ANALYSIS OF THE SOLVENCY AND FINANCIAL CONDITION REPORTS OF EUROPEAN INSURANCE AND REINSURANCE ENTITIES

AT 31 DECEMBER 2017 (SFCR 2017)
For the second successive year, Mazars has conducted a survey of solvency and financial condition reports. Last year’s analysis considered the reports of French companies, but this has now been extended to include European entities subject to the Solvency II directive.

The Solvency II directive, which came into force on 1 January 2016, has fundamentally changed the regulatory framework for European insurance companies and undertakings.

This directive introduces new requirements for the calculation of the solvency ratio based on an assessment of the economic value of own funds and the entity’s capital needs, along with requirements for governance and risk management. These new quantitative and qualitative requirements are accompanied by strengthened rules for quarterly and annual reporting intended both for the regulator and for the general public.

In order to provide increased transparency in the market, the directive requires the annual public disclosure of a solvency and financial condition report (SFCR) which must cover the business of the undertaking, its system of governance, its risk exposure and information on valuation methods and capital management.

The 2018 financial year marks the second appearance of SFCRs, with the issue of “consolidated” reports in mid-June, the deadlines having been shortened this year.

In this context, we have considered the reports published by a sample of European entities and have conducted a comparative study of the 2017 and 2016 information, based on an analysis of the following points:

• What level of detail has been provided on solvency indicators?

• What is the coverage ratio of the regulatory requirement in the different entities?

• What information is provided on capital needs, and what observations emerge from the breakdown of the SCR (Solvency Capital Requirement) by risk
Introduction

• What methodologies are applied to measure assets, technical provisions and own funds?

• Who uses an internal model and what information is provided on the particular methodologies applied?

• What comments could be made on the structure of own funds?

• What sensitivity analyses have been published?

• What information has been expanded by comparison with the first SFCR?

Finally, and where appropriate, we have supplemented our analysis with the information available in the public Quantitative Reporting Templates (QRTs) that are generally provided in annex to the SFCR.
Our sample consists of the following 15 European insurance and reinsurance groups:
We have analysed the consolidated reports of each group.

We shall illustrate the analysis with extracts from the solvency and financial condition reports issued by the entities in our sample.

The volume of these solvency and financial condition reports is as follows:

<table>
<thead>
<tr>
<th>Number of pages in group SFCRs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Min</td>
</tr>
<tr>
<td>52</td>
</tr>
<tr>
<td>61</td>
</tr>
</tbody>
</table>

The normative character of solvency and financial condition reports and the quantitative reporting templates (QRTs) provides information that can be compared between the various players.

The volume of the reports depends on the complexity of the operations concerned, but also on the very varied level of disclosures published (in particular in the analyses of sensitivity to risk factors). Four entities also refer back to their annual financial reporting, which significantly reduces the volume of their SFCR.

The average number of pages in the body of reports was 91 pages at 31.12.2017, slightly up in comparison with 31.12.2016 (88 pages).
The distribution of revenues and liabilities to illustrate the composition of our sample is as follows:

Number of pages in group SFCRs

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>80</td>
<td>120</td>
<td>60</td>
<td>40</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

- **Total revenues 2016**
- **Total revenues 2017**

Life revenues

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>60</td>
<td>100</td>
<td>40</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

- **Life revenues 2016**
- **Life revenues 2017**

1: We have reconstituted the revenues on the basis of the QRT form 5.05.01.02 of each entity.
Scope of the survey and composition of the sample

"Life" business corresponds to products that insure persons (savings, capitalisation, insurance, etc.) while "non-life" business mainly corresponds to the products insuring goods and liability.

This breakdown should be interpreted with caution, given the different classifications of health products.

Breakdown of outstandings by business type

Non-life technical provisions  
Life technical provisions  
Unit-linked technical provisions
1. COVERAGE RATE FOR THE REGULATORY REQUIREMENT UNDER SOLVENCY II
1. Coverage ratio for the regulatory requirement under Solvency II

Within our sample, the SCR coverage rates stand between 133% and 372%. On average, the solvency ratio increased by 11 percentage points between 2016 and 2017. This rise is mainly explained by the changing economic environment between 2016 and 2017, marked by a higher risk-free interest rate within the European Union.

The comparison between entities remains a difficult exercise, because of the fact that some of our sample made use of transitional measures (see part 5).

The highest ratio was observed in the Covea group (without the use of transitional measures), a mutual society that does not suffer the same capital management constraints as listed entities.

One listed group, Munich Re, reported a figure of 297% at 31.12.2017. The coverage ratio remains comfortable even after neutralising the effects of transitional measures (244%).

Two entities in the sample gave no details of the changes in their regulatory coverage ratio between 2016 and 2017 in the 2017 SFCR.
There was an overall upward trend in the ratio, with the following disparities:
1. Coverage rate for the regulatory requirement under Solvency II

The maximum change observed corresponds to a 44-percentage point increase between 2016 and 2017. The group concerned (Aegon) reported the main reasons for this change:

- More favourable economic conditions;
- Changes to the internal model, in particular to the treatment of the spread risk;
- The reduction in the default risk following the transfer of one of its portfolios.

The quantitative impact of these changes was not disclosed.

In contrast, the most unfavourable development observed represents a 19-percentage point fall in the coverage ratio. The SFCR of the group concerned states that this development can be explained by the reduction in eligible own funds between 2016 and 2017 subsequent to the payment of dividends and to the redemption of capital during 2017, in accordance with the capital management policy.

More detailed information on solvency ratio variance can be found in some group financial reporting. The following extract sets out an analysis of solvency ratio variance for one of the entities in our sample:

Source: AXA GROUP – FY17 EARNINGS
2. MODELS USED
2. Models used

All the entities in our sample indicated whether they had used a partial or full internal model, or the standard formula:

<table>
<thead>
<tr>
<th>Players</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>use the standard formula</td>
</tr>
<tr>
<td>5</td>
<td>use a partial internal model</td>
</tr>
<tr>
<td>4</td>
<td>use a full internal model</td>
</tr>
</tbody>
</table>

The distribution of entities by model used to calculate the SCR is identical in 2016 and 2017.

Entities using a partial internal model apply an internal model to some of the risk modules and the standard formula to the remainder. They generally explain the partial recourse to the standard formula by the insignificance of certain modules in relation to the total SCR.

In our classification, we have allocated those players using the standard formula only for the smallest entities in the group, and which have an internal model for all their risk modules, to the “full internal model” category.

The five groups in the partial internal model category have explained the scope of application of the standard formula and the integration method used to aggregate the modules where different models have been used.
The extract below presents an exhaustive breakdown of the scope of application of the partial internal method by one of the entities in the sample:

<table>
<thead>
<tr>
<th>Risk Class</th>
<th>QRT 5.25.02.22</th>
<th>Risk Type</th>
<th>Aegon NL</th>
<th>Aegon UK</th>
<th>Aegon N.V.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mismatch risk</td>
<td></td>
<td>Interest rate</td>
<td>IM</td>
<td>IM</td>
<td>IM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interest rate volatility</td>
<td>IM</td>
<td>IM</td>
<td>IM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Currency</td>
<td>SF</td>
<td>IM</td>
<td>IM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fixed income</td>
<td>IM &amp; SF</td>
<td>IM &amp; SF</td>
<td>IM &amp; SF</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Equity level</td>
<td>IM &amp; SF</td>
<td>IM &amp; SF</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Equity volatility</td>
<td>IM</td>
<td>IM</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Alternative investment</td>
<td>IM &amp; SF</td>
<td>SF</td>
<td>n/a</td>
</tr>
<tr>
<td>Investment &amp; Counterparty risk</td>
<td></td>
<td>Counterparty default risk</td>
<td>Counterparty</td>
<td>SF</td>
<td>SF</td>
</tr>
<tr>
<td>Life underwriting risk</td>
<td></td>
<td>Mortality Contagion</td>
<td>SF</td>
<td>SF</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mortality Parameter</td>
<td>IM</td>
<td>SF</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Longevity Parameter</td>
<td>IM</td>
<td>IM</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disability/morbidity</td>
<td>SF</td>
<td>SF</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Persistency</td>
<td>IM &amp; SF</td>
<td>IM</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Expense risk</td>
<td>SF</td>
<td>IM</td>
<td>n/a</td>
</tr>
<tr>
<td>Health underwriting risk</td>
<td></td>
<td>Health</td>
<td>n/a</td>
<td>SF</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Persistency</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Expense risk</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Non-life underwriting risk</td>
<td></td>
<td>Non-life underwriting risk</td>
<td>P&amp;C</td>
<td>SF</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Persistence</td>
<td>SF</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Expense risk</td>
<td>SF</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

Source: AEGON GROUP – SFCR 2017

One good practice that we found in our survey is the breakdown of the calculation of different risk modules by the model used; the following extract demonstrates the breakdown carried out by one player:

<table>
<thead>
<tr>
<th>Group SCR/risk component (€m)</th>
<th>Total</th>
<th>IM</th>
<th>SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mismatch risk</td>
<td>14.2</td>
<td>9.9</td>
<td>4.3</td>
</tr>
<tr>
<td>Counterparty default risk</td>
<td>0.9</td>
<td>0.5</td>
<td>0.4</td>
</tr>
<tr>
<td>Life underwriting risk</td>
<td>8.3</td>
<td>6.2</td>
<td>2.1</td>
</tr>
<tr>
<td>Health underwriting risk</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Non-life underwriting risk</td>
<td>1.9</td>
<td>1.3</td>
<td>0.6</td>
</tr>
<tr>
<td>Operational risk</td>
<td>2.3</td>
<td>1.9</td>
<td>0.4</td>
</tr>
<tr>
<td>Loss-absorbing capacity of technical provisions</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Loss-absorbing capacity of deferred taxes</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Other adjustments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total undiversified components</td>
<td>25.9</td>
<td>18.4</td>
<td>7.5</td>
</tr>
<tr>
<td>Diversification</td>
<td>0.6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: AVIVA GROUP – SFCR 2017
Internal model vs. Standard formula:

All groups using a full or partial internal model provided qualitative information about the differences between their internal model and the standard formula.

Just one group presents the quantified impact of using the standard formula on the SCR.

![Image](image.png)

Source: Ageas GROUP – SFCR 2017

Another group gave a quantitative comparison of the impact of market shocks in its internal model and the standard formula:

![Image](image2.png)

Source: Allianz GROUP – SFCR 2017
3. REGULATORY CAPITAL REQUIREMENT AND BREAKDOWN BY RISK
In our sample, all the players gave the details of their SRC by risk, as required by the directive. Our analysis concerns the risk exposure expressed by the breakdown of the basic SCR before diversification into market risks, default risks and underwriting risks.

Note that the level of information provided is varied (in particular for differences in the presentation of diversification effects or additional adjustments on the loss-absorbing capacity of technical provisions, for example).

**a. The breakdown of risks and the impact on the BSCR**

To present quantitative analyses of the breakdown of SCR by risk, we have broken down the Basic Solvency Capital Ratio (BSCR) before diversification as follows:

- **Market risk**
- **Default risk**
- **Underwriting risks in Life, Non-Life and Health**

Some players took account of “other risks” excluded from the standard formula. These are described as commercial risks, risks of the joint occurrence of adverse events, or non-linear adjustments. Overall, these risks remain relatively immaterial in terms of the SCR.

![Average overall breakdown 2017](image1)

![Average overall breakdown 2016](image2)
Our analysis shows that on average, market and underwriting risks represent the majority (54% and 38% respectively). The average default risk is below 10%. The breakdown has changed little since 2016.

The breakdown of the BSCR by risk module is quite varied within our sample. This variation is explained by the significance of different business lines within the entities (life, non-life): the greater the salience of life insurance, the more the market risk contributes to the BSCR; the greater the salience of non-life insurance, the greater the contribution of the underwriting risk.

While default risk is of lesser significance, there are some particularities: its contribution to the SCR is relatively important for group B, due the fact that this entity models the spread risk in the default module, unlike other groups, where it is taken into account in the market module.

Analysis of the BSCR before diversification shows that the distribution of the different modules is unchanged between 2016 and 2017 for all but one player. For this player, the significance of the market module has increased by 10 points between 2016 and 2017. No explanation for this development is provided.
b. The degree of inter-risk diversification

We have also considered the level of inter-risk diversification reported by entities in our sample. This appears to be uneven, ranging from 10% to 49% of the BSCR before diversification. Note that inter-risk diversification benefits remained unchanged between 2016 and 2017.

In 2017 the minimum was 10%, recorded by a bancassurance business (Crédit Agricole Assurances) where the impact of market risk in the SCR is relatively high (87%), reducing diversification capacity. The maximum is a diversification ratio of 48%, recorded by a listed reinsurance entity (SCOR). Reinsurers generally benefit from a greater capacity for geographical diversification, and, in this instance, from a more marked balance between the different risk modules.
We have analysed the diversification benefit on the basis of the use or otherwise of a partial or full internal model:

On average, groups using a full internal model have an inter-risk diversification ratio of 39%, compared with 30% and 21% respectively for groups using a partial internal model and those using the standard formula. In some cases, this effect may be explained by the two-step aggregation methodology of the standard formula, where risks are aggregated within the same module and the modules are then aggregated to obtain the BSCR. The internal models often model correlations between individual pairs of risks, which increases diversification benefits.
c. Operational risk

The level of operational risk continues to vary little from one entity to another. It accounts for an average 11% of the total aggregated SCR. Note that the SCR for operational risk is weaker for entities using a full internal model.

![Operational risk as a proportion of overall SCR](chart)

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard formula</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal model</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partial internal model</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Highest</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowest</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

d. Other adjustments to the SCR

For most entities, additional adjustments affect the SCR. This mainly concerns capital requirements for other activities and equity affiliates.
4. BALANCE SHEET AND OWN FUNDS
4.1 ELIGIBLE OWN FUNDS

a. Change of own funds between 2016 and 2017

SII own funds 2017/2016 (in billions of euro)

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>20</td>
<td>60</td>
<td>80</td>
<td>100</td>
<td>0</td>
<td>20</td>
<td>40</td>
<td>60</td>
<td>80</td>
<td>100</td>
<td>0</td>
<td>20</td>
<td>40</td>
</tr>
</tbody>
</table>

SII economic own funds 2016 | SII economic own funds 2017

Change of own funds between 2016 and 2017

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
<th>O</th>
</tr>
</thead>
<tbody>
<tr>
<td>5%</td>
<td>10%</td>
<td>15%</td>
<td>20%</td>
<td>0%</td>
<td>-5%</td>
<td>-10%</td>
<td>-15%</td>
<td>-20%</td>
<td>5%</td>
<td>10%</td>
<td>15%</td>
<td>20%</td>
<td></td>
</tr>
</tbody>
</table>
On average, Solvency II own funds increased by 3% between 2016 and 2017. However, our analysis shows that the variation differs widely from one player to another.

Only five entities provided an analysis of the changes in own funds between 2016 and 2017. The amount of detail provided also varies greatly.

The analyses presented consist of a breakdown of the movement from opening equity to closing equity in several stages, with an estimate of the contribution of each stage to the gain or loss:

- Changes of model
- Change of assumptions
- Actual market yield
- Annual result
- Dividends paid
- Contribution of new business

The following extract sets out a variance analysis for one of the entities:

<table>
<thead>
<tr>
<th>Développement des fonds propres disponibles du Groupe</th>
<th>Fonds propres disponibles du Groupe 2017</th>
<th>Fonds propres disponibles du Groupe 2016 retraités</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clôture précédente</td>
<td>57.9</td>
<td>59.2</td>
</tr>
<tr>
<td>Modifications de modèle et ajustements d’ouverture</td>
<td>(1.5)</td>
<td>(2.4)</td>
</tr>
<tr>
<td>Ouverture</td>
<td>56.4</td>
<td>56.8</td>
</tr>
<tr>
<td>Rendement attendu sur le portefeuille existant</td>
<td>4.6</td>
<td>4.5</td>
</tr>
<tr>
<td>Valeur des nouvelles primes</td>
<td>2.5</td>
<td>2.4</td>
</tr>
<tr>
<td>Variance opérationnelle et changements d’hypothèses techniques</td>
<td>1.5</td>
<td>1.8</td>
</tr>
<tr>
<td>Performance opérationnelle</td>
<td>8.5</td>
<td>8.7</td>
</tr>
<tr>
<td>Variance économique</td>
<td>1.8</td>
<td>(5.3)</td>
</tr>
<tr>
<td>Performance totale</td>
<td>10.3</td>
<td>3.4</td>
</tr>
<tr>
<td>Impact lié aux taux de change</td>
<td>(3.8)</td>
<td>(3.4)</td>
</tr>
<tr>
<td>Dividendes à payer en N+1</td>
<td>(3.0)</td>
<td>(2.8)</td>
</tr>
<tr>
<td>Dettes subordonnées et autres</td>
<td>(2.3)</td>
<td>0.9</td>
</tr>
<tr>
<td>Clôture</td>
<td>57.8</td>
<td>57.9</td>
</tr>
</tbody>
</table>

Source: AXA GROUP – SFCR 2017
b. Comparison between IFRSs and Solvency II

At 31.12.2017, twelve of the fifteen entities in the sample prepared their accounts under IFRSs and provided a comparison between their own funds for the purposes of IFRS and Solvency II.
On average, the ratio between SII and IFRS own funds stood at 105% at 31.12.2017. However, this ratio varied widely across the sample, which can be explained by restatement differences when moving from one standard to the other.

The main restatements are as follows:
• Exclusion of intangible assets under SII
• Adjustments of technical provisions
• Reclassification of liabilities to equity
• Inclusion of latent gains and losses not included in IFRS equity
• Adjustments for deferred taxes

c. Expected profit included in future premiums (EPIFP)

The Solvency II regulation defines the contract boundaries to be used when calculating technical provisions: forecast flows include some future premiums which must be taken into account in calculating the Best Estimate. These premiums impact the amount of economic own funds because of the future gains or losses that they will generate.
4. Balance sheet and own funds

The SII EPIFP/FP ratio stood at an average of 12% at 31.12.2017. Note the very wide spread of this ratio; it is larger for players with significant life insurance business because of the presence of long-term guarantees with periodic premiums (loan contracts or annuity products, for example) and the positive impact of front-loading on savings contracts.

d. The distribution of own funds by tier

All the entities in our sample disclosed their level of eligible own funds under the Solvency II framework, along with their distribution per tier, as required in the SFCR.

Breakdown of own funds by Tier 2017

Breakdown of own funds by Tier 2016
Tier 1 own funds are predominant, always representing a proportion above 60% in our survey sample. Readers will recall that the regulation imposes a minimum threshold of 50% for Tier 1 capital.

For these entities, Tier 2 own funds mainly consist of subordinated debt, part of which is classified in Tier 1 - restricted or in Tier 3.

The proportion of Tier 3 own funds remains minor, essentially corresponding to net deferred tax assets.

The breakdown of own funds was unchanged between 2016 and 2017.

4.2 RISK EXPOSURE

a. Asset allocation

In the section devoted to valuation for solvency purposes, entities are required to include information about their investments.

The graphics below give the asset allocation by players in the sample:
Unsurprisingly, bonds generally predominate, divided almost equally between government and corporate bonds. Asset allocation varies a good deal between players, largely due to their different business activities (mainly impacting the duration of liabilities) and differing liquidity needs.

The allocation was unchanged between 2016 and 2017.
b. Risk margin weight in technical provisions

Under the Solvency II regulation, technical provisions consist of the Best Estimate plus a risk margin. The risk margin is calculated on the basis of carrying costs of the regulatory capital.

Over the sample as a whole, the influence of the risk margin remains low. Its contribution to technical provisions was fairly stable between 2016 and 2017. One entity, a reinsurer, stood out with a risk margin weight above 15%.
5. METHODOLOGIES AND VALUATION

Financial Plan

Analysis of the Solvency and Financial Condition Reports of European Insurance and Reinsurance Entities
This section addresses areas that were discussed during the introduction of the Solvency II Directive where there could be divergences between entities, and which we have examined in terms of the SFCR information published.

Although there have been some clarifications regarding these major methodological aspects, few entities provide detailed disclosures on these subjects, despite the diversity of the practices we found.

a. Volatility Adjuster - VA

We first considered the Volatility Adjuster (VA). This is an adjustment to the basic structure of the risk-free interest rate defined in the level 2 measures with the objective of preventing procyclical market behaviour. It is presented as a premium on the liquid part of the risk-free rate curve intended to smooth the effects of spread movements on the prudential balance sheet of insurance entities.

The majority of entities in our sample use a VA. Only two did not do so in 2017, compared with three in 2016. One entity’s SFCR reported that work was in progress in the context of Pillar II to determine a group VA value.

We noted that the majority of groups using a VA did so partially: the volatility adjustment was not applied to all the entities in the group, or was only applied to some of its commitments. The scope of application was not always clearly explained.
VA impact on the Solvency II ratio

Among the thirteen entities using a volatility adjustment, nine directly disclosed its impact on the Solvency II ratio at 31.12.2017, and four provided information that could be used to calculate this impact (mainly through the publication of QRTs on the use of the VA and transitional measures).

At 31.12.2017, neutralisation of the volatility adjustment reduced the solvency ratio of these entities by an average of 14 points. The impact of the VA on the solvency ratio varies considerably from one entity to another (the maximum variation observed is -67 points). This is because the extent of the impact depends on the significance of the areas to which the VA is applied and on the duration of liabilities. Logically enough, long-term liabilities are more sensitive to volatility adjustment.
Despite the deterioration of the solvency ratio when the volatility adjustment is neutralised, all the entities in the sample always cover their SCR.

**b. Transitional measures**

**Transitional measures for the evaluation of technical provisions**

The new regulations provide for transitional measures to enable insurance entities a period of time to adapt before applying the new arrangements in full.

Entities subject to the Solvency II regulation may make use of two transitional measures when calculating technical provisions:

- The transitional measure on technical provisions: this measure consists of a weighting between the statutory technical provisions and those measured under the Solvency II regulation;

- The transitional measure on interest rates: this measure consists of discounting obligations using a curve that is the result of a weighted average between the Solvency I discount rate and the Solvency II curve (the EIOPA curve).
Of the 15 entities in our sample, only one used the transitional measure on interest rates in 2017 but not in 2016.

Six players used the transitional measure on technical provision in 2016 and in 2017. Information as to the impacts is not always available in the body of the report. We have indicated this below on the basis of information in the published QRTs:

**Impact of the transitional measure on TPs in 2017**
On average, neutralisation of the impact of the transitional measure on technical provisions reduces the solvency ratio by 40 points. However, the impact varies widely, due to the scope of application of the transitional measure and the specific risk exposure of each player.

**Transitional measures for the calculation of the SCR for equities**

The regulations make provision for a reduced shock in respect of specified equity classes when calculating the SCR for market risk: this is the equity transitional measure. This is used to smooth the impact of the new requirements on equity exposures over time.

Of the six players using the standard formula, only one reported on its use of the equity transitional measure.

Several players gave no explicit details in this area.

c. **Contingent liabilities**

Solvency II allows for the recognition of contingent liabilities, i.e. all potential commitments may be probablised, for which there is no provision under French accounting principles or in IFRSs. Only three entities in our sample reported contingent liabilities in the Solvency II balance sheet in 2016 and in 2017.
For entities recognising contingent liabilities in the Solvency II economic balance sheet, the amounts are marginal in comparison with own funds:

Contingent liabilities compared to SII own funds

<table>
<thead>
<tr>
<th>Entity</th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>H</td>
<td>0.4%</td>
<td>0.3%</td>
</tr>
<tr>
<td>J</td>
<td>0.2%</td>
<td>0.1%</td>
</tr>
</tbody>
</table>

**d. Deferred tax position in the balance sheet and the loss-absorbing capacity of deferred tax**

**Deferred tax position in the economic balance sheet**


Net deferred tax position: number of players

<table>
<thead>
<tr>
<th>Category</th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Liability</td>
<td>14</td>
<td>13</td>
</tr>
</tbody>
</table>
One of the entities reporting a Deferred Tax Asset (DTA) position gave the following explanation concerning its recoverability test:

Des impôts différés actifs sur les déficits reportables sont comptabilisés lorsqu’il est probable qu’un bénéfice imposable futur sera disponible, sur lequel ces déficits reportables seront imputés. Le management pose des hypothèses et estime ainsi les projections de résultats futurs pour déterminer l’existence de bénéfices imposables futurs suffisants. SCOR utilise un modèle d’actualisation de flux futurs intégrant une estimation des profits futurs et d’autres ratios financiers de l’entité sur la base des plans d’affaires approuvés par le Conseil d’administration, qui prennent en compte les principales variables affectant l’évolution des résultats de souscription.

Source: SCOR – SFCR 2017

One player in our sample took a prudent approach by neutralising the DTA position:

1.3 Actifs d’impôts différés

Le montant des actifs d’impôts différés au 31 décembre 2017 est nul dans le bilan prudentiel comme dans le bilan en normes IFRS.

L’entité principale du groupe, BPCE Vie, retient une position prudente en ne reconnaissant pas un actif d’impôt différé théorique dans son bilan prudentiel solo lorsque le solde d’impôt différé en normes Solvabilité 2 est un actif net.

Le groupe présente ainsi un passif net d’impôt différé en normes Solvabilité 2 évoqué au paragraphe 3.1 du présent document.

Source: Natixis – SFCR 2017
**Loss-absorbing capacity of deferred tax**

The regulation offers insurance groups the option of calculating tax absorption in the SRC, that is, taking account of the tax savings that would follow the loss associated with the 1-in-200 shock scenario.

The fifteen entities in the sample use the loss-absorbing capacity of deferred tax when calculating the SCR. Five players adjust the SCR to reflect deferred taxes by an amount higher that the amount of net deferred tax liabilities at 21.12.2017 (compared with nine in 2016).

Although this entails documenting the recoverability of the loss-absorbing capacity of deferred tax by the amount exceeding the net deferred tax liabilities (business plan tax projections), none of the players concerned provide any qualitative information about their recoverability test.
The graphic below expresses recoverability in excess of the net deferred tax liability position as a % of the SCR:

Only one entity mentioned any justification of the loss-absorbing capacity of deferred taxes, indicating that it had discussed the matter with the local regulator, who had approved its methodology.
6. VOLATILITY OF SOLVENCY II RATIOS: SENSITIVITY ANALYSES RESULTS
Given the intrinsic sensitivity of the Solvency II ratio, in particular to market parameters, many players in our sample reported a sensitivity analysis:

The number of entities publishing sensitivity details for the solvency ratio did not change between 2016 and 2017.

Unsurprisingly, sensitivity to financial parameters was widely reported.
Interest rate and spread sensitivities have been published by most of the entities in our sample. All the players that carried out solvency ratio sensitivity testing published these two results (10 players).

Equity market and Ultimate Forward Rate (UFR) sensitivity were also widely published.

It will be remembered that the UFR is the long-term forward rate on which the EIOPA risk-free rate converges after 60 years’ projection.
Unsurprisingly, the solvency ratio is very sensitive to interest rate volatility: on average, a fall of 50 basis points caused a 10-point reduction in the solvency ratio at 31.12.2017. Note that the same rate sensitivity (-50 bps) had a more striking effect at 31.12.2016, due to the rise in interest rates since 2016: the lower the rate, the greater the impact of a reduction.

We also found a degree of variation in the impact of rate sensitivity on the solvency ratio. This can be explained by the different risk exposures of the various players (asset allocation, structure of liabilities, derivatives, loss-absorbing capacity, etc.).

In 2016 one player had an increased spread sensitivity that caused a coverage ratio increase of 6 points. In its 2017 SFCR, this entity clarified that this was an issue with the model, which overestimated the compensation of this sensitivity in the BE.

A good practice identified in the analysis of solvency ratio sensitivities is the publication of sensitivities in the form of scenarios in which several parameters suffer shock jointly, such as an economic crisis or a pandemic affecting an extended geographical area.

The extract below illustrates a sensitivity analysis of this type:

**SENSITIVITY ANALYSIS OF THE AXA GROUP SOLVENCY II RATIO TO FINANCIAL SHOCKS**

- Solvency II ratio as at December, 31 2017: 205%
- Interest rate -50 bps: 199%
- Interest rate +50 bps: 207%
- Equity markets +25%: 205%
- Equity markets -25%: 200%
- Corporate spreads +150bps: 203%

Source: AXA GROUP – SFCR 2017
CONCLUSION

The advent of Solvency II has brought into the public sphere a multitude of information, formerly only disclosed to the regulator, on the financial circumstances and solvency of entities in the insurance market in the European Union.

The first finding to emerge from our comparative study is that all the entities in our sample cover their solvency margin and provide standardised information reflecting the requirements of the regulation.

Nevertheless, in some areas the information published is very varied, both in substance and form. While some insurers have chosen to provide rather detailed information about their situation and their activities, others have preferred to disclose the minimum required.

Unsurprisingly, methodologies have been the most difficult aspect of our analysis to compare, in particular between those entities using an internal model and those applying the standard formula.

In terms of improvements, the information provided about the volatility of the solvency ratio, capital management and the details of internal models all merit more attention. Nor are disclosures concerning the impact of transitional measures and the loss-absorbing capacity of deferred taxes always exhaustive.

We found no significant development in structure or content in this second round of Solvency and Financial Condition Reports.

One visible way of enhancing these reports might be to improve the accessibility of the information, since the SFCRs seem generally rather dry compared with the presentations that may be made to analysts on the same subjects.

Overall, the publication of these reports provides more insight into the risk exposure of each insurer through the various metrics they disclose.
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