EIOPA Consultation Paper on the Opinion on the 2020 review of Solvency II

Standard Formula Solvency Capital Requirement

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In October 2019, EIOPA published a consultation paper on its opinion on the Solvency II 2020 review. This briefing note summarises the section of the consultation paper on the Solvency Capital Requirement. EIOPA has requested stakeholders to provide feedback on this consultation paper by 15 January 2020.

Overview

On 11 February 2019, the European Commission (**EC**) issued a formal Call for Advice[1] to the European Insurance and Occupational Pensions Authority (**EIOPA**) on the review of the Solvency II Directive. This relates to the full review of the Solvency II rules required by the end of 2020 (**2020 Review**) as required by the Solvency II Directive.

On 25 June 2019 EIOPA published a first wave of consultation papers on its proposals for the 2020 Review regarding supervisory reporting and public disclosure and Insurance Guarantee Schemes. Milliman has written briefing notes on each of these papers (available here).

On 15 October 2019 EIOPA issued a second wave of consultation entitled "Consultation Paper on the Opinion on the 2020 review of Solvency II" (the **CP**). This was accompanied by an impact assessment document including an assessment of the combined impact of the proposed changes. The CP is 878 pages long and covers a wide range of topics as follows:

- Long-Term Guarantee (**LTG**) and equity risk measures
- Technical Provisions
- Own funds
- Solvency Capital Requirement (**SCR**)
- Minimum Capital Requirement (**MCR**)
- Reporting and disclosure
- Proportionality
- Group supervision
- Freedom to provide Services (**FoS**) and Freedom of Establishment (**FoE**)
- Macroprudential policy
- Recovery and resolution
- Fit and proper requirements

Milliman has produced a briefing note giving a summary of EIOPA's proposals in the CP (available here) and separate briefing notes covering each of these topics in more detail. This briefing note covers the standard formula SCR, in particular:

- Interest rate risk
- Spread risk
- Property risk
- Correlation matrices
- Counterparty default risk
- Calibration of underwriting risk
- Non-life catastrophe risk
- Risk mitigation techniques
- Reducing the reliance on external credit ratings
- Transitional on government bonds

Interest Rate Risk

EIOPA believes that the current shocks for interest rate risk provided in the Delegated Regulation do not meet the requirement of Article 101(3) of the Solvency II Directive (i.e. that the SCR should correspond to the Value-at-Risk of the basic own funds at a confidence level of 99.5% over a one-year period). EIOPA therefore strongly advises changing the way the capital requirements for interest rate risk are calculated in the Delegated Regulation.

EIOPA states that the interest rate risk is a material risk and that the current approach for calculating the interest rate risk capital requirements severely underestimates interest rate risk on the basis that:

- Actual interest rate movements have been much stronger than those provided by the stresses in the Delegated Regulation;
- The current approach does not stress negative rates, while reality has shown that rates can continue to decrease;
- Internal model users measure interest rate risk in a significantly different manner to the current standard formula.

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[1] Formal request to EIOPA for technical advice on the review of the Solvency II Directive

EIOPA has thus analysed several approaches to improve the interest rate capital charge calibration. EIOPA recommended a relative shift approach for calibration for the following reasons:

- the methodology is simple and transparent;
- the shifted approach is a purely data-driven approach;
- it is a risk-sensitive approach that remains applicable in any interest rate environment; and
- it can well cope with low and negative interest rates.

EIOPA believes that the relative shift approach is the most appropriate approach to model interest rate risk in the SCR standard formula. EIOPA therefore proposes to model interest rate risk in the standard formula using a relative shift approach. The parameters of the calculation will vary based on maturity. A comparison of the curves before and after the proposed changes is shown in Appendix A.

Spread Risk

The capital requirement for spread risk is calculated using shocks to credit spreads with a 0.5% probability of occurrence within one year. The issue identified with the spread risk capital requirement is whether the short-term treatment of spread risk overestimates the capital requirement in Solvency II. It is often argued that the short-term, 'artificial' changes in credit spreads are not relevant risks for undertakings with long-term and illiquid liabilities.

EIOPA has assessed whether the methods, assumptions and standard parameters underlying the calculation of the market risk module with the standard formula appropriately reflect the long-term nature of the insurance business, in particular equity risk and spread risk.

During the analysis on spread risk, EIOPA identified the characteristics of insurance business and liabilities that enable insurers to hold their investments for the long term.

EIOPA identified four mutually exclusive options for addressing the issue identified:

Option 1: No change to the current SCR spread risk sub-module

Option 2: Long-term treatment of long-term investments in bonds and loans: avoidance of forced sales and reduced, long-term spread shocks

Option 3: Long-term treatment of long-term investments in bonds and loans: hold-to-maturity conditions and spread risk charge based on increase in fundamental spreads

Option 4: Reflection of a dynamic VA in the standard formula for bonds and loans covering illiquid/predictable liabilities

EIOPA's advice is to not modify the current SCR spread risk sub-module (Option 1). EIOPA believes that the introduction of an additional, long-term treatment for investment in fixed income assets (beyond the current long-term calculation of the spread risk charge of assets contained in matching adjustment portfolios) is unnecessary and unwarranted. EIOPA states that it does not believe that investment in fixed income assets is dis-incentivised by the current treatment. It also states that a long term treatment would be inconsistent with the fundamental principle that the SCR should ensure the market value of assets exceeds the market value of liabilities with 99.5% certainty within one year.

Property Risk

Currently, the standard formula property risk sub-module of the SCR is calculated by considering the impact on the value of assets, liabilities and financial instruments of an instantaneous decrease of value of immovable property of 25%. The stress was calibrated based on historical property prices in the UK property market, as EIOPA view it as the only country where there is suitable source of data to use for the calibration.

Some stakeholders have raised concerns that the single shock is not appropriate as it neglects consideration of the different risk profile of property in different geographies and markets:

- **Geographies:** Real estate markets, in particular the volatility of property assets, can differ significantly between Member States. In particular, the UK real estate market is deemed to be the most volatile in Europe, so the 25% shock is considered excessively high for non-UK EU property markets.
- **Types of property:** e.g. commercial property and residential property have very different price volatility.

In addition, the single-shock implies that there is no benefit of diversifying property risk by investing in property in different geographies or sectors.

AVAILABILITY OF SUITABLE DATA

EIOPA requires a historical property price index to calibrate the property risk shock. EIOPA requires such an index to meet the following criteria:

- **Representative:** the index should be representative of the market it is aiming to summarise;
- **Frequency of reporting:** the index must be based on a sufficiently high number of data points, with EIOPA showing a preference for monthly or quarterly indices;
- **Total returns:** the index should be based on total returns, i.e. include both capital growth and income generated by the underlying properties; and
- **Based on local currency:** to ignore any distortion from changes in exchange rates.

EIOPA discusses its issues with identifying property indices that meet the frequency criteria. The value of property can only be observed on two occasions: (1) when the property is sold and such values can be used to create a transaction-linked index (**TLI**); or, (2) when it is required for regulatory reasons (e.g. a tax assessment) and such values can be used to create a valuation-based index (**VBI**). EIOPA argues that sales are too

infrequent to form the basis of a reliable TLI, and there are drawbacks to any interpolation methodologies used to remedy this issue. On the other hand, VBI face the issues that the frequency and methodology of valuations are not harmonised across Member States, and the subjectivity of the estimation process is argued to underestimate the volatility of prices because of smoothing and time lags. Consequently, any annual shocks calibrated from this type of data will only therefore be a lower bound of the "true" shock.

In the CP, EIOPA highlights the following:

Geography: based on the data analysed by EIOPA as part of its study, there was only data available for 17 EEA countries, and no data was available for 14 countries. Of the 17 countries with data available, 11 provided annual data only.

Types of properties: only 6 countries have quarterly indices for all types of properties. Of these, 3 had been excluded by index provider MSCI's indices due to insufficient underlying volumes (valuations or transactions) over a significant period.

EIOPA states that if data was available of sufficient quality by country and type of property, it would consider options to take these factors into account, including diversification.

However, given the data available to EIOPA at this time, it states that the only options currently available are:

- Make no change to the 25% shock;
- Keep a single shock but change it to take into account data from other countries (where suitable data is available); or
- Create two shocks, taking into account the differences in real estate markets in different groups of countries in Europe, with a consideration of the diversification between them.

EIOPA does not believe it has sufficient data on different property types, and so will not be considering recommendations that take this into account at this time.

EIOPA makes no recommendation to change the calibration or calculation of the property risk capital requirement for standard formula firms. It argues that at the time of drafting the CP, there is insufficient data on non-UK property markets to recommend a change to the calibration.

However, EIOPA has stated that it will continue to analyse its options with a view towards a potential future change. To help this analysis, EIOPA has raised questions to stakeholders in the CP, asking whether they are aware of any data sources that would better calibrate property risk, and requesting further insight from internal model firms on their approach to calibrating property risk in their models.

Correlation matrices

RECALIBRATION OF STANDARD PARAMETERS

Regarding the correlation matrices, EIOPA was asked to assess the appropriateness of the structure of the sub-modules and the calibration of correlation parameters used in the standard formula used to calculate the SCR.

EIOPA focused its analysis on the market risk correlations, since data for this risk are available, sufficient, representative and appropriate to analyse the dependence structure.

POLICY ISSUE 1: OVERALL STRUCTURE OF THE MARKET RISK CORRELATIONS

Analysis

EIOPA has analysed the overall structure of the market risk correlations following CEIOPS 2010 empirical model with added recent financial market data (from 2002 until 2019).

The aim of the study was to compare the diversification benefit of the empirical model with the diversification benefit implied in the SCR by the current market risk correlation matrix.

EIOPA has estimated the diversification benefit for market risk on the basis of an average European firm from QRT data in 2018.

An empirical SCR is determined calculated by approximating individual market risks with specific market risk proxies. The empirical diversification benefit is then calculated according to the CEIOPS empirical model. A duration-based approximation is used for the approximation of interest and spread risks.

Results

The analysis showed that the empirically estimated market risk SCR is significantly higher than the theoretical SCR implied by the current market risk correlation structure. However, the analysis also shows that the overall structure of the market risk correlations is not systematically inappropriate. This conclusion follows because a large part of the overestimation of the diversification benefit is as a result of the current inappropriate average weightings for the interest rate risk and spread risk within the market risk module.

The analysis using CEIOPS data for the market risk composition and the proposed correlation matrix shows the matrix contained a higher pair-wise correlation for concentration and currency risk. EIOPA states that no appropriate data were available to analyse the pair-wise correlations with concentration risk.

Consequently, EIOPA has not further analysed and reassessed all market risk correlations in detail, but has focused on the two-sided correlations with interest rate risk.

POLICY ISSUE 2: TWO-SIDED CORRELATION PARAMETER WITH INTEREST RATE RISK

The two-sided correlation was justified by both empirical analysis and economic argument.

Empirical analysis

EIOPA analysed the appropriateness of the two-sided correlations by a graphical data cutting analysis based on the data period from 2002 to 2019, for equity, spread and interest rate risk.

The graphical data cutting analysis provides an analytical view of the data points in the tail. The test analyses the upper percentiles for the correlations with an interest rate up exposure, and the lower percentiles for the correlations with an interest rate down exposure.

The results show a clear dependence of interest rate and equity movements in the lower tail, but no indication of the dependence between interest rate up movements and a fall in equity prices. This confirms the two-sided correlation between interest rate risk and equity risk as observed by CEIOPS in 2010.

Economic argument

For EIOPA, the two-sided correlations can be explained by the rationale that in an economic downturn where equity prices and property prices decline substantially and credit spreads widen, this is often accompanied by a monetary policy decision where central banks decrease key interest rates, usually resulting in a significant decrease in the interest rate level.

This could justify economically the positive correlation of 0.5 between interest rate risk and equity risk, property risk and spread risk. However, EIOPA admits that there is no real economic rationale that can clearly account for substantially increasing interest rates, falling equity prices, and property prices, which economically motivates the zero correlation with the interest rate up scenario.

CONCLUSION

Due to the empirical analysis and the economic arguments, EIOPA confirms the two-sided correlation for the interest rate and equity risk, but admits that for the interest rate and spread risk, the appropriateness of the two-sided correlation is not clear.

However, EIOPA advises to keep the market risk correlations unchanged and has requested stakeholders to provide quantitative evidence supporting their reasoning if they consider that the correlations within market risk should be amended.

Counterparty Default Risk

EIOPA's review of the standard formula SCR counterparty default risk module identified four issues that were addressed as part of the review.

- Burdensome calculations for the risk mitigating effect of derivatives, reinsurance arrangements, special purpose vehicles (**SPVs**) and insurance securitisations
- Implications of the identification of the largest man-made exposures on the calculation of the risk mitigating effect of reinsurance arrangements
- Capital requirements for forborne[2] and default[3] loans
- Effective recognition of partial guarantees of mortgage loans

The following sections cover these issues identified and EIOPA's proposals to rectify or mitigate these issues.

CALCULATION OF RISK MITIGATING EFFECTS

The calculation of the risk mitigating effect of derivatives, reinsurance arrangements, SPVs and insurance securitisations is seen as the most burdensome part of the counterparty default risk module.

EIOPA proposes the option for an additional simplification for the risk mitigating effect of these items to be calculated using the Basic Solvency Capital Requirement (**BSCR**). This simplification would be computed as:

$$RM_{Total} = BSCR^{*,without} - BSCR^{*}$$

Where:

- RM_{Total} is the total risk mitigating effect.
- $BSCR^{*}$ is the BSCR excluding the counterparty default risk module
- $BSCR^{*,without}$ is the BSCR excluding the counterparty default risk module and also not allowing for the risk mitigating effects of derivatives, reinsurance arrangements, SPVs and insurance securitisations in the calculation of the underlying risk modules

The calculation looks to see the total reduction in the required capital of the risk mitigating techniques, excluding the impact on the counterparty default risk.

The risk mitigating effect of derivatives, reinsurance arrangements, SPVs and insurance securitisations (**RM**$_i$) is then allocated to the different counterparties using the following formula:

$$RM_i = \frac{|EAD_i|}{\sum_{i=1}^{n}|EAD_i|} * RM_{Total}$$

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[2] Forborne loans are loans which have had forbearance measures applied; i.e. concessions towards the debtor that is experiencing or about to experience difficulties meeting its financial commitments.

[3] Default loans are loans where it is considered that the debtor is unlikely to meet its obligations or the debtor is overdue on their obligations by a specified period.

Where $|EAD_i|$ is the absolute value of the exposure-at-default of the derivative, reinsurance arrangement, SPV or insurance securitisation towards counterparty i.

The use of this simplification should make the calculation of the counterparty default risk easier. We anticipate this change will be welcomed by firms.

LARGEST MAN-MADE EXPOSURES

The calculation of the SCR for man-made catastrophe risk for marine, aviation and fire risk should be net of reinsurance recoverables or SPVs according to the amendment to the Solvency II regulation made on 8 March 2019. EIOPA believes that identifying the largest risk in these sub-modules on a net of reinsurance basis may impact the counterparty default risk calculation, in particular the calculation of the risk mitigating effect on underwriting risk of the reinsurance arrangement.

To remove this issue, EIOPA proposes that firms should calculate a hypothetical SCR for the fire, marine and aviation risks to allow for the calculation of the risk mitigating effects within the counterparty default risk module. The hypothetical SCR should be based on the largest gross risk concentration for the fire, marine and aviation risks.

This proposal would remove the impact of using the net basis within the counterparty default risk module. This should be easy for firms to implement as this would revert the regulation back to the way it was prior to the change on 8 March 2019.

CAPITAL REQUIREMENTS FOR FORBORNE AND DEFAULT LOANS

(Re)insurance companies are increasingly exposed to credit risk according to EIOPA's financial stability report released in June 2019. This includes increased exposure to high risk debtors such as forbearance and default exposures. Currently these loans may be stressed under the spread risk or interest rate risk sub-modules. However, this may be understating the potential losses on these low quality loans. This could lead to capital arbitrage and moral hazard investment behaviours between the insurance and banking sectors which have different capital treatments.

EIOPA proposes an amendment to classify default and forborne loans as type 2 exposures under the counterparty default risk module. The loss given default (**LGD**) for the loans would then be calculated as:

$$LGD = 6.67 * \max(L - R, 36\% * L)$$

Where:

- L denotes the loan value

- R denotes the value of the debt recoverables

- The value 6.67 is 1 over 15%. This comes from rearranging the type 2 counterparty default exposure formula to calculate the LGD.

This proposal is likely to increase the capital requirement for counterparty default risk for (re)insurers with exposure to forborne or default loans, but also provide clarity on how these assets should be treated under the standard formula SCR. The increase should reduce the chance of the capital arbitrage and moral hazard behaviour outlined above.

EFFECTIVE RECOGNITION OF PARTIAL GUARANTEES OF MORTGAGE LOANS

Partial guarantees on mortgage loans[4] may not be recognised in practice within the standard formula SCR. This is inconsistent with the treatment of partial guarantees for mortgages themselves, which may be recognised under the current regulation, and also with the treatment of partial guarantees on mortgage loans under banking regulation, where they may be recognised.

The current regulation requires that payment by the guarantor of the loan shall not require the (re)insurer to first pursue the obligor of the loan. However, for some partial guarantees this may be required.

EIOPA proposes to amend the regulation in such a way as to allow the (re)insurer to pursue the obligor itself, before the guarantor where this is required by the guarantor.

This proposed change would make it easier for firms to recognise partial guarantees on mortgage loans and increase consistency between insurance and banking regulation.

Calibration of underwriting risk

For the 2018 review, EIOPA submitted to the EC specific points on the recalibration of standard parameters on premium and reserve risks for several lines of business and the recalibration of mortality and longevity stresses. Some stakeholders questioned the relevance of recalibrating the standard deviation on the premium risk and reserve risk sub-module proposed by EIOPA.

EIOPA formulated a survey concerning certain elements of the SCR, addressed to the National Supervisory Authorities (**NSAs**), in order to collect relevant information for this revision of the Solvency II Directive.

The survey results indicated that there was no data available to imply a recalibration of the current standard formula parameters regarding the instantaneous shocks or coefficients of variation, nor of major changes since the last calibration exercise.

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[4] Mortgage loans refer to retail loans secured by a mortgage on a residential property.

One stakeholder provided data to calibrate the risk of mass lapse, arguing that they would challenge the current pan-European 40% shock.

EIOPA indicates that since mass lapse risks (including SLT health) should reflect an extreme/catastrophic event, and these extreme events may not be included in past data, a retrospective approach is not appropriate for the calibration of these risks.

Considering the recalibration of the SLT health mass lapse shock, EIOPA checked the representativeness at the EU level of the national sample of undertakings provided by the stakeholder mentioned above, based on 2018 QRT data.

As a result, EIOPA considered it inappropriate to recalibrate the SLT health mass lapse shock, as the stakeholder's results were not significantly representative in terms of business at an EU level (57% of the gross written premiums).

EIOPA recommends that the current underwriting risks stress factors should not be changed, since the volume of data received from stakeholders was not significant, and the quality was not sufficient to establish a more representative basis for the calibrated values.

Catastrophe Risk

In its second set of advice on specific items in the Solvency II Delegated Regulation (EIOPA-BoS-18/075) in February 2018, EIOPA proposed a method to capture specific insurance policy conditions (in particular contractual limits or sub-limits), that deviate significantly from the national market average conditions in the standard formula natural catastrophe calculation.

To facilitate the application of that approach, EIOPA now provides advice on the national market average conditions that underline the calibration of the natural catastrophe risk submodule.

EIOPA has identified the following issues regarding the natural catastrophe risk:

- Considering the importance of natural catastrophe liabilities generated by non-life business, NSAs and EIOPA require access to information regarding the calibration of current peril-country parameters of the natural catastrophe risk sub-modules.

- Given the high level of expertise needed in natural catastrophe modelling, the calibration of natural catastrophe risks was outsourced to specific model vendors, reinsurance brokers and (re)insurers, while the process was steered by EIOPA and NSAs.

EIOPA set up an external Expert Network on Catastrophe Risks at the beginning of 2019 to address these issues. The aim of the network is to strengthen and complement EIOPA's current expertise with regard to the modelling and mitigation of both natural catastrophe risks and climate change risks. This move therefore also forms part of EIOPA's work on sustainable finance.

The ex-post adjustment was included in the updates to the Delegated Regulation issued in July 2019. The results of the survey addressed to the NSAs suggested that it was too early to draw a detailed assessment of the use of this option by undertakings. A more insightful assessment may be carried out after 2020.

In order to collect the original policy conditions underlying the current catastrophe risk factors in the standard formula, EIOPA and the catastrophe risks expert network members developed a template in the form of a spreadsheet. The spreadsheet was delivered as an attachment to the CP.

The template allows for separate feedback for the five main catastrophe perils defined in the standard formula (windstorm, earthquake, flood, hail and subsidence), for each underlying line of business. For each risk, a best estimate average, a lower-end and an upper-end have to be populated for lower (deductibles) and upper (loss limits) limits for each relevant country. For the property line of business, a final split is performed between the various types of underlying exposure (all, residential, commercial, industrial or agriculture).

EIOPA asked to the industry consortium PERILS to collect these figures from the relevant model vendors, brokers and (re)insurers. The main results of this data collection are as follows:

- The initial calibrations were indeed mostly based on expert judgment.

- The completion rate is very low for earthquakes, floods, hail and subsidence due to their relatively low frequency, hence the likely reluctance of stakeholders to disclose their figures. No data were provided by data sources for this risk.

- The number of data sources which delivered risks factors in 2017 is higher than the number of data sources which provided original insurance policy conditions, as it is frequent that stakeholders share the same data among them.

- There is no process in place that aims at ensuring a sufficiently high quality (e.g. plausibility of the ranges) of the data communicated by the stakeholders. This results in some large ranges in certain policy limits.

Risk mitigation techniques

Under Solvency II certain risk mitigation techniques[5] can reduce a firm's SCR to reflect the risk transferred. EIOPA first reviewed the use of risk mitigation techniques in the standard formula SCR as part of its 2018 Interim Review, and in this CP, it is providing further advice on a number of areas that that the EC has requested its views on, such as:

- The recognition of non-proportional reinsurance covers and adverse development covers (**ADCs**) for non-life underwriting risks in the standard formula SCR.

- The definition of financial risk mitigation techniques and other financial instruments that can be used to reduce the SCR, to ensure that such instruments can be used consistently by internal model and standard formula firms. EIOPA is also asked to indicated criteria and methods to determine how much of a risk reduction or risk transfer could be recognised for these.

- The current provisions on the assessment of basis risk.

NON-PROPORTIONAL REINSURANCE, ADVERSE DEVELOPMENT COVERS, AND FINITE REINSURANCE COVERS

The standard formula is criticised by some stakeholders for not sufficiently recognising non-proportional reinsurance covering non-life underwriting risks. Given the uniqueness of such reinsurance contracts, a challenge for EIOPA is to determine how such covers can be reflected in a "standard" way for use in the standard formula.

The EC has requested that EIOPA reviews the treatment of non-proportional reinsurance covers, ADCs and finite reinsurance covers, in the standard formula SCR.

The EC has also requested that EIOPA comment on whether the methods outlined in its paper Guidelines in application of outward reinsurance arrangements to the nonlife underwriting risk submodules[6] remain relevant, and if so, whether the legislative framework needs to be changed in order to incorporate these methods in the standard formula SCR.

Non-proportional reinsurance

As part of the EIOPA's review into the standard formula as part of the 2018 Interim Review of Solvency II, EIOPA's first[7] and second sets[8] of advice analysed the possibilities to recognise some specific forms of non-proportional reinsurance in the standard formula, in particular for the premium and reserve risk sub-modules.

Following a sensitivity analysis as part of that review, EIOPA advised to introduce new undertaking specific parameter (**USP**)

methods to take into account stop-loss reinsurance covers. This advice was accepted by the EC, and was introduced in the Delegated Regulation, effective from July 2019.

However, some stakeholders still claim that the main non-proportional reinsurance covers are still not recognised in the standard formula SCR.

In the CP, EIOPA states that it requires further clarity on the alternative methodologies (that allow for non-proportional reinsurance covers) presented by stakeholders as part of the 2018 Interim Review. EIOPA presents arguments against these alternative methods, such as substantially increased complexity of the calculations, technical inconsistencies, and double-counting issues (i.e. the recognition of non-proportional reinsurance covers between the non-life catastrophe risk sub-module, and the other sub-modules impacted by the treaty).

EIOPA has therefore requested views and concrete proposals from stakeholders, in particular asking for proposals to address the "double-counting" issue.

Given this, EIOPA argues that the methods set out in its Guidelines in application of outward reinsurance arrangements to the nonlife underwriting risk submodules remain relevant, and does not propose to amend those guidelines. EIOPA also states that it will not propose any changes to legislation (to incorporate any new methods into the standard formula SCR), until it has received its responses from stakeholders.

Adverse development covers and finite reinsurance covers

As part of the consultation for the 2018 Interim Review, stakeholders proposed methodologies to recognise ADC treaties, and finite reinsurance covers, in the standard formula calculation for the premium and reserve risk sub-modules.

Throughout that consultation, EIOPA engaged with stakeholders on the topic, performing technical analysis on the solutions proposed by stakeholders.

However, EIOPA's analysis demonstrated that proposed formula modifications to recognise ADC in the standard formula would result in the underestimation of real risk, except in the unique case of mono-line insurers, arguing that it would be inappropriate to recognise ADC for such a specific case. It therefore did not recommend taking ADC into consideration. It also discounted suggestions to redesign premium and reserve risks calculations to recognise finite reinsurance covers.

In this CP, EIOPA reopened the discussion with stakeholders, requesting the views of stakeholders on the recognition of ADC and finite reinsurance covers in the standard formula SCR.

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[5] Such as reinsurance contracts or special purpose vehicles, or through the purchase or issuance of financial instruments.

[6] https://eiopa.europa.eu/Publications/Guidelines/Outwards_Re_GLs_EN.pdf

[7] https://eiopa.europa.eu/Publications/Reports/EIOPA-BoS-17-280_Final_report_on_First_set_of_Advice_on_SII_DR_Review.pdf

[8] https://eiopa.europa.eu/Publications/Consultations/EIOPA-18-075-EIOPA_Second_set_of_Advice_on_SII_DR_Review.pdf

Where stakeholders suggest that changes are necessary, EIOPA requests concrete proposals.

The EC has asked EIOPA to comment on financial risk mitigation techniques (and other instruments) that may be used to reduce the SCR, with a view to ensure treatment is harmonised between standard formula and internal model users. It is also asked to set criteria and methods to determine the amount of risk reduction or risk transfer that may be recognised by such items.

In the CP, EIOPA considers the recognition of contingent capital[9] and contingent convertible bonds[10], questioning whether the instruments should be allowed for in the standard formula or internal models as a way to reduce the SCR.

With respect to the standard formula, EIOPA argues that for both instruments the transfer of risk is either non-existent (i.e. it does not cover a risk accounted for in the standard formula), or limited. In the case where it is limited, EIOPA feels that proper modelling is not appropriate in the standard formula, but could be allowed for in internal models.

EIOPA therefore proposes that both instruments should not be recognised in the risk mitigation techniques that can be used by standard formula firms to reduce their SCR, but such instruments could be recognised by internal model firms in their calculation of the SCR. EIOPA notes that this may result in diverging practice between standard formula and internal model firms. Consequently, EIOPA raises a question in the CP, asking for stakeholder views on a possible amendment to the definition of the SCR that would result in a consistent treatment between standard formula and internal model firms of the non-recognition of contingent instruments.

BASIS RISK

Finally, EIOPA analyses whether the current provisions in the Solvency II regulations for the assessment of basis risk are sufficiently clear, and advises on improvements where appropriate.

The Delegated Regulation does not clearly define the term "material basis risk", however EIOPA's Guidelines on basis risk[11] provides guidance on situations where the use of a risk mitigation technique could create material basis risk, setting out assessment criteria that firms should consider for financial risk

mitigation techniques. There is no equivalent list for insurance risk mitigation techniques.

In response to the Call for Advice, EIOPA has sent a survey to supervisors concerning certain elements of the SCR.

In response to the survey, supervisors highlighted situations where reinsurance is used to significantly reduce the SCR, but where there is limited risk mitigation. In particular, EIOPA has identified instances where reinsurance contracts provide disproportionally high risk reduction when the standard formula stress event occurs, but that which would result in a capital requirement that would be insufficient at less severe stress scenarios. For example, undertakings can target risk mitigation techniques at the level of the SCR standard formula stress. As a result, undertakings would not receive the benefit of the risk transfer at events less severe than a 1-in-200, but are also holding less capital than they would have done without the reinsurance. As such, they have a materially increased probability of ruin at less severe events than 1-in-200.

However, based on the current wording of Article 210 of the Delegated Regulation, there may challenges to finding a legal basis for supervisors to object to such reinsurance. In addition, EIOPA Guidelines cannot be used by supervisors as a legal basis to object to an undertaking's use of certain risk mitigation techniques.

Consequently, EIOPA proposes the inclusion of a number of principles set out in a previous CEIOPS Advice[12], not included in the Delegated Acts and the Guidelines on basis risk, into the Delegated Acts. These proposals will provide supervisors a basis to object to risk mitigation deemed to pose material basis risk.

Reducing the reliance on external credit ratings

The EC has publically expressed concerns that over-reliance on external credit ratings may have reduced incentives for investors to develop their own capacity for credit rating assessment and to perform sufficient due diligence on the risks associated with investment in certain assets[13]. They argue that there are a number of fundamental weaknesses to credit rating agencies' business models, namely that the 'issuer-pays' remuneration model of such companies creates a conflict of interest against performing robust due diligence[14].

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[9] A signed contract between a (re)insurer and a firm (not necessarily a regulated entity) that will trigger a purchase of the (re)insurers shares by the firm at a specified price if a particular event, or events, occurs.

[10] A bond issued by the insurer that converts automatically (fully or partially) into common equity if certain insurance risk events occur.

[11] https://eiopa.europa.eu/Publications/Guidelines/BR_Final_document_EN.pdf

[12] https://eiopa.europa.eu/CEIOPS-Archive/Documents/Advices/CEIOPS-L2-Final-Advice-on-Standard-Formula-Reinsurance-mitigation.pdf

[13] https://ec.europa.eu/info/business-economy-euro/banking-and-finance/financial-supervision-and-risk-management/managing-risks-banks-and-financial-institutions/regulating-credit-rating-agencies_en

[14] Under the issuer-pays model, agencies charge issuers of financial instruments a fee for providing credit rating assessments on those instruments.

As part of the review into the standard formula as part of the 2018 Interim Review of Solvency II, EIOPA's second set of advice included proposals to allow for new methodologies for assessing the credit risk on unrated debt in calculations in the SCR where an external credit rating does not exist.

In response to these proposals, in 2019 EIOPA published its proposal to amend the Delegated Regulation to allow bonds and loans for which a credit assessment from a nominated External Credit Assessment Institution (**ECAI**) is not available to be assigned the credit quality step 2 or credit quality step 3 based on the (re)insurance undertaking's own internal credit assessment. The amendments allow for lowering the shock factor by up to 56% for spread risk. This change will be used in annual reporting for the first time as at year-end 2019.

As part of the 2020 review, EIOPA was asked to consider whether such methodologies should be extended beyond unrated debt, for assets where external credit ratings do exist, such as corporate debt.

EXTENDING THE SCOPE OF ASSETS

At a total EEA level, at year-end 2017, corporate debt made up 31% of the total investments by undertakings. Of these investments, 97% were classified as credit quality step 3 or higher.

Consequently, EIOPA raises its concern that were the scope for internal credit assessments be extended to such assets, this would represent a material increase in scope and so the risks of a change in approach are significant.

Given that the changes for unrated debt have yet to be used for annual reporting, there is at this stage currently no evidence on whether they have been successful or have led to any unexpected consequences. EIOPA therefore is of the opinion that it is too soon to make any proposals on how to tailor the alternative assessments for other asset types.

EIOPA proposes no change at this stage to the scope of assets that use alternative credit assessments.

RECOGNITION OF ADDITIONAL METHODS

Currently, independent credit ratings can be determined for unrated debt based on one of the following alternative credit rating methodologies:

- Internal assessment by insurers (the "**internal assessment approach**"); or
- Where a bank and insurers co-invest, an approved internal model of the bank (the "**internal model approach**").

EIOPA considers whether the use of additional methodologies may result in a wider use of alternative credit assessments.

Two new methodologies are considered, a composite index such as the Bloomberg Composite[15], and tailoring the current

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[15] This index provides a blend of an assets' Moody's, S&P, Fitch and DBRS ratings.

alternative assessment methodologies to allow for rated corporate debt. However, EIOPA believes these methods are not fit for purpose, and could result in a moral hazard and adverse selection.

EIOPA aims to ensure that before any changes are made, a suitable, robust methodology is in place, and a thorough impact assessment performed. It proposes an analysis investigating whether the alternative credit assessment methods can be tailored to some specific rated exposures (under a standardised methodology) and how this would be done.

Finally, Recital 2 of the Delegated Regulation requires that for larger or more complex exposures of the (re)insurer, firms must produce their own internal credit assessment of the item and allocate it to one of the seven credit quality steps. However, where the internal credit assessment generates a lower capital requirement that the one generated by an external rating, the own internal credit assessment shall not be taken into account. In the CP, EIOPA suggests that it may consider removing this restriction so as to incentivise firms to conduct their own assessment and to lead better risk management processes.

Transitional on Government Bonds

Government bonds not denominated in the local currency (**GBNLC**) are subject to a phase-in of the standard formula SCR stress factors for the calculation of the spread risk and concentration risk sub-modules. This increases the stress factor from 0% in 2016 to the standard factor in 2020 on GBNLC.

EIOPA has considered the impact of the GBNLC transitional expiring in 2020 in terms of ensuring policyholder protection and ensuring a level-playing field. EIOPA advises not to extend the transitional period for the stresses applied to GBNLC within the spread risk and concentration risk sub-modules of the standard formula SCR.

Given EIOPA's assessment shows that the level of investment in GBNLC is relatively low overall and that there is no trend of divestments from this asset type, the impact of not changing the transitional period is likely to not be material.
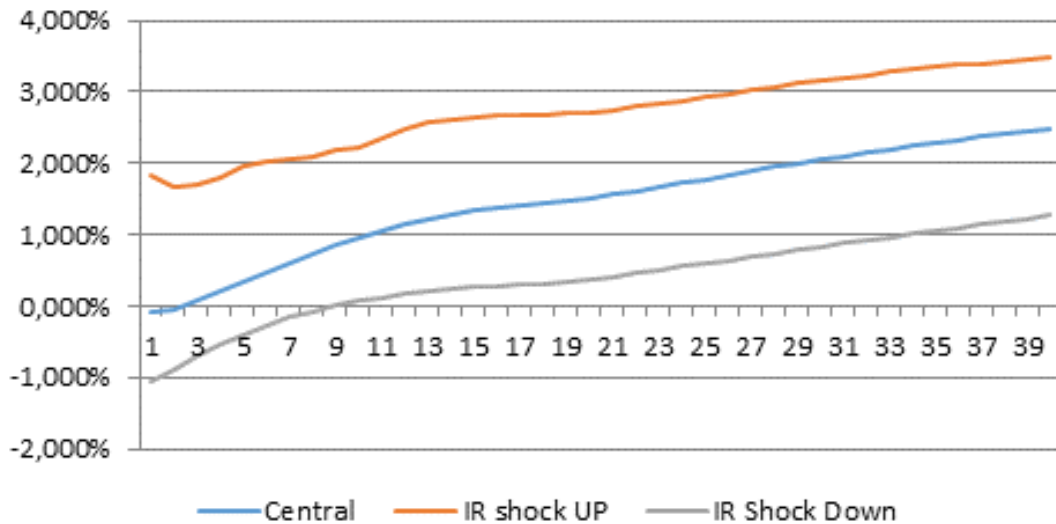
Appendix A – Interest rate shocks

The following graphs show the interest rate shock curves before and after EIOPA's proposed changes as at 31 December 2018.

CURRENT SOLVENCY II APPROACH: INTEREST RATE SHOCK CURVES AT 31 DECEMBER 2018
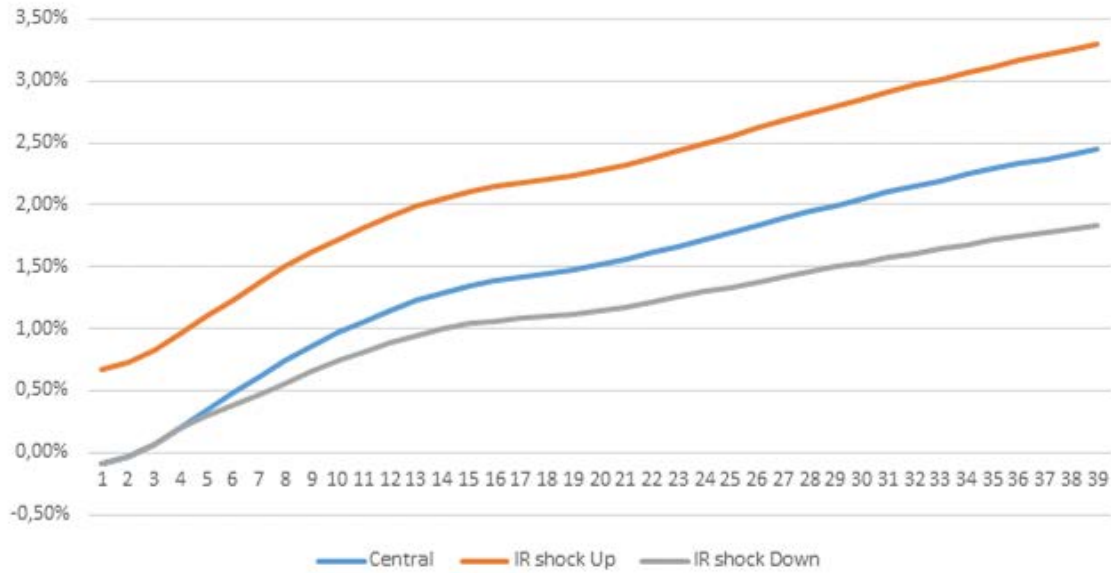
PROPOSED SOLVENCY II APPROACH (LLP 50 YR): INTEREST RATE SHOCK CURVES AT 31 DECEMBER 2018

Summary

In the standard formula SCR section of this CP, EIOPA has several proposals, including:

- Update calibration of interest rate risk sub-module - EIOPA "strongly advises" changing the capital requirements calculation for interest rate risk. It is proposing new shock values with both multiplicative and additive parameters varying by maturity. This is consistent with EIOPA's advice to the EC under the 2018 interim review that the EC chose not to implement at that time.

- EIOPA is proposing optional simplified calculations in the counterparty default risk module for the risk mitigating effect of derivatives, reinsurance, special purpose vehicles and insurance securitisations.

- EIOPA is proposing additional text in the Delegated Regulation and Delegated Acts regarding basis risk introduced through risk mitigation techniques.

EIOPA has considered the following SCR topics and decided not to propose changes. It has asked for stakeholder feedback on some of these topics.

- Spread risk – EIOPA has considered but is not proposing any changes to the spread risk sub-module.

- Property risk – EIOPA has asked for any data sources that might help to better calibrate property risk.

- Correlations – EIOPA is asking for quantitative evidence of any views that correlations should be changed within market risk or between lapse risk and market risk.

- Underwriting risks – EIOPA has considered but is not proposing any changes to the calibration of the underwriting risk stress factors.

- Non-life catastrophe risks – EIOPA discusses non-life catastrophe risks but makes no proposals at this time. In the information request EIOPA is looking for information on non-life catastrophe risk exposures.

- Risk mitigation techniques – EIOPA is asking for stakeholder input regarding the recognition of risk mitigation techniques for non-life underwriting risks

- Reducing reliance on external credit ratings – EIOPA is proposing to open an analysis table to investigate how new alternative credit assessment methods could be used.

- Transitional on government bonds – EIOPA advises not to extend the transitional period for exposures to member states' central governments or central banks denominated in the domestic currency of another member state.

In the information request, EIOPA is assessing the impact of changes to the interest rate risk sub-module and looking for information in relation to equity risk, property risk, non-life catastrophe risks and risk mitigating techniques.

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