Solvency II – 2020 Review

Insurance Europe/CFO Forum Joint thematic workshop

Workshop 3:

- Valuation: Focus on VA
- Credit risk: including DVA
- Valuation: Focus on RFR and RFR

Brussels, 14 March 2019

Insurance Europe/CFO Forum
3rd Joint thematic workshop

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1	**Introduction, EC Call for Advice, recap on key issues**
2	Recap...The long-term issue
3	Valuation: Focus on VA
4	Market risk SCR: Focus on Credit/Spread risk including the role of Dynamic VA
5	Valuation: Focus on Risk Free Rates
6	Valuation: Risk Margin
7	Wrap-up, conclusions and plans for follow-up work

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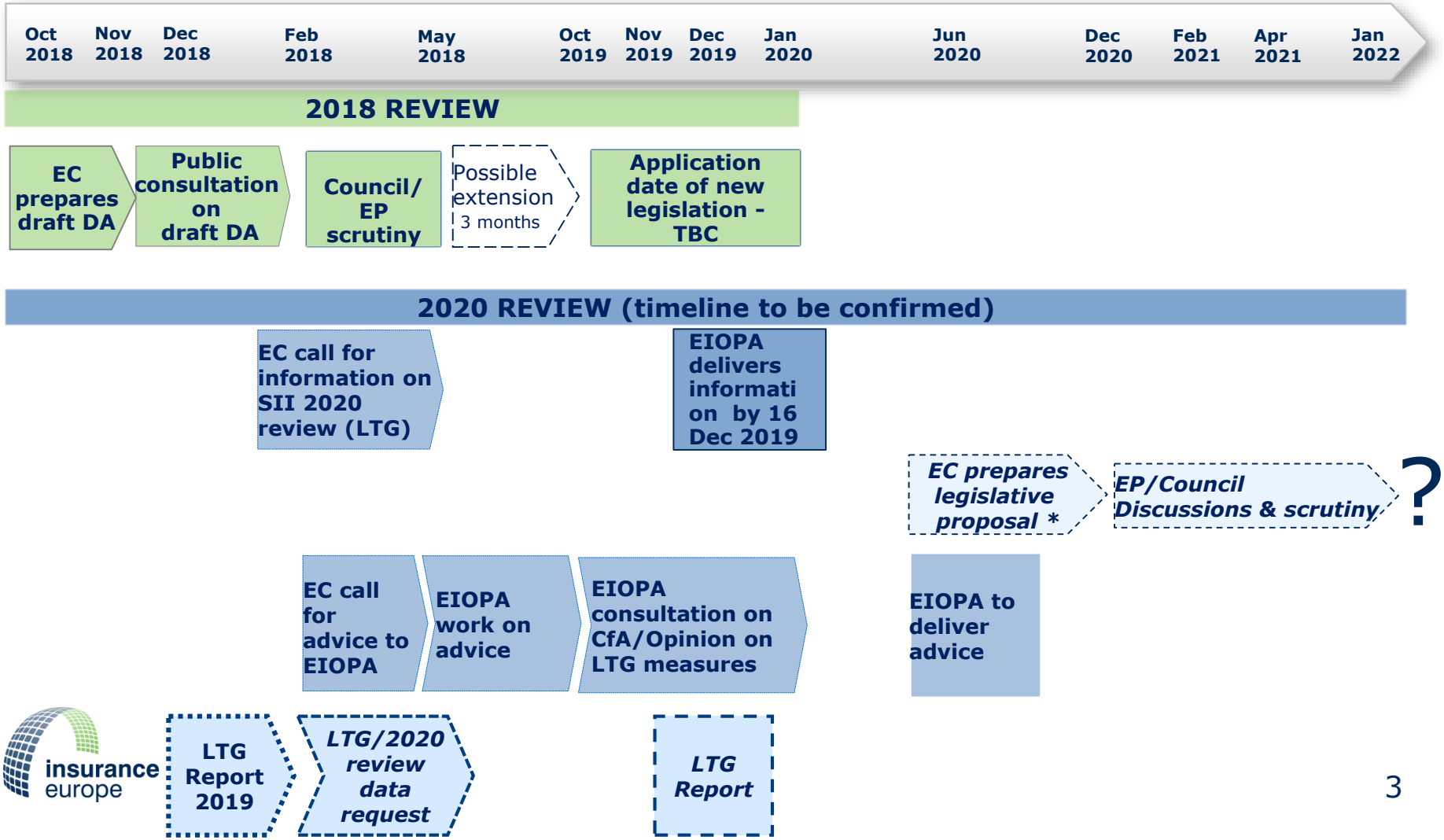
Solvency II Reviews

Provisional timelines



Using workshops to develop technical solutions

- Industry positions put forward in the 2020 Review need to be technically robust and resilient to challenge from supervisors
- The workshops are intended to provide a forum for insurance associations and company representatives to:
  - **Share**
  - **Discuss**
  - **Develop**
  - **Debate**
  - And **challenge** technical proposals
- Output from the workshops will be used to develop technical proposals and papers
- Technical feedback from participants may be sought in between workshops (written/conf. calls)
- Standard governance procedures within Insurance Europe and CFOF will be followed to determine agreed positions (not expected during workshops)

Current planning

1st Workshop (Date: 11/9/18)

- Focus on Valuation: Discounting of liabilities

2nd Workshop (Date 26/11/2018))

- Follow up on 1st workshop
- Focus on Investment related SCR: Market risk submodule (IR risk, credit risk incl. dynamic VA, equity risk, property risk), counterparty credit risk submodule

3rd Workshop (Date: 14/3/2019)

- **Follow up on previous workshops: VA & Market risk SCR: Credit/Spread risk including role of Dynamic VA**
- **Focus on valuation: Risk free rates & Risk Margin**

4th Workshop (Date: 9/5/2019)

- Analysis & discussion of different potential solutions

5th Workshop (Date: TBC)

- To be confirmed

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2018 Review of Solvency II

Overall disappointing and a missed opportunity

- EC publish Delegated Acts for scrutiny by EP/Council on 8 March
- A number of positive developments; improved recognition of guarantees, recalibration of parameters (eg. CAT risks), look-through, introduction of simplifications
- Outcomes on key issues:
  - **Interest rate risk**: No change to current calibration
  - **Application date**: Delayed until 1 January 2020 for LAC DT
  - **Equity**: Introduction of Long-Term Equity risk submodule with improved criteria (removal of ring-fencing, reduction in average holding period criterion from 12 yrs to 5 yrs, inclusion of investments funds)
  - **Volatility Adjustment**: No change to activation criteria for national market component of VA (EC sent a letter to EIOPA requesting advice on this issue)
  - **Risk margin**: No change

EC Call for Advice on the 2020 SII review

Scope of the EC's Call for Advice (here)

- Extrapolation of the RFR term structure
- Matching adjustment and volatility adjustment
- Transitional measures
- Risk margin
- Capital Markets Union aspects
- Dynamic modelling of the Volatility adjustment
- SCR standard formula
- Risk-mitigation techniques
- MCR
- Macro-prudential issues
- Recovery and resolution
- Insurance guarantee schemes (IGS)
- FoS and FoE
- Group supervision
- Reporting and disclosure
- Proportionality and thresholds
- Best estimate
- Own funds at solo level
- Reducing on external ratings

EC Call for Advice on the 2020 SII review

Scope of the Joint Industry workshops

- **Extrapolation of the RFR term structure**
- **Matching adjustment and volatility adjustment**
- **Transitional measures**
- **Risk margin**
- **Capital Markets Union aspects**
- **Dynamic modelling of the Volatility adjustment**
- **SCR standard formula**
- Risk-mitigation techniques
- MCR

- Macro-prudential issues
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Other issues not covered in workshops will be covered through other workstreams

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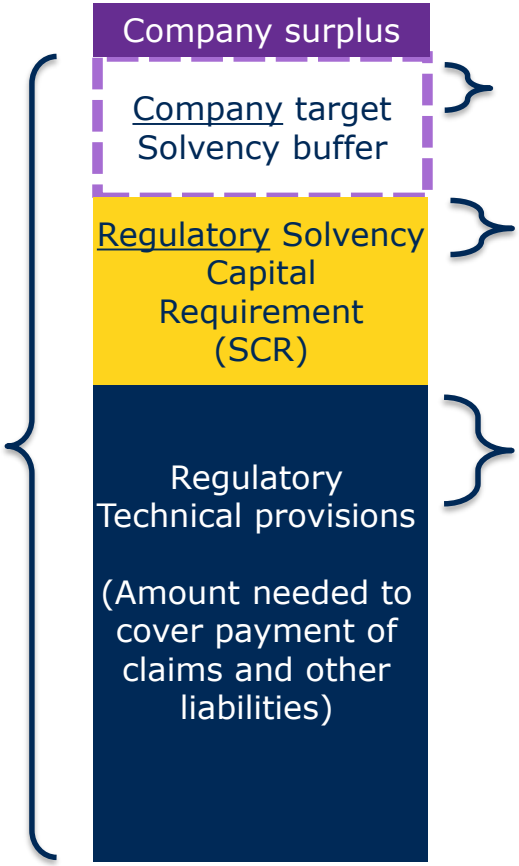
Recap … The long-term issue …

SII does not currently capture the real economics of insurance

Total amount needed by SII can be excessive



3. Artificial volatility
- Larger buffers than necessary

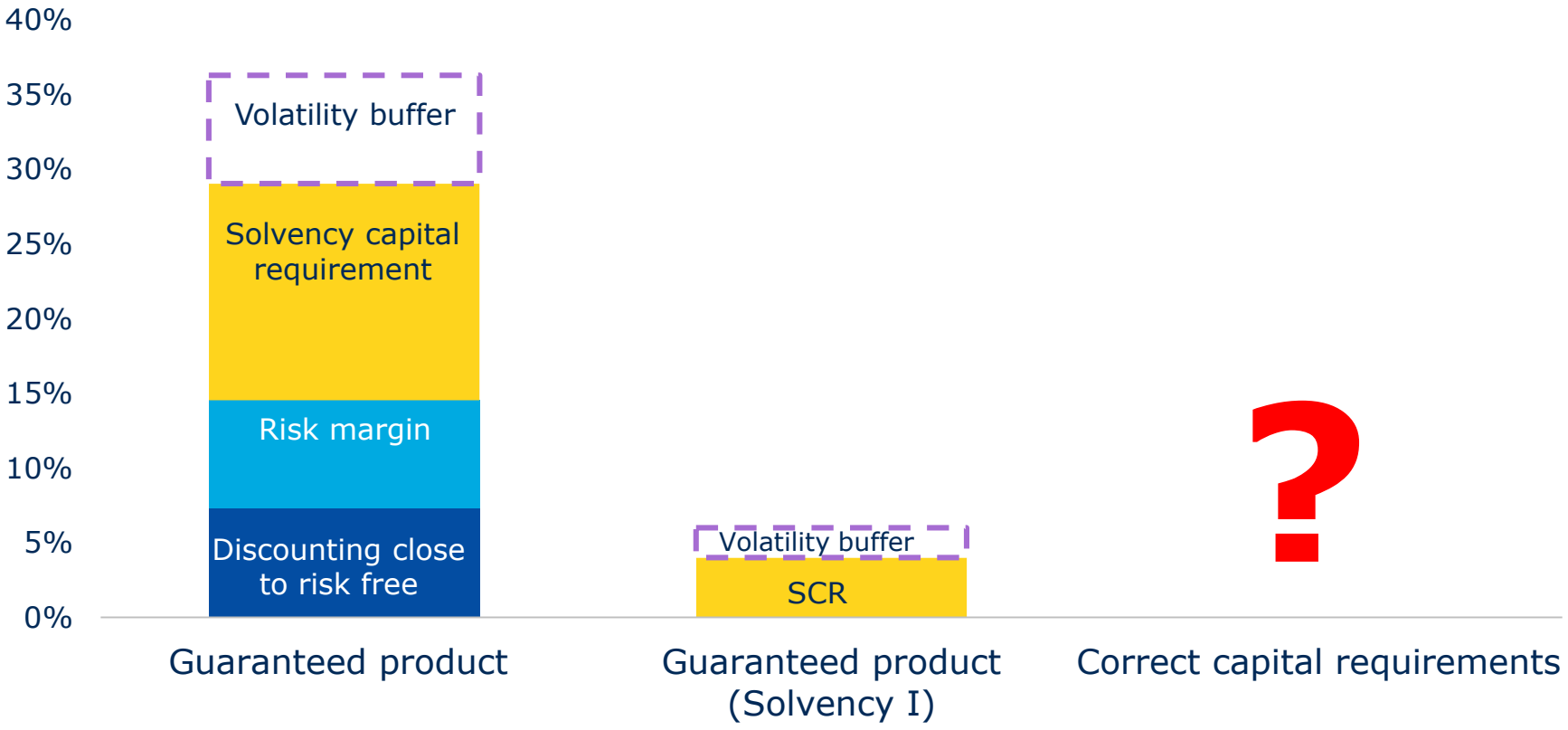
2. Excessive SCR requirements
- Wrongly based on assumption that all insurers would be forced to sell entire asset portfolio after the worst market price crash i.e. "trading risk" instead of "long-term investment risk"

1. Liabilities exaggerated
- Risk Margin
- Discounting close to risk free

Illustrative not to scale

Recap … The long-term issue …

Appears to result in a huge capital increase compared to Solvency I for a long-term product



Recap … The long-term issue …

- Developing a consistent way, across the industry, to explain the issue would help get our message across

- It may help to explain that one of the distinctive things about insurers, due to our business model, is that, unlike traders, we have **little or no real exposure to forced-selling** during a market crash

- Not being exposed to forced-selling allows us to consistently earn a premium above risk free and use ALM to reduce exposure to market volatility. This justifies:
  - the MA/VA adjustment for valuation
  - calibration of market risk SCR based on long-term under-performance (including for example the use of dynamic VA, lower calibration for long-term equities etc)

- Such an explanation could also help address, for example, concerns about EIOPA's approach on illiquid liabilities

Recap … The long-term issue …

It's all about being able to avoid forced-selling

- Insurers' business model allows them to **avoid forced sales of assets**
  - Predictable liability portfolios, policyholders have limited ability and/or disincentives to surrender early
  - Significant inflow of cash from premiums, dividends, rents, coupons, maturing bonds, etc creates significant liquidity
- This gives insurers great deal of flexibility over **IF** they sell, **WHEN** they sell, **WHICH** assets they sell
- Therefore **insurers can reduce or even eliminate exposure to price volatility** and short to medium term declines asset values
- **Exposure to forced-sales** can and does exist but it is limited – it **must be covered** by the framework **but not be exaggerated**
- **Currently SII has underlying assumptions which exaggerate exposure to forced-selling and this is a key cause for excessive capital requirements and artificial volatility**

Recap … The long-term issue …

It's all about being able to avoid forced-selling

- **It is NOT only about illiquidity of liabilities**

- Insurers will almost always have sources of liquidity including
  - From yields on assets
  - From maturing assets
  - From planned asset sales
  - From new business premiums

- **These sources of liquidity can allow insurers to avoid being forced sellers of assets that have crashed in value**

Recap … Treatment of long-term business…

It's all about being able to avoid forced-selling

- **It is NOT about defining certain assets as long-term e.g. based on criteria such as minimum holding periods for assets** or that assets must be of duration > 3 or 5 or 10 years, or must be illiquid

- Insurers **can hold individual assets to maturity or long-term** – but that **does not mean they do or should always do** so in practice
  - There are good reasons for not doing so (changes in liability, concerns about individual performance/risks relating to individual assets or sectors, better opportunities for returns/diversification from other assets sectors)
  - In fact the insurer has a duty to customers/shareholders to obtain the best returns from their investments

- **This flexibility can allow insurers to avoid being forced sellers of assets that have crashed in value**

Recap … Treatment of long-term business…

Being able to avoid forced-selling has real economic impact…

Economic Benefit	Economic Impact	SII Solution
▪ Insurers can and do earn risk premia (above risk-free rates) over the long-term	▪ Reduces economic cost (i.e value) of liabilities	MA/VA that represent risk long-term risk premia
▪ Balance sheet is not exposed to asset price volatility	▪ Reduces volatility of balance sheet (assets+liabilties)	MA/VA that avoid artificial volatility
▪ Market risk is not about exposure to worst case drop in market price	▪ Changes market risk exposure on assets from price drop to long-term underperformance	SCR calibrations based on risk of long-term under-performance

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Recap … Treatment of long-term business…

Being able to avoid forced-selling has real economic impact…

- While for insurers there is limited (or even in some cases no) risk of forced-selling, supervisors and policymakers will be concerned about any risk that does remain
- If improvements are to be gained or even current calibrations justified then it is possible that some sort of liquidity testing will be needed
- EIOPA have already indicated that they will be looking into liquidity testing and the EC Call for Advice mentions liquidity in relation setting of the the application ratio
- Therefore the insurance industry needs to develop its views on liquidity testing

Recap on … Criteria to assess potential solutions

1. Policyholder: Does it continue to provide 1 in 200 protection?
2. Policyholder: Price and availability of products
3. How well does it work?
   - Does it set appropriate levels of adjustment & avoid artificial volatility?
   - Does it work across different products, asset mixes, and in stressed market conditions?
4. To what extent do they incentivise good and deter bad risk management?
5. What are the costs of implementation?
6. To what extent are they supervisable?
7. What are the chances of success politically?

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Discussion

1. Call for Advice
2. On the recap
3. Any other comments/observations

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Discount rate in valuation of liabilities is key

- Market valuation of assets is supported by the industry but will only work in a prudential framework if liabilities are valued in the right way

- The discount rate used to value liabilities is key, and has an enormous impact on the amount of own funds and volatility of own funds, and can also impact SCR

Discount rate

=

Risk Free Rate + Adjustment (MA/VA)

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In previous workshops we have discussed why addition to RFR is fully justified

- Insurers can and do earn risk premia above RFR
  - Able to do this due to business model which allows avoidance of forced-selling so hold real assets all the time to back liabilities
- We used examples to show valuing liabilities with no adjustment cannot be economically correct
  - Would result in valuations and sensitivities which are not compatible with common sense (or even financial theory in the sense that it can give a negative value to cashflows which can never be negative)
  - Would result in valuations which bear no relation to actual cashflows
- However, still have work to do to ensure adjustment to RFR is widely understood and accepted
  - Some supervisors, academics and other commentators still do not understand why it is justified/needed or believe only suitable as a systemic crisis measure and should be zero at other times

Technical issues to solve:

1. Methodology to set the adjustment so that
   - the **size of the Adjustment** is large enough to represent the type of illiquidity premium that insurers can really earn (and does not exaggerate liabilities)
   - the **Adjustment changes in a way that avoids/limits excessive and artificial volatility** in the balance sheet (and therefore own funds)
2. How to deal with the fact that some assets <u>are</u> in reality exposed to **real forced-selling risk**

Emerging views from previous workshops…

Maintain current two bucket approach

Volatility adjustment

Achieve substantial improvements

- Substantial increase in the general level of the adjustment and improve link to assets to address artificial volatility

Matching adjustment

Achieve refinements

- Address inconsistent and unnecessarily restrictive criteria
- Retain strict criteria for MA – i.e. for very well-matched portfolios with minimal insurance/ALM risk

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Emerging views from previous workshops…

Focus for today

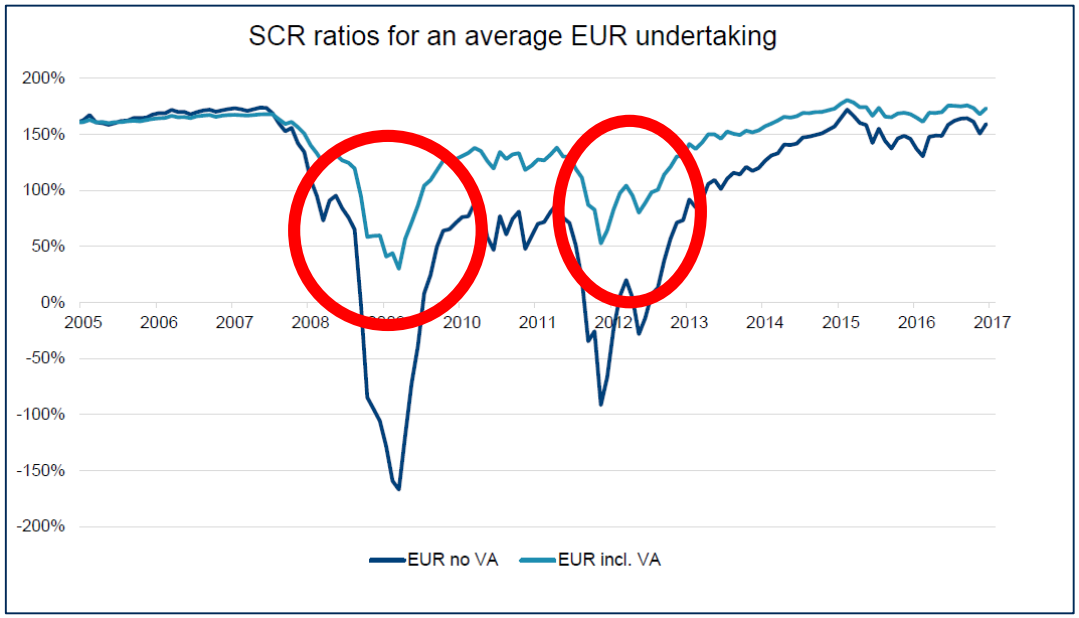
Volatility adjustment

Achieve substantial improvements

- Substantial increase in the general level of the adjustment and improve link to assets to address artificial volatility

What is wrong with current VA?

It does not sufficiently mitigate balance sheet volatility



Historical testing of its current design and calibration shows that the VA would have failed to sufficiently mitigate the balance sheet volatility arising from short term changes in credit spreads

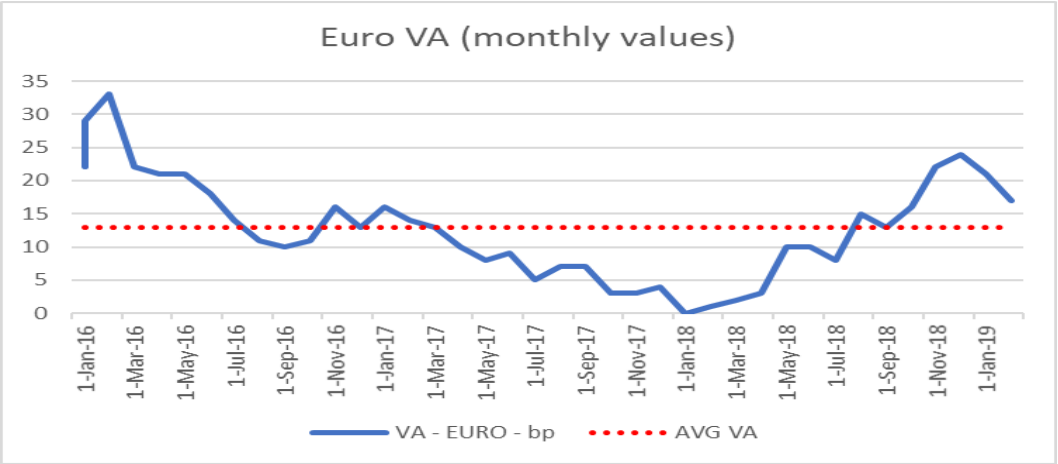
National Market component does not work as required (both in terms of activation criteria and calibration)

Source: Mathias Wambeke

What is wrong with current VA?

Does not adequately reflect the returns that insurers can and do earn on their investment portfolios

Average Euro VA in 2017 added only an average of **0.08%** to the RFR (and since launch of SII has averaged at only 0.13%)



But 2017 European-level fixed income asset return was 2.2% which is **1.4% above 10yr RFR*** (2.6% above 1 year RFR).

Long-term average returns above RFR not yet available

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Source: EIOPA *RFRs as at YE2017 **Excludes equities/property

Emerging views… Improving VA

Two methods emerging from discussion:

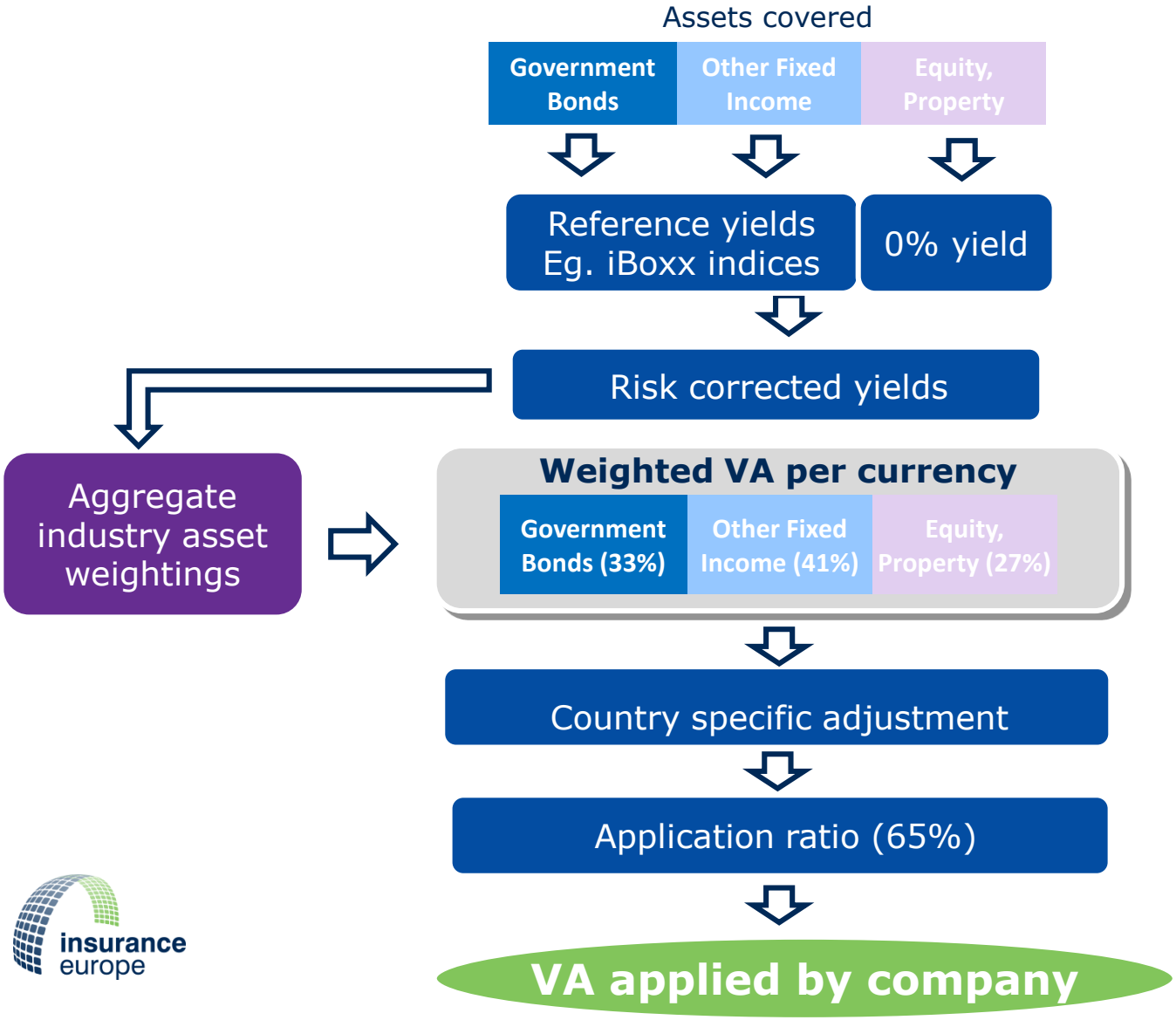
1. **Recalibrated VA -** Maintain existing currency-based VA but substantially improve calibrations

2. **Redesigned VA** - Move to a "VA 2.0" which uses own asset weights instead of a reference portfolio

Note that the two emerging approaches are broadly consistent with the assessment requested by the EC in its Call for Advice

Emerging views... Improving VA

Current VA derivation



Emerging views… Improving VA

Current VA – reference yields

Corporate bonds

Markit – iBoxx indices	1-3yr	3-5yr	5-7yr	7-10yr	10+yr
EUR_Financial AAA	85% of the EUR financial AA yields if those yields are positive or zero, otherwise 115% of those yields				
EUR_Financial AA	DE000A0JZBB2	DE000A0JZBD8	DE000A0JZBF3	DE000A0JZBH9	DE000A0JZA95
EUR_Financial A	DE000A0JZA12	DE000A0JZA38	DE000A0JZA53	DE000A0JZA79	DE000A0JZAZ3
EUR_Financial BBB	DE000A0JZBX6	DE000A0JZBZ1	DE000A0JZB11	DE000A0JZB37	DE000A0JZBV0
EUR_Financial BB	Iboxx EUR High Yield curve Financial ex crossover LC BB (GB00B1CQYN32)				
EUR_Financial B	Iboxx EUR High Yield curve Financial ex crossover LC B (GB00B1CQYW23)				
EUR_Financial CCC	Iboxx EUR High Yield curve Financial ex crossover LC B (GB00B1CQYW23				
EUR_Non Financial AAA	85% of the EUR Non financial AA yields yields if those yields are positive or zero, otherwise 115% of those yields				
EUR_Non Financial AA	DE000A0JZCH7	DE000A0JZCK1	DE000A0JZCM7	DE000A0JZCP0	DE000A0JZCF1
EUR_Non Financial A	DE000A0JZB78	DE000A0JZB94	DE000A0JZCB0	DE000A0JZCD6	DE000A0JZB52
EUR_Non Financial BBB	DE000A0JZC36	DE000A0JZC51	DE000A0JZC77	DE000A0JZC93	DE000A0JZC10
EUR_Non Financial BB	Iboxx EUR High Yield curve Non-financial ex crossover LC BB (GB00B1CR1Z75)				
EUR_Non Financial B	Iboxx EUR High Yield curve Non-financial ex crossover LC B (GB00B1CR2653)				
EUR_Non Financial CCC	Iboxx EUR High Yield curve Non-financial ex crossover LC B (GB00B1CR2653)				

Data sources published by EIOPA

See EIOPA Technical Documentation

Government bonds

Table 1. Swaps and government bonds used for the derivation of the technical information

Country	ISO 3166	ISO 4217	Swap Ticker	Swap freq	Swap Float Ticker	Government Bond Ticker Id	Govts/ Swaps
Euro	-	EUR	EUSA CMPL Curncy	1	EUR006M Index	ECB curve all governments-spot	SWP
Austria	AT	EUR	EUSA CMPL Curncy	1	EUR006M Index	G0063Z BLC2 Curncy	SWP
Belgium	BE	EUR	EUSA CMPL Curncy	1	EUR006M Index	G0006Z BLC2 Curncy	SWP
Bulgaria (*)	BG	BGN	EUSA CMPL Curncy	1	EUR006M Index	BI0662Z BVLI Curncy	SWP
Croatia	HR	HRK				G0369Z BLC2 Curncy	GVT
Cyprus	CY	EUR	EUSA CMPL Curncy	1	EUR006M Index		SWP
Czech Rep.	CZ	CZK	CKSW CMPL Curncy	1	PRIB06M Index	G0112Z BLC2 Curncy	SWP
Denmark (*)	DK	DKK	EUSA CMPL Curncy	1	EUR006M Index	G0011Z BLC2 Curncy	SWP
Estonia	EE	EUR	EUSA CMPL Curncy	1	EUR006M Index		SWP

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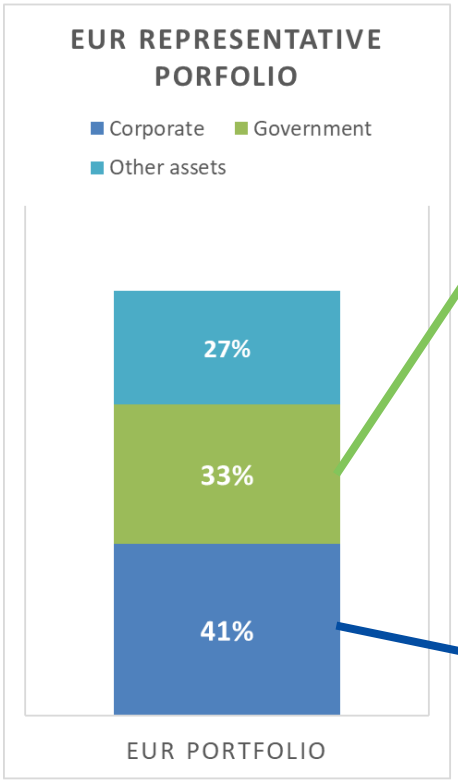
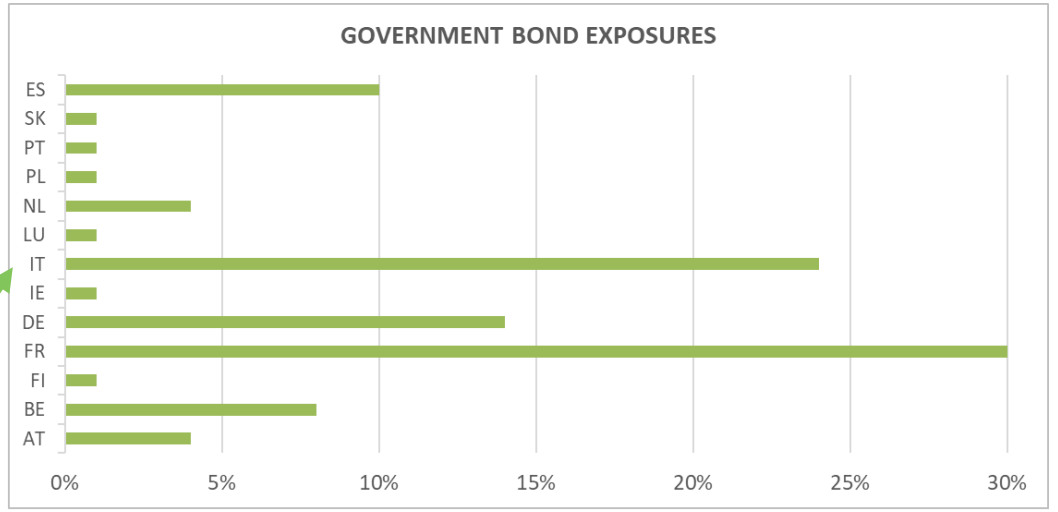
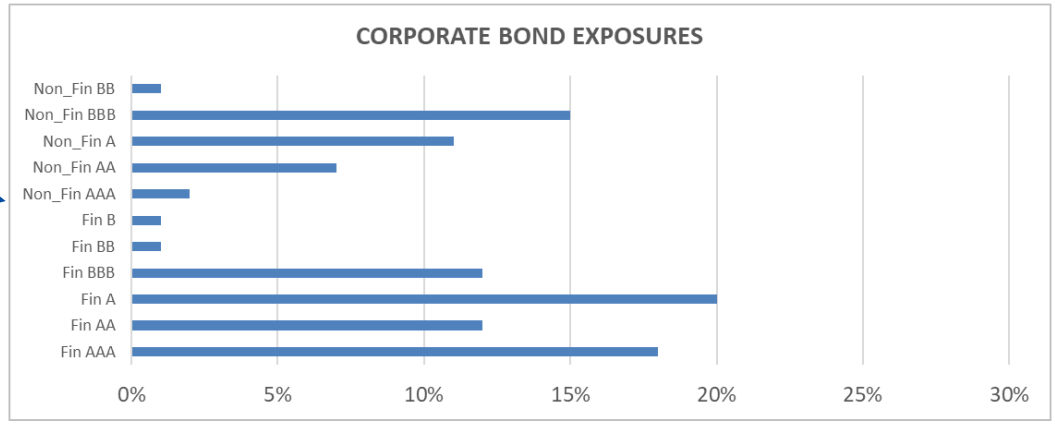
Emerging views... Improving VA

Current VA – representative portfolio



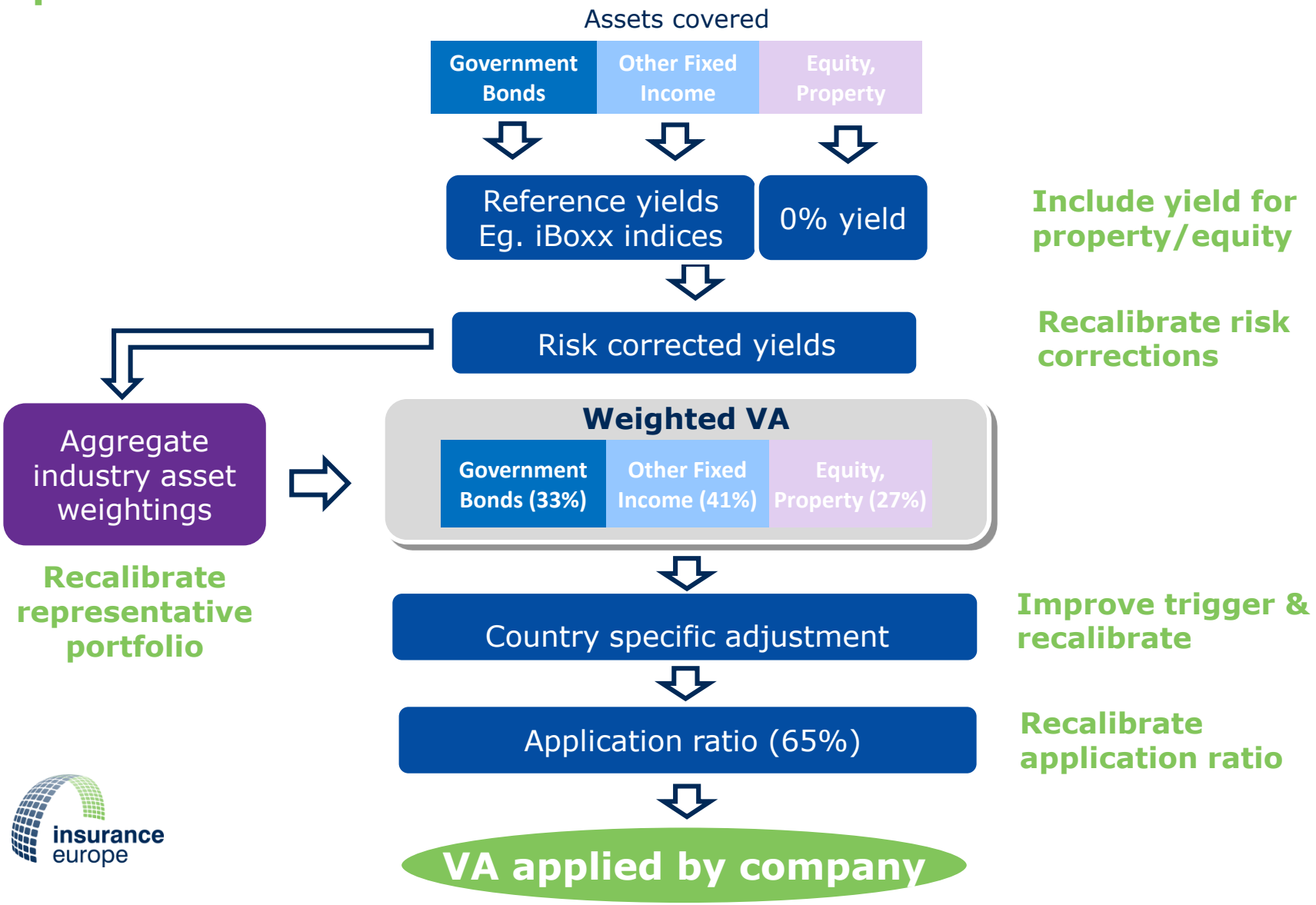




Source: EIOPA

Emerging views... Improving VA

Options for recalibrated VA



Emerging views… Improving VA

Some specific ideas for recalibrating VA have been proposed

Parameter	Current	Potential recalibration
Representative portfolio	Govt bonds – 32,8% Corps – 40,5%	Govt bonds – 45% Corps – 55%
Risk corrections	Govt bonds: 30%/35% of long-term average spread (LTAS) Other fixed income: Max (PD + CoD, 35% LTAS)	Risk-correction limited to 50% of the current spread
National market component	1. $S^{RC}_{Country} > 100\ bp$ 2. $S^{RC}_{Country} > 2S^{RC}_{Currency}$	1. $S^{RC}_{Country} > 50\ bp$
Application ratio	65%	80% / 100% / based on liquidity test?

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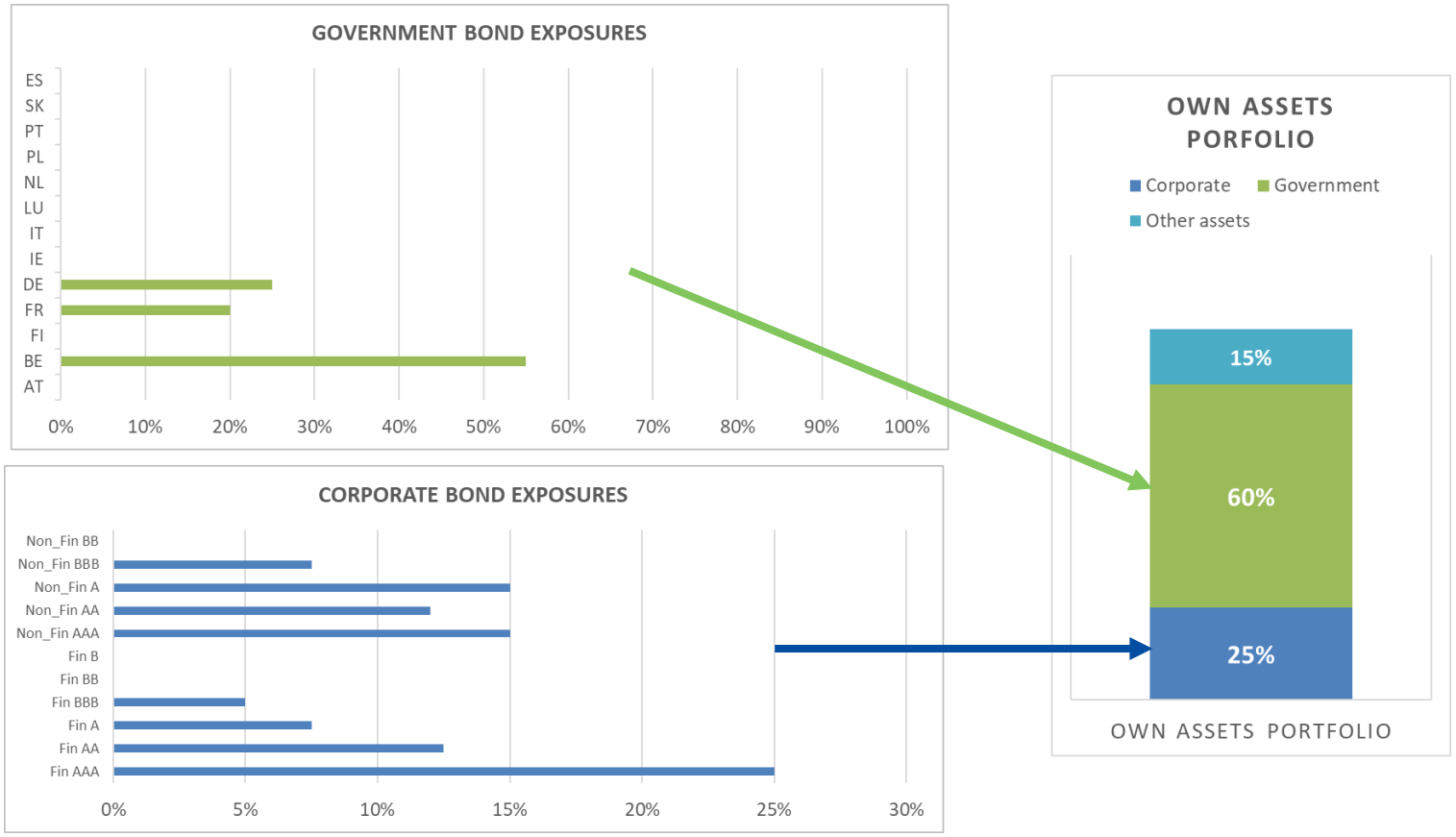
Emerging views... Improving VA

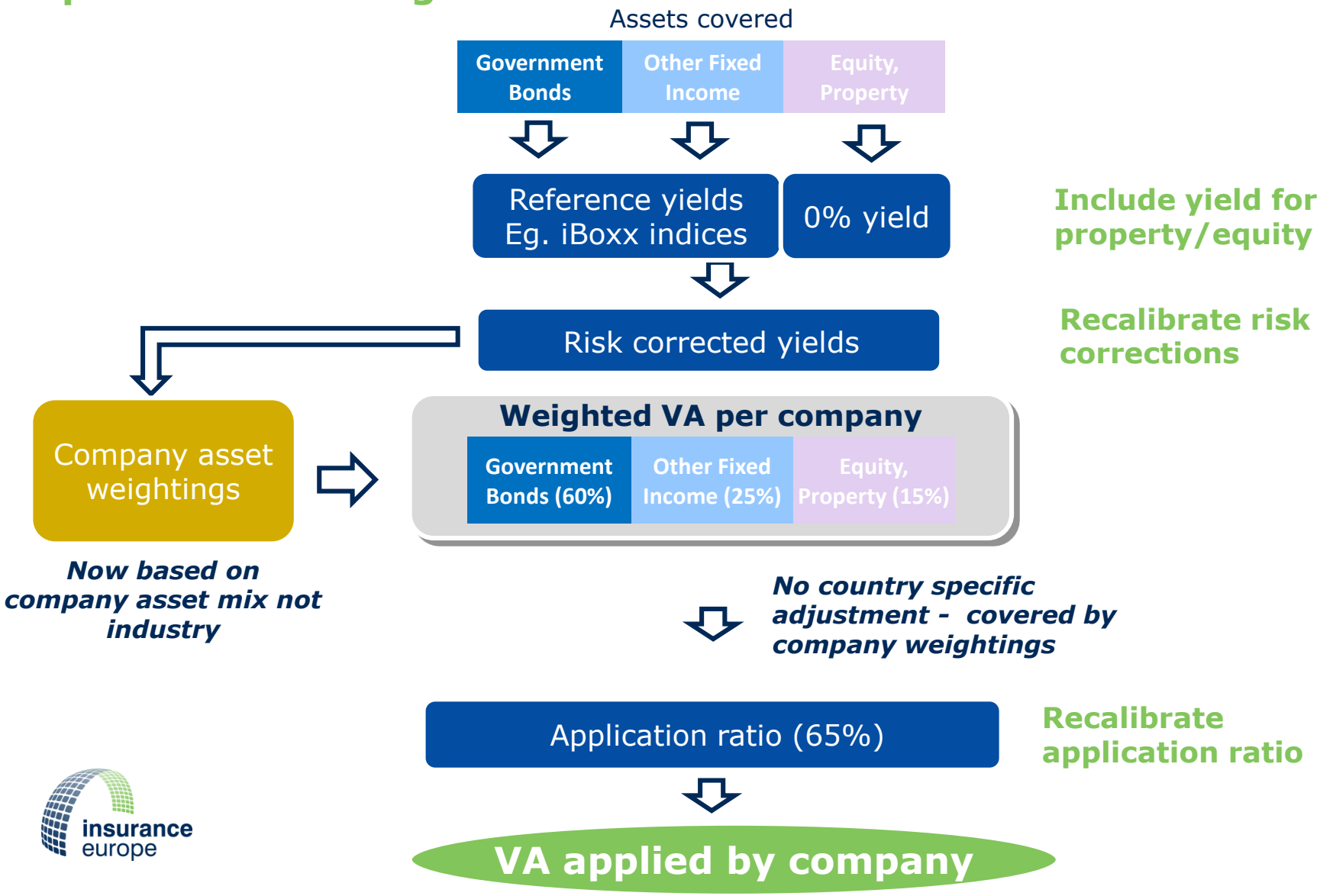
Redesigned VA – changing the asset portfolio

An example



Emerging views... Improving VA

Options for Redesigned VA



Emerging views...Improving VA

Next steps ...

- Test each approach against criteria:

1. Policyholder: Does it continue to provide 1 in 200 protection?
2. Policyholder: Price and availability of products
3. How well does it work?
   - Does it set appropriate levels of adjustment & avoid artificial volatility?
   - Does it work across different products, asset mixes, and in stressed market conditions?
4. To what extent do they incentivise good and deter bad risk management?
5. What are the costs of implementation?
6. To what extent are they supervisable?
7. What are the chances of success politically?

- Develop clearer approach to pros & cons

Discussion

Improving the Volatility adjustment

1. Is the explanation of the two proposed ways for improving VA clear and correct?
2. Are there other ways other than these two that should be considered?
3. Any comments/views to take into account for testing/analysis
4. Any other comments/observations on VA

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Treatment of long-term business…

Exaggerating capital:

Forced-selling (short-term — trader) vs Not forced-seller (long-term — insurer)

- A solvency framework for insurers must be risk-based
- Care must be taken to measure the actual risks faced by an insurer – it's what happens in practice not in theory that matters
- There can be a very significant difference between the investment risk faced by a trader and investment risk faced by an insurer

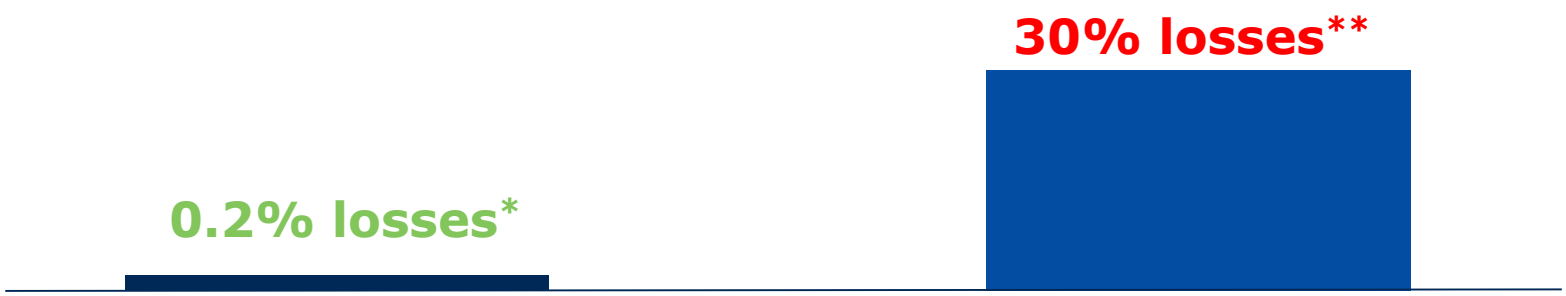
Trader must close their position regularly → **Fully exposed to forced selling risk** → **Short term price movement determines risk and capital**

Insurer has predictable liabilities and has enough liquidity to choose what/when/if to sell → **Limited or no exposure to forced selling risk** → **Long-term value loss/actual defaults determines risk and capital**

Being exposed to forced-selling or not has an enormous impact on how to measure risk

One example: credit risk

Losses during financial crisis (2007-2008)
Example for AA corporate bond portfolio



Long-term investor losses	Short-term investor ("Trader") losses
Forced sales COULD be avoided, so exposure to losses was on actual defaults which were very low	Forced sales COULD NOT be avoided, so exposure to losses was on price drops caused by spread changes which were very high

* *Assumes a 50% recovery rate. Actual defaults were about 0.4% in 2008*
** *Assumes a long-term bond portfolio*

Credit risk

Spread vs default

- For fixed income investments:
  - Exposed to forced selling, the insurer is exposed to **Spread risk**
  - Not exposed to forced selling, the insurer is exposed to **Default risk**

- The majority of fixed income investments are in scope of the Spread risk submodule in Solvency II, i.e. it assumes that most assets are exposed to forced selling risk

- There are a few areas where there is at least some recognition that insurers are not exposure to losses due to spread movements
  - Retail Mortgages (covered by counterparty risk module so default loss approach)
  - Covered bonds (recognition of lower loss risk vs Corp bonds for >= Credit step 1)
  - Corporate bonds within portfolios qualifying for MA (reduction for bonds >= Credit step 3)
  - Internal model users: Able to align with actual risk subject to approval – many are using dynamic VA to achieve this

- Industry has continually raised the standard formula treatment of credit risk as being economically incorrect

Credit risk

Two potential approaches to resolving the issue

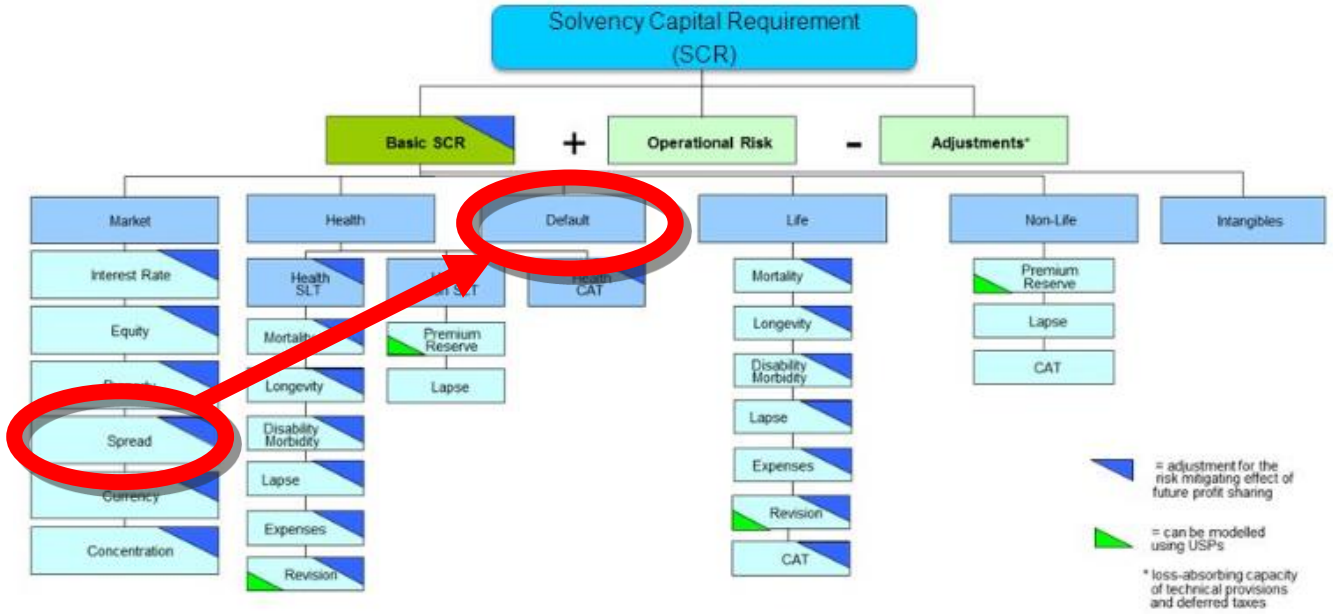
Change scope of spread and counterparty default risk submodules

Introduce dynamic volatility adjustment into standard formula

Note that concern about credit spread risk measurement was reflected in the call for advice although the DVA is discussed solely in an internal model context

Credit risk

Change scope of spread and default risk submodules



1. Need to identify which bonds are not exposed to forced selling (e.g. through liquidity test)
2. Transfer these exposures to default risk submodule and develop appropriate calibration table (e.g. based on credit rating and maturity)

Credit risk

What is dynamic volatility adjustment?

- In practice, if credit spreads were to sharply increase:
  - The **market value of corporate bonds would decrease**
  - The **present value of an insurer's liabilities would decrease** (as a result of an increase in the VA or MA* which would apply under that scenario)

- The dual effect of changes in credit spreads on both assets and liabilities is widely recognised:
  - In the EIOPA stress tests
  - For internal model firms who apply the Dynamic Volatility Adjustment
  - Within the Matching Adjustment framework

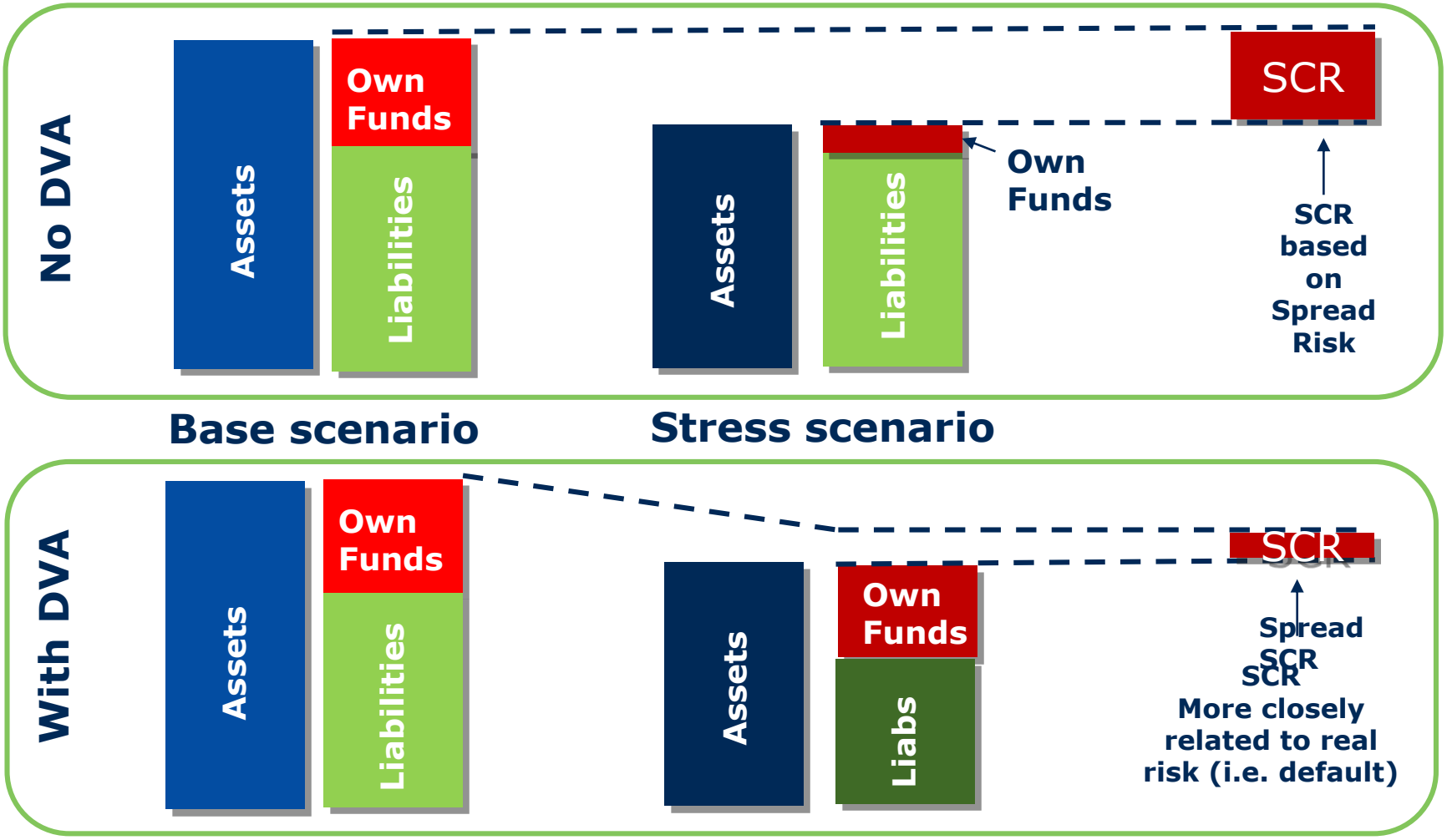
- The DVA is a tool which enables firms to recognise the **impact on changing credit spreads on both sides of the balance sheet for calculating the spread risk SCR**

*assuming that they apply the VA or MA

Credit risk

What is dynamic volatility adjustment?

Spread risk is calculated as change in Own Funds resulting from prescribed changes in credit spreads

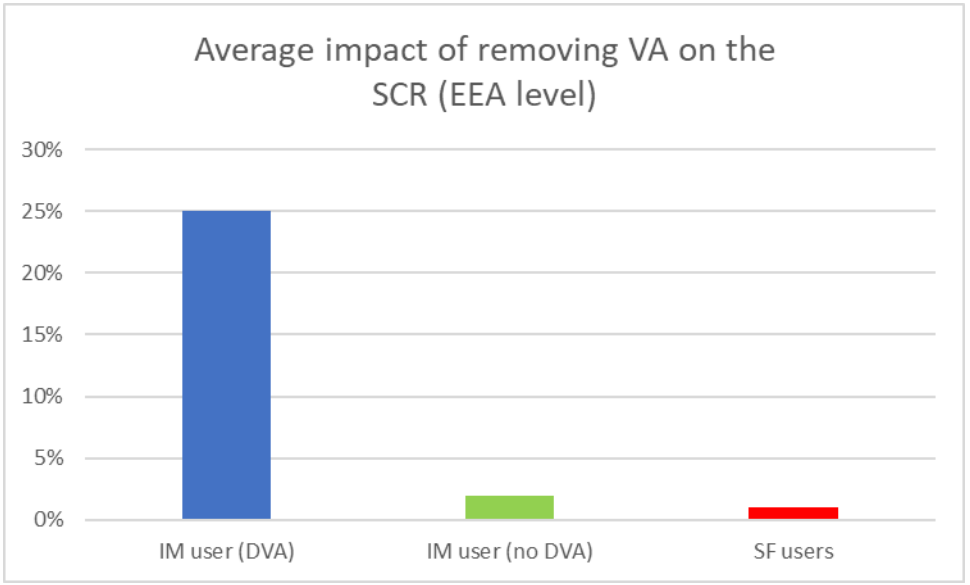


Credit risk

DVA – what is the impact?

- EIOPA LTG Report shows that removing the VA (& DVA) would, on average, increase SCR for internal model firms using the measure by 25%

- Comparison with IM users not using DVA and SF users illustrates the significant impact that DVA can have



- Individual company SFCRs provided a consistent illustration of the benefits of a DVA on capital requirements

Source: EIOPA

Credit risk

DVA – how could it work in standard formula?

- For current or **recalibrated version of VA:**
  - EIOPA provide the value of the VA and yield curves under the stressed conditions
  - Undertakings use the dynamic VA to re-value liabilities in the Spread risk SCR calculation

- If a **redesigned VA** is adopted:
  - EIOPA provide the yield of each representative index under stressed conditions
  - Undertakings then calculate their company-specific dynamic VA
  - Undertakings use the dynamic VA to re-value liabilities in the Spread risk SCR calculation

Credit risk

Are the two approaches consistent?

Default approach

Credit SCR = *Spread SCR* (risk of forced sale) + *Default SCR* (no risk of forced sale)

DVA approach

Credit SCR = *Spread SCR* for assets - *Change in value of TP (likely to have criteria or an application ratio linked to risk of forced sale)*

- Not quite the same but outcomes can be similar depending on calibrations and how risk of forced sale is captured/addressed
- In both cases may be faced with the question of how to account for forced-selling risk i.e. whether the DVA or default approach would apply to entire business or just parts that have no material forced selling risk

Discussion

Dynamic volatility adjustment

1. Do you agree with economic rationale/justification for the DVA?
2. Do you agree that the inclusion of a DVA in the standard formula would address industry issues with credit/spread risk?
3. Pro/cons vs introducing a default calibration approach
4. How to ensure good risk management?
5. Any other issues?

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Risk-free rates intro

Why are we discussing risk-free rate derivation?

- Changes can have a very significant impact to valuation of liabilities and therefore own funds – can also impact SCR
- EIOPA, some NSAs and ESRB appear to believe that current methodology is not sufficiently reflective of true economic situation
- The curve is already changing (lowering) due to EIOPA's updated the **Ultimate Forward Rate (UFR) methodology**:
  - UFR to be updated annually
  - Any change arising from the update is restricted to 0.15% per annum
  - Revised methodology has resulted in ongoing decreases to UFR:
    - 4.20% (2017)
    - 4.05% (2018)
    - 3.90% (2019)
    - 3.75% (2020)?….
- There is significant risk that EIOPA will make recommendations for 2020 for an even lower risk free rate curve

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Risk-free rates intro

What are the parameters used in the derivation of the RFRs?

Component	Description	In scope of 2020 review?
Source instruments	The bonds or swaps which are used as the basis of each yield curve	Potentially (due to move to ESTER, SONIA etc)
Credit risk adjustment	An adjustment of between 10 and 35 basis points made to reflect the credit risk inherent in swap contracts	Not mentioned but dependent on changes to source instruments
Last liquid point (LLP)	The term in the yield curve where the extrapolation to the UFR begins	Yes, in scope
Extrapolation methodology	The formula which is used to extend the yield curve beyond the term of the market data (Smith-Wilson methodology)	Not mentioned
Ultimate forward rate (UFR)	The forward rate used to extend the yield curve beyond the last liquid point.	Not in scope but was EC promised to check impact and change if needed in in 2020
Convergence maturity	The maturity at which the forward rate has reached the UFR	Not mentioned but likely since EIOPA have been testing longer calibations

Risk-free rates

What are the potential impacts of changing the parameters?

Component	Impact	Comment
Source instruments	Impact for **Euro curve is unknown**. Estimated that the change from LIBOR to SONIA in UK will result in a reduction in the Sterling RFR curve of between 15-20 basis points	Source: Millimans
Credit risk adjustment		
Last liquid point (LLP)	Increase EUR LLP to 30 years: • Decrease **own funds by €28bn** • Increase **SCR by €12.5bn**	Source: EIOPA 2018 LTG Report
Ultimate forward rate (UFR)	1% (i.e. after about 8 years) decrease in UFR: • Decrease **own funds by €16bn** • Increase **SCR by €5.8bn**	
Convergence maturity	Increase of the minimum convergence point from 60 to 90 years: • Decrease **own funds by €7bn** • Increase **SCR by €2.5bn**	

Risk-free rates

Reforming major interest rate benchmarks

- 2014 FSB Report – *Reforming Major Interest Rate Benchmarks* – recommended:
  - Strengthening existing IBORs by underpinning them to the greatest extent possible with transactions data
  - Developing alternative near risk-free rates for use in financial markets

- **Euro markets**
  - By end-2019 EONIA will transition to ESTER
  - Future of EURIBOR is unclear (currently undergoing assessment)

- **Sterling markets**
  - By end-2021 GBP LIBOR will transition to SONIA

The changes are likely to impact level of risk-free rates – estimated to reduce GBP risk-free curve by 0.15%-0.20%*

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*Source: Millimans

Risk-free rates

Presentation from Thiemo Hustedt, GDV

Discussion

Valuation: risk-free rates

1. What are the key concerns about potential changes to the RFR methodology/calibration?
2. We tend to focus on the EURO - any non-Euro RFR issues to be aware of?
3. Is there concern about potential impact of changes to EURIBOR/ESTER?
4. Any other comments/observations

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Risk margin

Background

- Article 77 of Solvency II Directive: *The risk margin shall be such as to ensure that the value of the technical provisions is equivalent to the amount that …would be expected to require in order to take over and meet the insurance and reinsurance obligations*

- EIOPA states that total risk margin was **over €200 bn** in 2016 or equivalently c.30% of SCR

- For long duration liabilities (ie. long-term products) the risk margin can be both **excessive in size and extremely volatile**. For life undertakings, risk margin is c.45% of SCR and for some lines of business can be as high as 100% SCR

- **No evidence** that the value of current risk margin is **reflective of transfer pricing***. Nor is there any evidence that transfer pricing **exhibits high levels of volatility**

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* EC requested information on transfer pricing from EIOPA as part of 2020 Review Call for Information
Data as at Q3 2016, source: EIOPA

Risk margin

Recap on the prudential rational for the Risk Margin

- The risk margin is considered needed to ensure that, **in the case of a failure**, the insurer can transfer its business to a third party

- The extra money is considered necessary because liabilities are calculated as a best estimate and the third party is expected to require additional amount to accept the risk that actual outcomes are different

- This appears reasonable but
  - Current risk margin is too high
  - Is requiring all companies to hold all the time in addition to liabilities the only way to ensure it is available in case of a failure?

Risk margin

Design and calibration

$$RM = CoC \cdot \sum_{t \geq 0} \frac{SCR(t)}{(1 + r(t+1))^{t+1}}$$

CoC parameter **prescribed at 6%** by DA

Risk-free discounting in formula leads to **high-interest rate sensitivity**

Projected SCRs based on the transfer of liabilities to a **"reference undertaking"**

Risk margin

What potential proposals does industry to reduce Risk Margin?

- Allow some sort of "tapering" in the methodology to avoid excessive long-term projections of capital
- **Lowering CoC**
- **Discount rate should include MA/VA**
- More diversification should be allowed for in the reference undertaking

Highlighted proposals are referenced in the EC's Call for Advice

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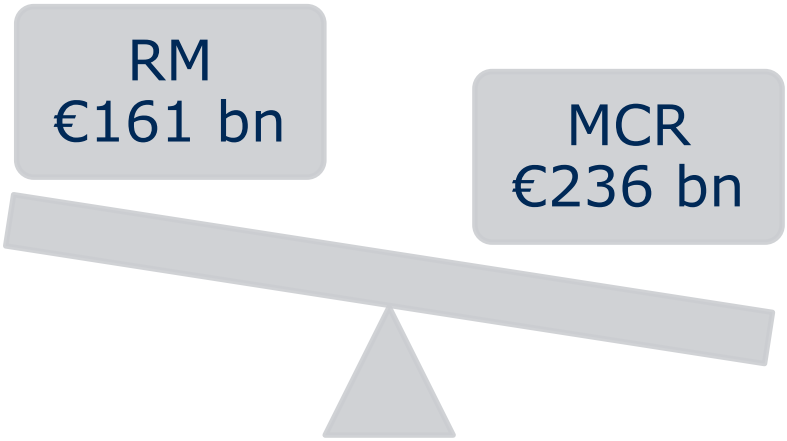
Risk margin

Is the RM necessary in prudential context?

- The risk margin is considered needed **in the case of a failure,** but actual failures are very rare so in almost all cases it is an extra layer of capital which is tied up unnecessarily

- However, if we look within the capital requirements, there is another measure which is also intended to ensure policyholder protection in times or market stress…….**the MCR**



- In fact, at YE 2017 for solo entities, the MCR was c.150% of the risk margin (which is considered far too high by the industry)

- If the supervisory intervention point ensures that a failed company still has enough capital left to cover the Risk Margin amount – is it still necessary to require the entire industry to hold the Risk Margin in addition to best estimate liabilities?

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Discussion

Valuation: risk margin

1. A great deal of technical work was done on the Risk Margin for the 2018 Review – what further work could be useful?
2. Is there any available evidence of transfer pricing? Anyway to proxy this?
3. Are there new ideas on how to improve the design of the risk margin
4. Views on the comments on the need for adding the risk margin to the BE liabilities?
5. Any other issues?

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