

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

## Volatility Adjustment



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 that deals with the Volatility Adjustment. 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<sup>1</sup> 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 published 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 Volatility Adjustment (VA).

### Volatility Adjustment (VA)

#### CONTEXT

As stated by EIOPA the application of the VA has the following main objectives:

- Prevent procyclical investment behaviour.
- Mitigate the impact of exaggerations of bond spreads on own funds.
- Recognise illiquidity characteristics of liabilities in the valuation of technical provisions.

Under the VA (re)insurers are allowed to adjust the risk-free interest rates used in valuing their Best Estimate Liabilities (**BELs**) to mitigate the effect of short-term volatility of bond spreads on their solvency positions. The VA rates, which vary by currency and country and are determined by EIOPA, are derived from the yield spreads of reference portfolios of assets made up of bonds, loans and securitisations for different currencies and countries.

The application of the VA likely improves the Solvency II balance sheet in terms of Own Funds and reduces the SCR. To the extent that an undertaking's assets are invested in a similar way to the reference portfolio, the fall in asset values that would arise from a widening of spreads in the portfolio would therefore be partially offset by an increase in the VA and a corresponding reduction in liabilities.

The VA is based on 65% of the risk-corrected spread between the interest rate that could be earned from a reference portfolio of assets and the risk-free interest rates without any adjustment. The reference portfolio is representative for the assets which insurance and reinsurance undertakings are invested in to cover their insurance and reinsurance obligations.

A currency-specific reference portfolio is used to determine the portfolio yield spread over the relevant risk-free rate less the portion related to default or credit risk – the result of the

<sup>1</sup> Formal request to EIOPA for technical advice on the review of the Solvency II Directive

calculation being referred to as the 'risk corrected currency spread.' The portion related to default or credit risk is referred to as the 'risk correction' and is based on a percentage of the long-term average spreads observed over the past 30 years. In the case of corporate bonds the risk correction also reflects 'probability of default' and 'cost of downgrade' factors. The risk-free rate is then be adjusted by 65% of the risk-corrected currency spread in discounting liabilities, the adjustment being the 'currency volatility adjustment.'

In addition, where the spread of a country-specific reference portfolio is at least 100 bps above the risk-free rate and exceeds twice the spread of the currency-specific reference portfolio, then the VA is increased for products sold into that market (the "Country VA"). The increase is set to equal 65% of the excess of the national spread over twice the currency spread.

The VA is not recalculated as part of the spread risk SCR for standard formula companies i.e. the amount of the VA should be assumed to be the same before and after the application of the spread risk SCR shock. However, for internal model companies the use of a dynamic volatility adjustment (**DVA**) permits undertakings to allow the size of the VA to change when modelling credit spreads in their SCR calculations.

#### EUROPEAN COMMISSION REQUEST

The EC wishes to review the design, calibration and functioning of the VA.

In particular, EIOPA was asked to provide an assessment of the quantitative impact on the calculation of the best estimate and the solvency position of (re)insurance undertakings of the following approaches for the application of the volatility adjustment:

- Approach 1: The application of an adjustment that takes into account the illiquidity features and/or duration of insurers' liabilities, while maintaining the current concept of representative portfolios. That adjustment may rely on different "application ratios".
- Approach 2: The application of an adjustment that takes into account the weights of own assets holdings of each insurer; that adjustment may rely on different "application ratios" depending on the level of cash-flow matching of insurance liabilities portfolios.

An application ratio is a multiplicative factor applied to the VA.

#### DRAWBACKS OF THE CURRENT VA APPROACH

EIOPA has identified the following deficiencies regarding the current design of the VA:

- Potential over or undershooting of the VA primarily due to the fact that the VA is based on a reference portfolio rather than being specific to an undertaking's own asset and liability profile.

- The application of the VA does not take into account illiquidity characteristics of liabilities.
- There can be a "cliff edge" effect from the Country VA during periods where spreads of a single Member State fluctuate around the trigger point of the country specific VA with activation and deactivation of the country specific VA leading to volatility in Own Funds.
- Misestimation of the risk correction of the VA due to its insensitivity to credit spread changes, for example.
- The VA is almost always positive.
- The underlying assumptions of the VA are unclear.
- Risk free interest rates with the VA are not market consistent.

EIOPA's proposals to address these deficiencies are described in the next section.

## EIOPA's proposals for the VA

Whilst proposing to maintain a similar framework for the calculation of the VA (i.e. being based on spreads on a certain investment portfolio adjusted for risk), EIOPA is consulting on a number of fundamental changes to elements of the calculation as well as the introduction of an "undertaking-specific application ratio". The undertaking-specific application ratio is designed to address the over and undershooting, and to account for the illiquidity characteristics of liabilities in the valuation of technical provisions.

As requested by the EC, two approaches are being considered which are described below. EIOPA has not expressed a preference for either approach at this point.

Note that in its consultation EIOPA initially reviews the functioning of the VA from a holistic perspective. In particular, it presents details about eight individual options it considered in order to specifically address the current drawbacks listed above. For each option various pros and cons are set out by EIOPA. It then combines various options in forming Approach 1 and Approach 2.

#### **Approach 1**

Under this approach, the VA is split into a permanent and macro-economic VA.

- The permanent VA is calculated as the product of the general application ratio, an undertaking-specific application ratio and the risk-corrected spread of a reference portfolio.
- The macro-economic VA would mitigate the effect of temporary exaggerations of bond spreads, in a similar way to the current Country VA. For the macro-economic VA, for each country an additional spread element would be added to the permanent VA where the current country spread exceeds its average over the prior 5 years by at least 20bps.

The general application ratio would be maintained at 65% as currently.

The concept of the reference portfolio would remain as is currently the case but the approach to calculating the risk correction would change (see next sub-section for details).

### Approach 2

The permanent VA would again be calculated as the product of the general application ratio, an undertaking-specific application ratio and the risk-corrected spread of an undertaking's own investment portfolio.

The general application ratio would be maintained at 65% as currently.

Under this approach, a macro-economic or Country VA would become obsolete as the risk-corrected spread of an undertaking's own portfolio would already reflect any potential crisis in the bond markets which the undertaking is exposed to.

EIOPA's main concern related to this option is the absence of appropriate safeguard mechanisms leading to potentially inappropriate risk management and investment decisions. Indeed, investment in riskier assets could become more attractive where higher spreads lead to a higher VA. To address this issue, EIOPA proposes the following mechanism:

- Risk-corrections increase with a higher credit quality step for corporate bonds (reducing the VA).
- Additional safeguards in Pillars II and III including ORSA sensitivities and additional SFCR reporting requirements.
- Where a supervisor observes that a change in the asset allocation leads to an increase in the solvency ratio due to a higher VA, it could require the undertaking to apply a VA equal to the one computed with the previous year's asset allocation.

### RISK CORRECTION

Under Approaches 1 and 2 EIOPA would centrally provide a set of risk-corrected spreads based on market indices differentiating between asset type, credit quality, duration and currencies which should be used for the VA calculation. The VA is derived from these risk corrected spreads weighted by the assets held in the relevant portfolio (i.e. the reference portfolio under Approach 1 or the assets held by an undertaking itself under Approach 2).

Under Approach 1 the risk correction for EEA government bonds is 30% and for corporate bonds (as well as for other government bonds) the risk correction is 50%.

The specific implementation of the risk correction calculation for Approach 2 differs from the description under Approach 1 in that the correction factors for corporate bonds differ between

different credit quality classes. This differentiation is part of the safeguards built into this approach, as alluded to above. EIOPA suggests to use the following risk corrections for credit quality steps 0 to 3.

CREDIT QUALITY STEP (CQS)	RISK-CORRECTION AS A PERCENTAGE OF THE CURRENT SPREADS PER CQS*
0	30%
1	40%
2	50%
3	60%

Note that for all EEA sovereign bonds, the credit quality step is set to 0.

### UNDERTAKING-SPECIFIC APPLICATION RATIOS

Under Approaches 1 and 2 the same formula would be applied in the calculation of the undertaking-specific application ratio. In particular, the undertaking-specific application ratio would adjust for both of the following elements:

- The amount of fixed-income assets and the asset liability duration mismatch, in particular taking into account the duration of the liabilities and the spread exposure specific to an undertaking.
- The illiquidity characteristics of an undertaking's liabilities.

### REPORTING ON THE LIQUIDITY BUFFER

EIOPA also proposes a requirement for undertakings to report on the "liquidity buffer". Any undertaking applying the VA would report liquidity buffers (which mitigate the risk of forced sale) during the next 12 months. The liquidity buffer would be composed of the following elements:

- Fixed income expected payments (coupon, redemption) within the next 12 months.
- Foreseeable dividend payments within the next 12 months.
- Rent expected within the next 12 months.
- Cash, bank deposits and short term securities (<1 year).

### TECHNICAL IMPROVEMENT OF THE VA CALCULATION

EIOPA has simulated a computation of the VA for the period January 2007 to February 2019 to validate the robustness of the current methodology. Based on this study, two deficiencies were identified:

**Issue 1:** Representative portfolios are only updated on a yearly basis requiring a "freezing" of assumptions for intra-year valuations.

**Issue 2:** Disallowance of negative average spreads for government bonds and corporate bonds portfolios.

EIOPA proposes technical changes in order to address these issues.

## APPROVAL TO USE THE VA

Currently national regulators are free to decide whether or not undertakings must apply for approval to use the VA. Germany, Ireland and the UK are amongst the 10 countries which impose such an approval process whilst France, Italy and the Netherlands are amongst those countries that do not.

EIOPA believes this variation in application leads to a lack of a level playing field. In EIOPA's view the question about whether or not the use of the VA should be subject to supervisory approval should be harmonised for all Member States.

In its consultation EIOPA states that its ultimate advice as to whether or not the VA should be subject to supervisory approval depends on the final design of the VA that it will propose later as a result of carrying out its consultation. EIOPA says the advantages of imposing an approval process include helping to ensure that undertakings use appropriate discount rates to value their insurance liabilities and thus set up adequate and contributing to policyholder protection. On the other hand the only disadvantage cited by EIOPA is the costs for undertakings subject to an approval process.

## Impact Analysis

EIOPA has carried out an approximate impact analysis for Approach 1 and Approach 2 based on data as at 31 December 2018. Under both Approach 1 and 2 for the undertakings in the sample the weighted average VA would decrease from 0.24% to 0.19%. The impacts vary somewhat by country.

As noted earlier, EIOPA proposes that the spreads on corporate and government bonds can be allowed to be negative in the calculation of the VA. EIOPA analysed how often the zero value floor for the spreads for the government and corporate bond portfolios becomes effective on the basis of the simulation of VA values during the period 2007 to 2019. In 10% of cases the aggregation would have resulted in a negative aggregated spread. All of these cases were related to government bond portfolios. In most cases, the size of the negative spread was relatively small. In 50% of cases, the size was below 9bps, and in 75% of all cases it was below 15bps.

Approach 1 foresees continuation of the representative portfolio approach whereby EIOPA would publish the VA rate by currency and country. However, Approach 2 would require individual undertakings to carry out calculations of spreads and risk-corrections specific to their portfolio of fixed-income assets.



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The introduction of the undertaking-specific application ratio under both Approach 1 and 2 would require more work by undertakings.

Reporting on the liquidity buffer will also be a new requirement for undertakings under EIOPA's proposals.

## SCR calculation

EIOPA proposes no change to the Standard Formula SCR related to the VA. In particular with regards to Approach 1, EIOPA states that for the macro-economic VA, it is important to avoid reflecting this element in non-crisis situations to ensure it provides effective relief in times of crisis.

## DYNAMIC VOLATILITY ADJUSTMENT (DVA)

### Internal Models

For internal model companies the use of a dynamic volatility adjustment (DVA) currently permits undertakings to allow the size of the VA to change when modelling credit spreads in their SCR calculations. The modelling of a DVA typically results in a significantly lower SCR for spread risk.

EIOPA states that the current deficiencies in the VA are exacerbated by application of the DVA. It advises to maintain the DVA if such deficiencies are solved in the VA in the first place. Otherwise measures in regulation would be needed to obtain a DVA that is risk sensitive and that protects the level playing field across undertakings.

### Standard Formula

Currently, the DVA concept is not part of the Standard Formula framework. EIOPA has addressed this issue in its consultation by identifying an option in order to introduce a DVA in the Standard Formula SCR.

Under this option, the spread risk module would be modified to take into account the VA changes resulting from spread stress. For this purpose a stressed VA would be provided by EIOPA, reflecting the widening of government bond spreads only to the extent that the Standard Formula does so. Undertakings would need to recalculate the value of Technical Provisions impacted by the change in size of the VA due to the stress.

However, ultimately EIOPA advises that the Standard Formula SCR should not be changed to allow for the DVA.

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