EIOPA’s recommendations for the 2018 review of the Solvency II framework

The European Commission wants to re-examine the methods, assumptions and parameters used to calculate the SCR\(^1\) with the Standard Formula, drawing on the experience gained since 2016.

A major objective of this review is to reduce unjustified constraints that hamper financing of the economy. The review also aims to simplify the standard formula, while observing the principle of proportionality, and to correct technical inconsistencies identified since Solvency II took effect. The European Commission set out the detailed scope of the review in the requests for technical advice that it sent to EIOPA. Several SCR calculation modules will be impacted: market risk, premium and reserve risks and mortality risk.

EIOPA divided the topics into two sets. A report on the first set was published at the end of October 2017 and the report on the second set was published on 28 February 2018.

**Reminder of the stresses currently applied to yield curves to calculate interest rate SCR**

The yield curve stress scenarios use relative variations:

- In the rising interest rate scenario, a declining relative shock by maturity, ranging from +70% for one-year maturities to +20% for the longest maturities, furthermore, a minimum 1% increase is applied to all maturities.

- In the decreasing interest rate scenario, a declining relative shock by maturity, ranging from -75% for one-year maturities to -20% for the longest maturities, with no variation applied to negative rates.

**EIOPA considers that the current configuration of the standard formula underestimates interest rate risk and recommends a radical change to the interest rate SCR calculation method**

EIOPA finally chose a different approach to those set out in the consultation made in November. In its report of 28 February, it recommends a “shifted” approach.

The proposed method to determine Up and Down yield curve stresses is fairly simple to apply. It combines a relative shift in interest rates and an additive shock. EIOPA points out that this type of approach has been adopted by insurers that use internal models.

In most cases, the shocks are bigger than under the current approach, in particular in case of a fall in interest rates. For the rising interest rate scenario and very long maturities, the shocks can be slightly lower than under the current configuration.

Overall, if the new interest rate shock parameters are adopted, they will penalise most insurers more than under the current calibration. In its report published in February 2018, EIOPA mentions that for life insurance, applying the new methodology would reduce the solvency ratio by an average of 14 percentage points (the ratio would fall from 216% to 202% if the proposed configuration is applied).

To modify the decreasing interest rate scenario, EIOPA recommends a phase-in period of three years to gradually implement the recommended calibration. In the first year, the stress arising from the new parameters would be applied to one third of assets, and the current parameters would apply to the remaining two thirds. However, the new rising interest rate scenario would apply in full with no phase-in period.
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EIOPA recommendation for interest rate shocks

For the rising interest rate scenario, the Up curve is defined as

\[ r_{\text{Up}}(m) = r(m) \times (1 + s(m)_{\text{Up}}) + b(m)_{\text{Up}} \]

For the declining interest rate scenario, the Down curve is defined as

\[ r_{\text{Down}}(m) = r(m) \times (1 - s(m)_{\text{Down}}) - b(m)_{\text{Down}} \]

Where, for different maturities \( m \):

- \( r(m) \) = risk-free rate at maturity \( m \) (in years),
- \( r_{\text{Up}}(m) \) = rate at maturity \( m \) in the rising interest rate scenario
- \( r_{\text{Down}}(m) \) = rate at maturity \( m \) in the declining interest rate scenario
- \( s(m)_{\text{Up}}, b(m)_{\text{Up}} \) and \( s(m)_{\text{Down}}, b(m)_{\text{Down}} \) vectors shown in the table

For the Up scenario, the multipliers are slightly lower than those used in the current calibration, but the additive component in the new formula increases the shock. The additive component is more than 2% for one-year maturities and although it declines for longer maturities, it remains above 1% for maturities over 15 years.

For the Down scenario, the recommended multipliers are higher (in absolute terms) than those used in the current calibration for maturities longer than seven years, and the additive component (below -0.5% up to 20 years) increases the shock.

Illustration in a low interest rate environment (EUR rates at end-February 2018)

The left-hand chart below shows the risk-free yield curve for the euro as at 28 February and the Up and Down stress scenarios with the current parameters and with those recommended by EIOPA. The right-hand chart shows the size of the corresponding interest rate shocks.

The table on the following page shows how changing the stress calibrations impacts capital requirements in the low interest rate environment prevailing at the end of February 2018.

For example, for the 10-year maturity, in the Up stress scenario, the capital requirement increases by around one third (+3.1 percentage points), while in the Down stress scenario, it is tripled (+7.5 percentage points) because the current capital charge for the risk of a fall in interest rates is very low (and even zero for the shortest maturities).
When interest rates are higher, the capital requirement under the new calibration increases by more in absolute terms.

Comment:
The review of the interest rate SCR calculation parameters was not requested by the European Commission, the provisions adopted may therefore be very different to those recommended by EIOPA in its report of 28 February.
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Several proposals impact the spread SCR calculation

Reminder of the principles for calculating spread risk SCR for bonds and loans

Under Solvency II, issues by member states (in local currency) do not generate spread SCR. A list of regional and local authorities from EEA (European Economic Area) member countries whose issues are to be treated in the same way as central government issues has also been drawn up.

For corporate bonds, the spread SCR calculation depends on the credit quality step (CQS), which is determined by the bond’s rating and duration.

Changes in the treatment of exposures issued (or guaranteed) by regional governments and local authorities

EIOPA has established a detailed comparison of the provisions set forth in Delegated Regulation 2015/35 for the application of Solvency II and the existing prudential requirements for banking activities (Directive 2013/36/EU (CRD) and Regulation (EU) No. 575/2013 (CRR)).

EIOPA considers that certain differences are justified, such as the absence of a specific classification for exposures to public sector entities in prudential requirements for insurers, while in banking regulations these exposures are subject to intermediate treatment rules, between those applicable to member states and exposures to corporates.

However, EIOPA considers that the list of EEA regional governments and local authorities that are given similar treatment to central governments in Solvency II should be harmonised with the list of entities drawn up by the national banking authorities for banking prudential requirements. This opinion creates uncertainty as to the potential review of the treatment of issues by French regions, departments and municipal authorities.

EIOPA recommends treating guarantees from regional governments and local authorities deemed to be “similar” to central governments in the same way as guarantees from member states. Regarding issues by regional governments and local authorities not deemed “similar” to central governments, they should be treated in the same way as bonds issued by non-European Union member countries (in the issuer’s currency) with a CQS of 2.

For the counterparty SCR calculation, EIOPA recommends taking into account partial guarantees when assessing the loss given default on mortgage loans. This measure would apply, for example, to Dutch mortgage loans that have a partial guarantee (“Nationale Hypotheekgarantie”).

Reliance on agency credit risk assessments is reduced slightly

With a view to avoiding disproportionate costs for smaller players, EIOPA proposes a simplified calculation, provided the conditions of article 88 of the Delegated Regulation, which sets out the principle of “Proportionality”, are fulfilled.

This simplified calculation may only be used where the following three criteria are met:

• the insurer has nominated one (or more) external credit assessment institutions (ECAI) covering at least 80% of its whole debt portfolio,
• unrated debt instruments are only bonds and similar securities that pay a regular fixed or floating coupon until maturity (loans, structured notes and collateralised securities are excluded),

1. This list appears in COMMISSION IMPLEMENTING REGULATION (EU) 2015/2011.
2. The second best rating is used to determine the CQS: CQS 0 = AAA, CQS 1 = AA, etc.
3. Provided that 1) the criteria on mortgage loans set forth in Article 191 of DELEGATED REGULATION (EU) 2015/35 are met and 2) the conditions for incorporating risk mitigation techniques set forth in Articles 209 to 215 (except the word “fully”) of this same regulation are observed.

Intermediate rules, between those applicable to EEA government bonds and the rules for corporates, apply to government issues from non-European Union countries (in the issuer’s currency). CQS 0 and CQS 1 securities are assigned a zero spread SCR and CQS 2 securities are treated in a similar way to CQS 1 corporate bonds.

Secured bonds and loans as well as loans used to finance infrastructure projects or entities that meet certain criteria are also given more favourable treatment.

1. “A simplified calculation shall not be considered to be proportionate to the nature, scale and complexity of the risks where the error [...] leads to a misstatement of the Solvency Capital Requirement that could influence the decision-making or the judgement of the user of the information relating to the Solvency Capital Requirement, unless the simplified calculation leads to a Solvency Capital Requirement which exceeds the Solvency Capital Requirement that results from the standard calculation.”

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• these assets do not cover liabilities that provide for a profit-sharing mechanism, or unit-linked liabilities (and the insurer does not use the matching adjustment for these assets).

If all these conditions are met, the insurer may use a CQS of 3 (i.e. the lowest Investment Grade level) to calculate the spread SCR for all assets not covered by nominated ECAIs.

However, EIOPA mentions that where there is evidence that a significant portion of these assets has a credit quality below that of CQS 3 securities, the simplified calculation would not be appropriate.

**EIOPA proposes two new approaches for investments in unrated debt**

The European Commission asked EIOPA to establish criteria to identify unrated bonds or loans that should be treated in the same way as securities assigned to CQS 2.

EIOPA extends the approach to unrated debt that should be treated in the same way as securities assigned to CQS 3 and proposes two methods - the internal assessment method, or, in case of co-investments with a bank, the bank’s internal model.

The scope of application of these new approaches is restricted to a fairly low volume of assets, because EIOPA wants to limit their use to 5% of investments, with the total being the sum of the unrated debt for which these approaches are used plus the portfolio of unlisted equities treated under a new method called the “similarity” approach. These approaches can only be applied to debt issued by entities:

• domiciled in an EU/EEA country,
• that generate most of their revenues in an EEA or OECD country,
• that are bigger than “small enterprises” as defined in Commission Recommendation 2003/361/EC,
• and which do not belong to the financial or infrastructure sector.

**The internal assessment approach**

The unrated instrument must correspond to “classic” senior debt, i.e. it pays regular coupons (at a fixed or floating rate) and will be redeemed via the payment of a fixed amount on maturity (or earlier). Accordingly, structured bonds, collateralised securities and securities with embedded derivatives are excluded from the scope of this approach.

The assessment of the issuers’ credit quality draws partly on financial ratios based on audited accounts.

EIOPA selected four financial ratios which must all verify a quantitative criteria for unrated debt to qualify for the same treatment as CQS 2 or 3 securities:

• EBITDA/revenues (average ratio) > 0
• Total debt (current) / free cash flow (average) <= 6.5
• EBITDA (average) / interest expense (current) >= 6.5
• Net debt (current) / total equity (current) <= 1.5

The term “average” means the average of the annual figures for the last five financial years. The term “current” means the value at the end of the last financial year.

**Yield criteria** also apply. The insurer must compare the yield on unrated bonds issued by the company with the average yield of bonds included in a broad index of listed bonds, rated by agencies and which have a similar maturity to the instrument being assessed.

To benefit from a CQS of 2 (or 3, as applicable), the yield on issuance of unrated debt issued over the past three years must be below the maximum of two quantities:

- the average of yields from the index of CQS 2 (or 3, respectively) bonds and from the index of CQS 4 bonds, and,
- the yield of the CQS 2 (or 3) index +0.5%.

In addition, the insurer must also establish an appropriate internal credit risk assessment process. The February 2018 report only includes high-level requirements in this regard, because EIOPA intends to issue guidelines setting out its policy in terms of internal assessments at a later date.

**Use of a bank’s internal model**

This approach applies to pre-existing co-investment agreements between the insurer and a bank.

The bank must be domiciled in the EU or the EEA and it must use an internal ratings-based (IRB) approach. The bank and the insurer must agree beforehand on the type of loans covered by the agreement and the applicable assessment criteria.

The insurer must take part in all transactions within the pre-determined scope and apply the IRB approach to all these loans (even if this leads to a higher capital requirement than for unrated bonds).

The CQS assigned to the unrated debt instrument is determined based on the latest probability of default (PD) produced by the bank’s internal model. It is produced using the table provided in the annex to Implementing Regulation 2016/1799, which sets out the PD thresholds corresponding to each CQS.

EIOPA emphasises that it may be necessary, for prudential reasons, to adjust the PD produced by the model before applying this mapping, in order to take into account differences between the assumptions/parameters used in the model and the framework set out in regulation 2016/1799 (such as differences in the definition of default or the time horizon).

This approach places a number of constraints on the bank. It must remain exposed to at least 50% of the nominal amount and it must meet strict transparency criteria vis-à-vis the insurer. The transparency requirement covers both the selection of loans (description of the loan approval process, transfer of data on all debt applications received, etc.) and the internal model (methodology, data used, etc.).
EIOPA proposes criteria for assigning certain unlisted equities the same capital charge as Type 1 equities

Reminder of the principles for calculating capital requirements for equity investments

In general, equity investments have a capital requirement of 39% (plus a symmetric adjustment ranging from +10% to -10%) or 49% (plus the symmetric adjustment), depending on whether they are Type 1 or Type 2 equities. Risks on Type 1 and Type 2 equities are assumed to be 75% correlated.

The symmetric adjustment has a counter-cyclical role. It is calculated using the level of an equity index on a given date and the index’s historical average over the past three years.

Equities listed on a regulated market in an EEA or OECD member country are classified Type 1 equities. Equities listed in other countries and unlisted equities are Type 2 equities.

Investments in the capital of infrastructure projects or qualified infrastructure entities are given more favourable treatment than Type 1 equities and strategic investments are assigned a capital charge of 22% regardless of the category of shares held.

EIOPA recommends a “similarity” approach based on the issuer’s financial ratios

Eligible equities are only ordinary shares and the issuing companies must meet the same sector, geographical and size criteria as those that allow the use of the internal assessment approach for unrated debt. For equities, EIOPA proposes an additional condition: the majority of the people the companies employ must be located in EU/EEA member countries.

In addition, portfolios of unlisted equities must meet a diversification requirement to qualify for the “similarity” approach: no line must account for more than 10% of the portfolio.

EIOPA proposes comparing the portfolio’s “hypothetical beta” with the cut-off value of 0.39/0.49. If the hypothetical beta is below this cut-off value, the portfolio qualifies for the Type 1 capital charge.

First, it is necessary to calculate the hypothetical beta of each equity in the portfolio by applying the formula recommended by EIOPA, which incorporates three of the issuer’s financial ratios.

To determine the hypothetical beta function, EIOPA identified the ratios that best represent the beta of listed equities (beta versus the MSCI Europe index) from a large number of financial ratios. A multiple linear regression on non-financial companies in the Stoxx 600 was applied and three explanatory variables were deemed sufficient to establish the function.

EIOPA also proposes criteria adapted to private equity funds

In general, private equity funds can already be treated in the same way as Type 1 equities under paragraph 6 of article 168 of Delegated Regulation 2015/35, in particular closed-ended unleveraged alternative investment funds (AIF).

However, insofar as the definition of leverage adopted by ESMA for the application of the AIFM Directive excluded certain private equity funds from the scope of paragraph 6 of article 168, EIOPA proposes a set of criteria to allow private equity funds to qualify for treatment as Type 1 equities.

This proposal aims not to exclude private equity AIF that:

• enter into borrowing arrangements that are temporary in nature and are fully covered by contractual capital commitments from investors in the AIF, and/or,
• include derivative instruments used for currency hedging purposes that do not add any incremental exposure, leverage or other risks.
However, EIOPA requires a number of additional criteria that seem difficult to meet, such as:

- diversification of investments (at least five fund managers),
- due diligence on the funds performed by the insurer (before the investment and throughout the investment),
- the involvement of fund managers in the governance of the companies in which they invest.

Other changes impacting the calculation of market and counterparty SCR

Changes to take better account of risk management techniques: extension of the full recognition of market risk hedging positions as risk-mitigating techniques that reduce the SCR\(^6\).

EIOPA proposes reducing the minimum maturity so that hedging instruments with a maturity of less than one year that are renewed regularly are fully recognised in the SCR calculation (and not on a pro rata basis).

For futures and other listed instruments, contracts for the month in progress (or with subsequent maturity dates) will qualify. OTC contracts will initially have to have a maturity greater than or equal to one month.

By eliminating the constraint of using hedges with a maturity date of more than three months, EIOPA is taking into consideration certain business model practices that favour short-dated maturities, which are usually more liquid for portfolio protection purposes.

Furthermore, it will be possible to adjust hedges due to an increase/decrease in the amount of the hedged position,

- either on a weekly basis,
- or more often, depending on the predefined rule governing the variation of the hedged exposure; for example, daily adjustment if the exposure varies by more than 5%.

In exchange for the proposed relaxation in the replacement frequency of hedging contracts/instruments, insurers must provide details of the rules they apply to adjust their exposures and describe their hedging policy, in particular what they consider as being similar instruments to replace hedging instruments reaching maturity.

EIOPA stipulates that “similarity” should not be interpreted too literally; for example, it does not simply mean “the same type of instrument.”

Several important changes for the assessment of counterparty SCR for derivatives

First, EIOPA recommends extending the scope of type 1 counterparty risk exposures to all derivatives positions, regardless of whether or not they constitute a “risk-mitigation technique.”

It also issues recommendations to review the provisions covering risk-mitigation techniques so as to take into account hedging strategies as a whole. (The requirements that must be met for a risk-mitigation technique to be taken into account in the SCR calculation are set out in article 212 of Delegated Regulation 2015/35. The qualitative criteria set out in article 209 and the conditions for an effective transfer of risk specified in article 210 must all be met.)

EIOPA notes that long and short positions are often combined in market risk hedging. Yet the current wording of Delegated Regulation 2015/35 cannot adequately reflect economic reality because the definition of “risk-mitigation technique” applies to instruments taken individually and therefore excludes positions that do not reduce risk. EIOPA therefore recommends extending the concept of “risk-mitigation technique” to include the various components of a hedging strategy.

This change will require the drafting of a policy on the risk-mitigation technique in order to clearly identify all positions that are part of this technique. It will then be possible to calculate the loss given default (LGD) incorporating the risk-mitigating effect of all positions.

EIOPA recommends adjusting the counterparty risk module so as to include netting agreements. If a netting agreement is in place, the LGD calculation will be able to be made at the level of the counterparty, taking into account the exposure net of all derivatives, all collateral received and the amount of the risk-mitigating effect (if it is overall positive).

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6. Paragraph 3 of article 209 of the Delegated Regulation (EU) 2015-35 sets out the conditions, “Where contractual arrangements governing the risk-mitigation techniques will be in force for a period shorter than the next 12 months and the insurance or reinsurance undertaking intends to replace that risk-mitigation technique at the time of its expiry with a similar arrangement, the risk-mitigation technique shall be fully taken into account in the Basic Solvency Capital Requirement provided all of the following qualitative criteria are met:

a) the insurance or reinsurance undertaking has a written policy on the replacement of that risk-mitigation technique;
b) the replacement of the risk-mitigation technique shall not take place more often than every three months
c) ...”
EIOPA advises extending the “grouping” approach for investments packaged as funds when the look-through approach cannot be applied.

Using information provided to the supervisory authorities under the Pillar III framework, EIOPA analysed the amount of investments in collective investment undertakings (CIU) and other funds and the amount of assets held to cover unit-linked commitments.

For the European market as a whole, assets held for unit-linked products amount to 14.7% of total assets, while investments in CIUs and funds account for 6.9% of total assets. In France, assets held for unit-linked products amount to 7.5% of total assets and investments in CIUs or funds account for 9.9% of the total.

At this stage, these are indicative preliminary figures (in particular as some funds may be considered equity investments).

Under current regulations, when the look-through approach cannot be applied, the maximum amount of assets that can be treated using the “grouping” approach to calculate the SCR is limited to 20%. EIOPA recommends that assets held for unit-linked products should no longer be taken into account in the numerator of this ratio.

Currently, paragraph 3 of article 84 of Delegated Regulation (EU) 2015/35 stipulates:

“Where the look-through approach cannot be applied to collective investment undertakings or investments packaged as funds, the Solvency Capital Requirement may be calculated on the basis of the target underlying asset allocation of the collective investment undertaking or fund, provided that such a target allocation is available to the undertaking at the level of granularity necessary for calculating all relevant sub-modules and scenarios of the standard formula, and the underlying assets are managed strictly according to this target allocation. For the purposes of that calculation, data groupings may be used, provided that they are applied in a prudent manner, and that they do not apply to more than 20% of the total value of the assets of the insurance or reinsurance undertaking.”

The “grouping” approach could also be applied to all assets held to cover unit-linked commitments (when the look-through approach cannot be applied).

As insurers are diversifying their range of unit-linked products, this modification would prevent certain life insurers from being restricted by the 20% limit in several years’ time.

In exchange, EIOPA requires a qualitative assessment of the error arising from the simplified approach, whether it consists in basing SCR calculations on grouped exposures or assigning the Type 2 equity capital requirement. The new provision notably aims to avoid the 49% capital charge (+ symmetrical adjustment) being applied to a CIU that would have a significantly higher SCR under the look-through approach.

In addition, the application criteria and the method for applying the “grouping” method are slightly relaxed.

As such, the capital requirement can be calculated using the CIU’s last reported asset allocation, provided that the fund is managed in compliance with this allocation and that exposures and risks do not vary significantly over short periods.

A lower level of granularity is also required, but groupings should always be made so as to obtain a prudent SCR calculation. For example, if external ratings are not available for certain positions, a calculation based on an average CQS is accepted, provided that the average CQS is prudent enough.

What next?

The European Commission is currently continuing its work to draft an amendment to Delegated Regulation 2015/35 before December 2018. It is drawing on the recommendations made by EIOPA in its two reports, but it is likely that the final provisions will be quite different to those proposed by EIOPA on certain topics.

The amendment made by the Commission will only become final after the end of the objection period of the European Parliament and of the Council.

A further, more in-depth review of Solvency II regulation is scheduled before 2021.

This second review will, in particular, address the so-called “Long-Term Guarantees Assessment” measures introduced by the EU Triilogue (European Council, Commission and Parliament) in November 2013.
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