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Dynamic Volatility Adjustment – the next step for managing your capital needs?

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Introduction to DVA

Background

What is the dynamic VA?

- Adjustment to the SII risk-free curve for illiquidity that is allowed to vary under stress (in contrast to static VA)
- Permitted by 10 national supervisory agencies, including:
  - Germany
  - Netherlands
  - France
  - Italy
  - Ireland
- Recently permitted in UK

What has happened?

- EIOPA sought convergence of supervisory practices on internal models, in particular dynamic VA modelling
- PRA consulted on proposal to permit dynamic VA in the UK and subsequently released a supervisory statement

So what?

- The application of a dynamic VA can reduce spread risk capital by circa. 50%*
- Similarly, the overall SCR has been observed to decrease by between 6% and 31%*

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*Source: EIOPA 2017 report on long-term guarantees measures and measures on equity risk

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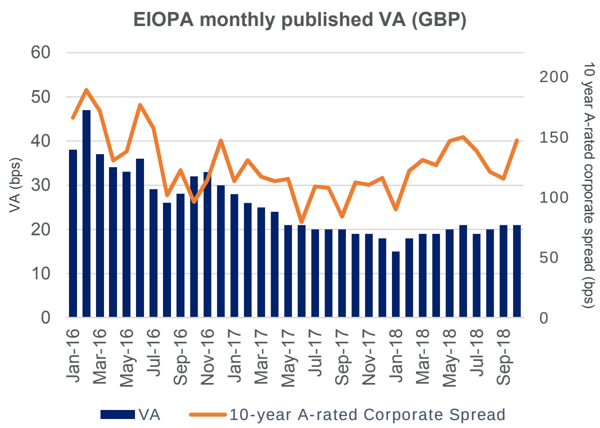
Volatility adjustment re-cap

Volatility adjustment overview

- Part of LTG measures introduced in the SII Directive to ensure appropriate treatment of insurance products that include **long-term guarantees**
- Aims to **stabilise** SII balance sheet during periods of **high market volatility** and **avoid pro-cyclicality**
- Adds **additional spread component** to the discount rate used in the calculation of Technical Provisions
- The level of VA applicable is **published monthly** by EIOPA for different countries



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Source: EIOPA Monthly Technical Information – October 2018

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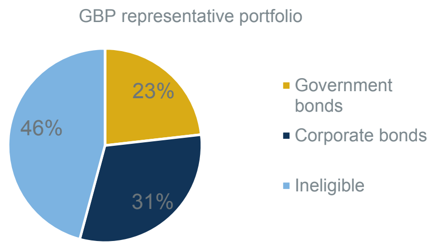
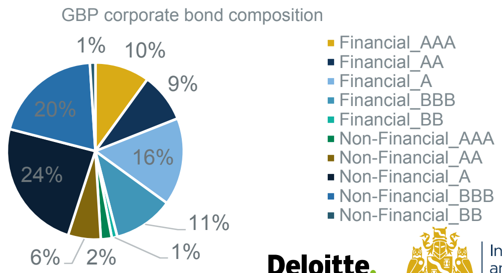
Volatility adjustment re-cap

Representative portfolios

- EIOPA'S VA formula is based on spreads for representative portfolios
- Reflect the asset composition held by European insurers to back insurance liabilities denominated in that currency
- Comprise of government bond and corporate bond asset classes only
- Reflect average durations and ratings of assets





Source: EIOPA Monthly Technical Information – October 2018

Volatility adjustment re-cap

EIOPA VA formula (simplified)

$$VA = 65\% \times \sum_{ij} w_{ij} \times \left(Total\ spread_{ij} - Risk\ correction_{ij}\right)$$

Fixed factor

Prescribed in SII regulations

Representative portfolio:

Weighted average portfolio consisting of *i* asset classes (government and corporate bonds) and *j* sub-asset class groupings

Risk corrected spread:

Total spread on representative portfolio assets less risk correction for amount of spread not expected to be earned

Volatility adjustment re-cap

$$VA = 65\% \times \sum_{ij} w_{ij} \times (Total\ spread_{ij} - Risk\ correction_{ij})$$

Asset yield decomposition

- The total asset yield on fixed interest assets can be hypothecated into 3 components: Risk Corrected spread, Fundamental spread and risk-free.

Total asset yield

Risk Corrected Spread: Total spread on representative portfolio assets less risk correction, with VA based on 65% of the Risk Corrected Spread

Volatility Adjustment: spread expected to be earned due to a buy and hold strategy

Risk Correction (commonly known as Fundamental Spread): spread not expected to be earned due to losses associated with defaults and downgrades

SII risk free rate: swap rate adjusted for Credit Risk Adjustment (CRA)

SII discount rate

- Insurers with a buy-and-hold investment strategy are only exposed to losses associated with the Fundamental spread component of the total asset yield.
- The SII discount rate therefore excludes the Fundamental spread and includes risk-free and VA spread (where use of the VA has been approved).

SII discount rate

Buy-and-hold return: total return expected to be earned due to a buy-and-hold strategy

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Volatility adjustment re-cap

Impact on SII balance sheet

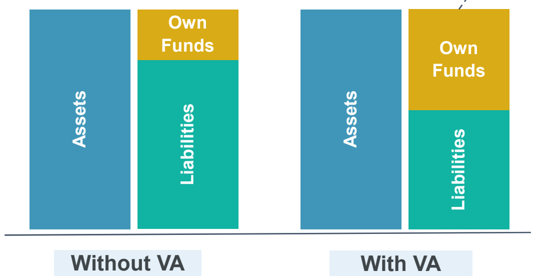
- The impact of the VA on the SII balance sheet is illustrated in the diagram on the right:

Market insights

- VA applied by 730 undertakings in 23 countries, covering 66% of European TPs
- Average impact of +3% on Own Funds

Impact of VA:

Increases Own Funds



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Source: EIOPA 2017 report on long-term guarantees measures and measures on equity risk

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Dynamic Volatility Adjustment

Dynamic volatility adjustment overview

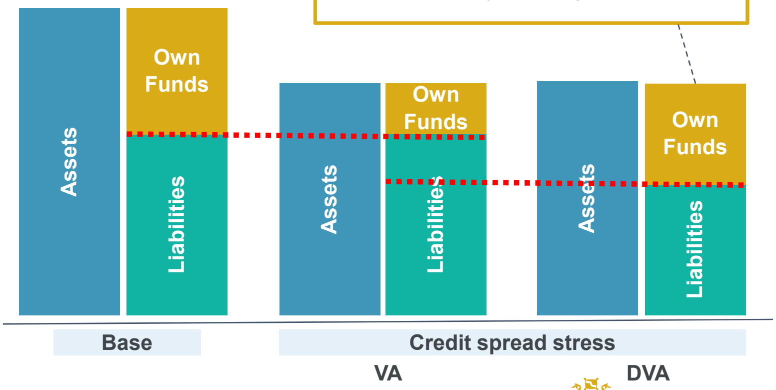
- With a static VA, the VA is kept constant in the SCR calculation
- With a dynamic VA, the VA is allowed to move when modelling stressed credit spreads

Market insights

- DVA applied by 7 Groups, spanning 62 Solo undertakings
- Circa 50% reduction in spread risk capital
- Reduction in overall SCR of between 6% and 31%

Impact of DVA:

The increase in VA under a credit spread stress partially offsets the reduction in MV of assets, thereby reducing the SCR



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Source: EIOPA 2017 report on long-term guarantees measures and measures on equity risk

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Dynamic Volatility Adjustment

Examples

Aegon Group
*"The SCR benefit amounted to **EUR 1,273 million** and is mainly attributable to the impact of the dynamic volatility adjustment in the SCR calculation."*
Total SCR amount is EUR 7,774m

Generali
A change to zero volatility adjustment would correspond to a decrease of **EUR 5,464 million** in SCR
Total SCR amount is EUR 22,191m

NN Group
"*In such scenario [of excluding both the Dynamic VA as well as spread risk on government bonds from the SCR], the SCR would be **EUR 1,583 million** higher*"
Total SCR amount is EUR 7,731m

AXA Group
A change to zero volatility adjustment would correspond to a decrease of **EUR 6,452 million** in SCR
Total SCR amount is EUR 28,201m

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Source: 2017 SFCRs

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Regulatory update

Volatility adjustment timeline

Timeline of key regulatory developments

2014

VA introduced in the Solvency II valuation of insurance contracts with LTG via the Omnibus II Directive (2014/51/EU).

2016

Some firms with internal model approval in Europe make use of DVA in reporting.

Nov 2017

- EIOPA issued an opinion on the supervisory assessment of internal models including a DVA.
- DVA modelling identified as an area where supervisory convergence needs to be reinforced due to the differences in approaches taken by internal model firms.

Apr 2018

PRA releases Consultation Paper CP9/18, inviting views on its proposal to permit DVA for UK SII firms.

Oct 2018

PRA releases Supervisory Statement **SS9/18**, setting out its expectations of firms applying the DVA.

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EIOPA Opinion summary

Objectives

- **Supervisory Convergence:** EIOPA identified DVA as an area where supervisory convergence **needs to be reinforced**

Public disclosure

- EIOPA considers it necessary for undertakings to **provide the explanation** of DVA methodology in the Solvency and Financial Condition Report in order to fulfil the disclosure requirements defined in Article 297 (4)(e) of the Delegated Regulation
- In the disclosure of the impact of a change to zero of the VA as stated in Article 296 (2)(e), firms should assess the impact of the concept of the **VA not existing at all**

Risk management

- This means on the one hand that all tests and standards on internal models apply and on the other hand that **no undesirable risk management** incentives should be allowed.
- In particular, firms should not move their asset allocation **towards the EIOPA VA reference portfolio** to lower the SCR while increasing actual risk

Modelling

- Concretely, this means that the undertaking shall demonstrate that its SCR is **at least as high as if replicating the EIOPA VA Methodology** (prudency principle)
- Firms should consider the assumptions underlying the VA and any **deviations** from that in the firm's risk profile

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PRA Supervisory Statement – SS9/18

What has changed?	• New supervisory statement SS9/18 "Solvency II: Internal models – modelling of the volatility adjustment" that came into effect on 17 October 2018 • SS17/16 previously contained wording that stated that a DVA was not allowed. This is now deleted.
Applicability	• Applicable to full or partial internal model firms • However, approval from the PRA will be required, with the DVA being treated as a new element of the IM

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PRA Supervisory Statement – SS9/18

PRA requirements

- Three statutory approval conditions can be met in stress:
  1. The VA is correctly applied to the relevant risk-free interest rate term structure
  2. The application of the VA does not breach a SII regulatory requirement (including Prudent Person Principle)
  3. The application of the VA does not create an incentive for firms to engage in pro-cyclical investment behaviour
- System of governance requirements including adequacy of liquidity plan
- The PRA expects firms to do the following:
  - Not to adopt a purely 'mechanistic approach' as it won't capture all quantifiable risks.
  - Adjustments to EIOPA's VA methodology can be made, but it should not result in a lower SCR compared to when adjustments are not made

Additional requirements

- Chief Risk and Chief Actuary function responsibilities

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PRA Policy Statement – PS23/18

Requirement to earn VA under stress

- *Feedback:* This hurdle is higher than other EU regulators
- *PRA's response:* Risks that firms are exposed to need to be reflected and allowed for

Requirement on DVA benefit disclosure

- *Feedback:* Separate disclosure of DVA benefit seems excessive
- *PRA's response:* This separate disclosure is required and in line with EIOPA's expectations

Post-Brexit assessment

- *PRA's Response:* The PRA will continue to assess if changes to current DVA guideline is needed due to Brexit arrangement
- Prior to the EIOPA opinion, the PRA were against the use of the DVA

Requirement relating to financial guarantees or options

- *Feedback:* The determination of whether the DVA leads to excessive capital relief in relation to financial guarantees or option is subjective
- *PRA's response:* The intensity of justification of the DVA benefit should be in line with its materiality

Requirement on sovereign risk modelling

- *Feedback:* Why is the need to model sovereign risk part of DVA consideration rather than on a wider IM point?
- *PRA's response:* DVA introduces expert judgement, so firms should equally consider areas that are previously not modelled due to over-reliance on expert judgement

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Key Challenges

Challenge areas

- Reinvestment assumptions
- Own portfolio vs. EIOPA portfolio
- Fundamental spread modelling
- Prudency principle
- Regulatory engagement
- Risk incentives

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DVA as alternative to MA?

Dynamic VA vs Matching Adjustment

Under SII, there are 2 alternative approaches for allowing for the illiquidity premium in the discount rate; via the Dynamic VA or Matching Adjustment.

Key features:

	Dynamic VA	Matching Adjustment
Portfolio	• **TPs:** EIOPA portfolio • **SCR:** EIOPA/own portfolio	• **TPs:** Own portfolio • **SCR:** Own portfolio
Level of illiquidity premium	• **TPs:** Restricted to published VA • **SCR:** Restricted by Prudency Principle	• **TPs:** Determined by own portfolio • **SCR:** Determined by own portfolio
Application	Parallel shift to risk-free curve up to LLP	Parallel shift to entire risk-free curve
Diversification	No restrictions	Restrictions on diversification benefits for MA portfolios
Ongoing requirements	1. Prudency Principle compliance 2. Assessment of impact of no DVA 3. Monitor asset earns a spread at least equal to VA	1. Segregation of portfolios 2. Monitor matching of assets & liabilities 3. Monitor asset eligibility 4. Rebalancing to maintain quality 5. Assessment of impact of no MA

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Dynamic VA vs Matching Adjustment

Under SII, there are 2 alternative approaches for allowing for the illiquidity premium in the discount rate; via the Dynamic VA or Matching Adjustment.

Key benefits:

	Dynamic VA	Matching Adjustment
Own Funds	Average increase of 3%	Average increase of 37%
SCR	Reduction of up to 31%	Average reduction of 44%

Dynamic VA advantages:

- Less demanding ongoing requirements

Dynamic VA disadvantages:

- Level of benefit still somewhat lower

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*Source: EIOPA 2017 report on long-term guarantees measures and measures on equity risk

Questions

Comments

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