverage events during quarter</th>
<th>Red: &gt; 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amber: 2</td>
</tr>
<tr>
<td></td>
<td>Yellow: 1</td>
</tr>
<tr>
<td></td>
<td>Green: 0</td>
</tr>
</tbody>
</table>
**Individual risk levels**

Qualitative measure

- Classification of these triggers *may not be as clear* if they are qualitative.
- Calibrating threshold points in this way is more open to *interpretation*.

For example, defining the *status of a high loss event* based on potential loss.

<table>
<thead>
<tr>
<th>Occurrence of high loss event (in line with internal materiality limits)</th>
<th>Red: Event escalated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amber: Event identified</td>
</tr>
<tr>
<td></td>
<td>Yellow: Potential event</td>
</tr>
<tr>
<td></td>
<td>Green: No event</td>
</tr>
</tbody>
</table>
Individual risk levels

Lapse Risk

- In earlier example, the **design process** identified the policyholder fund returns as a **driver** of lapse risk:

  ![Diagram showing risk drivers and KRI](Image)
  - **Risk Driver**: Policyholder fund returns
  - **Risk Driver**: Interest rate levels
  - **Selected KRI**: Yield curve

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Individual risk levels
Retrospective & prospective approaches

Use an existing experience analysis → Determine KRI level in historic data → Determine historic impact on lapse risk → Link to historic SCR → KRI thresholds based on historic levels

KRI (historic level) → SCR (historic level)

Predictive model of future business → Vary KRI level → Model impact on lapse risk → Model impact on SCR → Link KRI threshold levels to RAS

KRI (model input) → SCR (model output)
**Individual risk levels**

A single KRI for multiple risks

- The KRI design discussed earlier may lead to **the same KRI** being selected to monitor various risks.

- If this is the case, the calibration stage will need to consider selecting **consistent** risk levels to inform each of the different risks used.

- For the previous example, a yield curve based KRI was selected to monitor lapse risk.

- The same yield curve based KRI could then also inform:
  - **Market risk** – for the Company’s own investments
  - **New business risk** – if low interest rates deter new business and impact planned volumes

- May need to be **combined** with other KRIs for each specific purpose
  - e.g. combine with interest/equity volatility when looking at market risk

Yield curve KRI

- Lapse Risk
- Market Risk
- New Business Risk
Risk aggregation calibration

Liquidity Risk Example

- Grouping KRI's by **risk type or category** can help develop an aggregated trigger warning.
- This involves capturing the status of several related KRI's in a single combined metric. A higher-level view of the main risk categories could have linked calibrated triggers using a similar system to individual risks.

<table>
<thead>
<tr>
<th>Liquidity Risk KRI's</th>
<th>Aggregate view of Liquidity risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. % Assets Duration &gt; 5 years</td>
<td>Red: 4 Yellow KRI's</td>
</tr>
<tr>
<td>2. Tax assets as a % of own funds</td>
<td>Amber: 3 Yellow KRI's</td>
</tr>
<tr>
<td>3. Liquid shareholder assets</td>
<td>Yellow: 2 Yellow KRI's</td>
</tr>
<tr>
<td>4. Spread on bonds</td>
<td>Green: 0 or 1 Yellow KRI's</td>
</tr>
</tbody>
</table>
Risk aggregation calibration
By Time Period

- A similar approach can be used to calibrate KRI's when aggregating by **time period**, rather than risk group.
- This involves capturing the status of several related KRI's in a single combined metric. A higher-level view of the main risk categories could have linked calibrated triggers using a similar system to individual risks.

### Aggregate view of risks with short-term time horizons

<table>
<thead>
<tr>
<th></th>
<th>Green: &lt; 2 Amber KRI's</th>
<th>Yellow: 2 or 3 Yellow KRI's</th>
<th>Amber: 3 – 6 Yellow KRI's</th>
<th>Red: &gt; 7 Yellow KRI's</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>
KRI Reporting
# KRI Dashboard Report

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>KRI</th>
<th>Jun-20</th>
<th>Sep-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1</td>
<td>Example 1</td>
<td>90%</td>
<td>84%</td>
</tr>
<tr>
<td></td>
<td>Example 2</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Example 3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Category 2</td>
<td>Example 4</td>
<td>130</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>Example 5</td>
<td>210</td>
<td>...</td>
</tr>
<tr>
<td>Category 3</td>
<td>Example 6</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
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</table>
Reporting rules-of-thumb

1. Think of your **audience** and their **needs**

2. Keep the message **simple** and **consistent**

3. Consider if an **action plan** is needed

4. Mix **visuals** with the numbers

5. **Frequent** and **automated**
Action plan reporting

Considerations

- There may be a need to communicate action points linked to the results. It would be beneficial to have a predetermined framework to evaluate how a company should react to changes in KRIs.

  ✓ What are the **pre-defined** actions for each trigger level?
  ✓ Are **multiple** actions needed to address a single KRI?
  ✓ Is the issue **idiosyncratic** or **systemic**?
  ✓ What are the **costs** and **benefits** of proposed action(s)?
So, what does “good” look like again?

- Integrated and coherent framework
- Forward-looking
- Dynamic
- Common understanding
- Buy-in from key stakeholders
- Monitoring the right exposures
- Informed
- Automated
For more information:

https://ie.milliman.com/insight/risk-insight

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Q&A session