Solvency II LTG measures:

Understanding the issues around key calibrations

1. **Cost of Capital** for the Risk Margin
2. **Risk Correction** for the VA
3. **Convergence parameter** for the Extrapolation

November 2023

1. **Cost of Capital** for the Risk Margin

SII Cost of capital: A very theoretical parameter and very different (and much smaller) than the Cost of Capital as generally defined and used.

Cost of Capital (as generally defined) ≠ SII Cost of Capital

Cost of Capital as generally defined:

*The **total average rate** a company is expected to pay for the capital it employs on behalf of debt, equity, and preferred stockholders*

- **Includes the return needed to cover the risk-free rate**
- **Includes the return needed to cover all risks**
- **Includes the return needed to cover in-force (ie run-off book), new business & franchise/brand value of business**

The Solvency II Cost of Capital is a specific parameter:

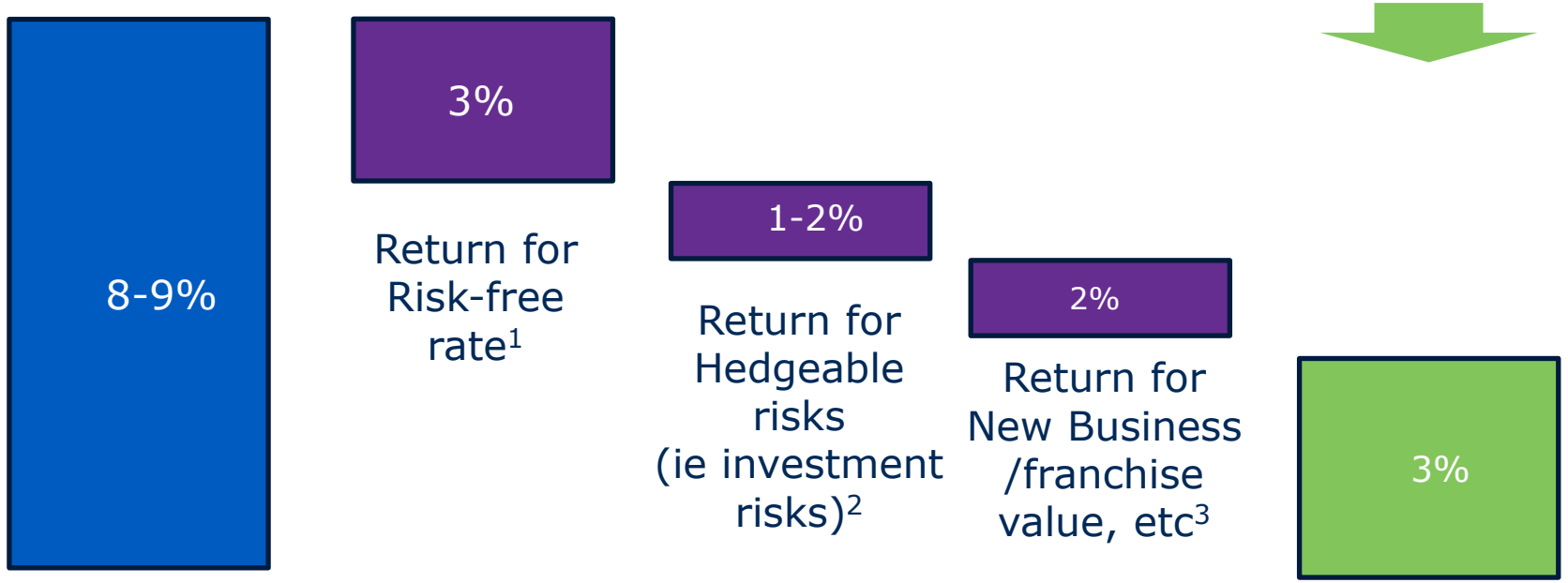
*The **additional margin above the risk-free** rate that would be needed to finance a "reference undertaking" to accept **a run-off book of liabilities** from a failing insurer covering only the **non-hedgeable risks** relating to that portfolio*

- **Excludes the return needed to cover risk-free rate**
- **Excludes the return needed to cover all risks**
- **Excludes the return needed to cover new business & franchise/brand value of business**

Cost of Capital (as generally defined) ≠ SII Cost of Capital

Cost of Capital as generally defined …

Cost of Capital parameter as defined for SII



Typical Cost of Capital for European insurers[1]

Return for Risk-free rate[1]

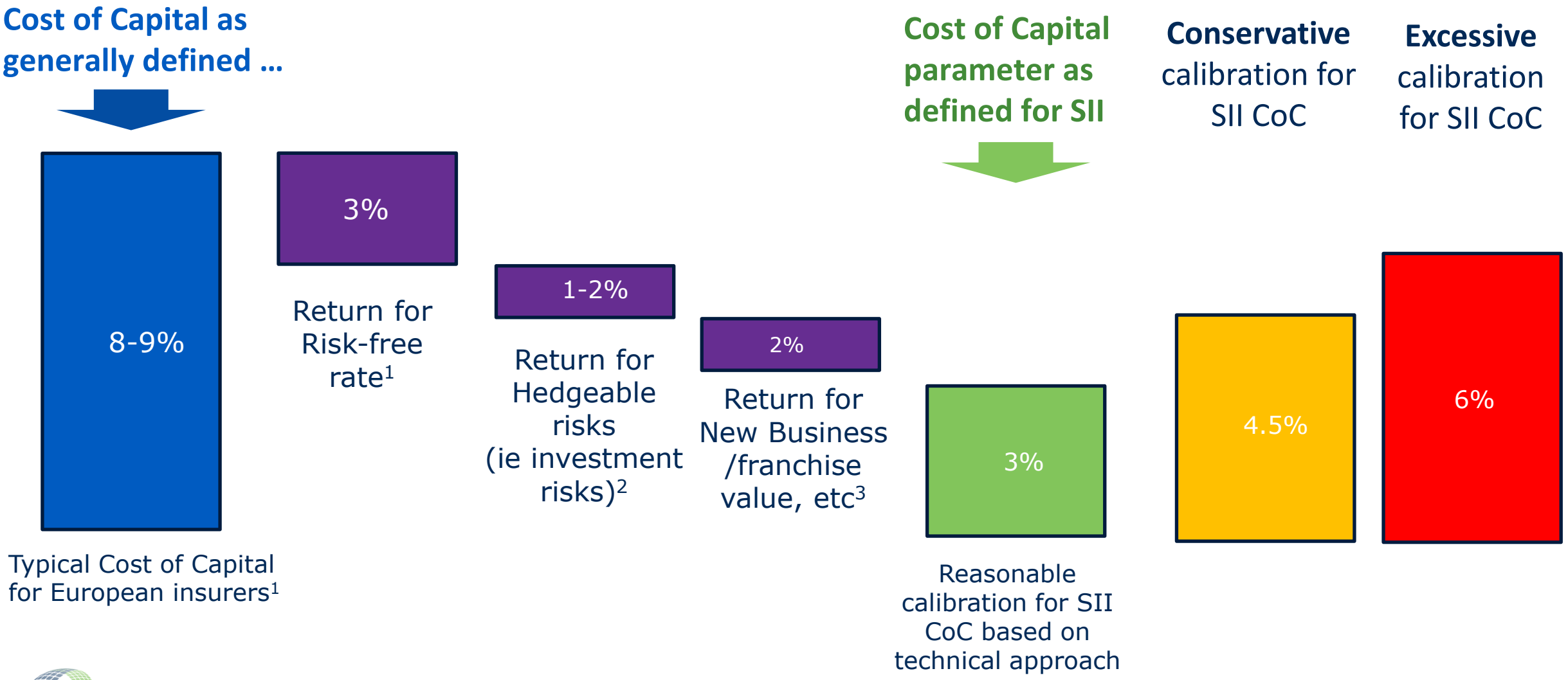
Return for Hedgeable risks (ie investment risks)[2]

Return for New Business /franchise value, etc[3]

Reasonable calibration for SII CoC based on technical approach

1. Source: Refinitiv and EIOPA (data as at YE22)
2. See Insurance Europe paper on calibrating the cost of capital (here). Note that this is a conservative adjustment because financial theory tells us that the hedgeable ie. market risks would account for most, if not all, of the cost of capital.
3. Based on original EIOPA analysis for determination of SII Cost of Capital

Cost of Capital (as generally defined) ≠ SII Cost of Capital



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So that is the theory, but what is the practical purpose of the Risk Margin?

The Risk Margin is …

- **Not needed to cover all the future claims promised to customers:** That is covered by the "Valuation of best estimate liabilities"

- **Not needed to cover the extreme (1 in 200) risks the insurer can face:** That is covered by up to 28 individual capital requirements aggregated together into the overall Solvency Capital Requirement (SCR)

In practice the Risk Margin …

- **Provides an extra capital buffer, needed only in the rare case that the insurer fails**, so that there is extra money in the business helping with an orderly transfer to third party or with a business "run-off**". But ….**

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… there are other sources of extra buffers which also provide extra funds to cover claims in rare case of failure

€220 bn[1]

€136 bn[1]

X bn[2]

~€500 bn[3]

Early intervention point for supervisor if SCR is breached

"Failure point": Supervisor can fully take over to resolve insurer if MCR is breached

Total amount of capital buffers or prudence within SII system to help ensure in rare case of failure that all customers claims can be paid

Conservative elements in valuation

(Graph not to scale)

1. EIOPA Total EEA for solo entities at Q3 2023
2. Information not available
3. Estimated based on assumption that insurers in practice achieve long-term returns 1% above the SII discount rates

2. **Risk Correction** for the VA

The fundamental spread approach works well and does not need to be changed.

Concerns with EIOPA's arguments and proposals

RISK CORRECTION

The EIOPA analysis is flawed:
- EIOPA focuses on assets representing <1% of portfolio
- The current risk correction is already conservative enough

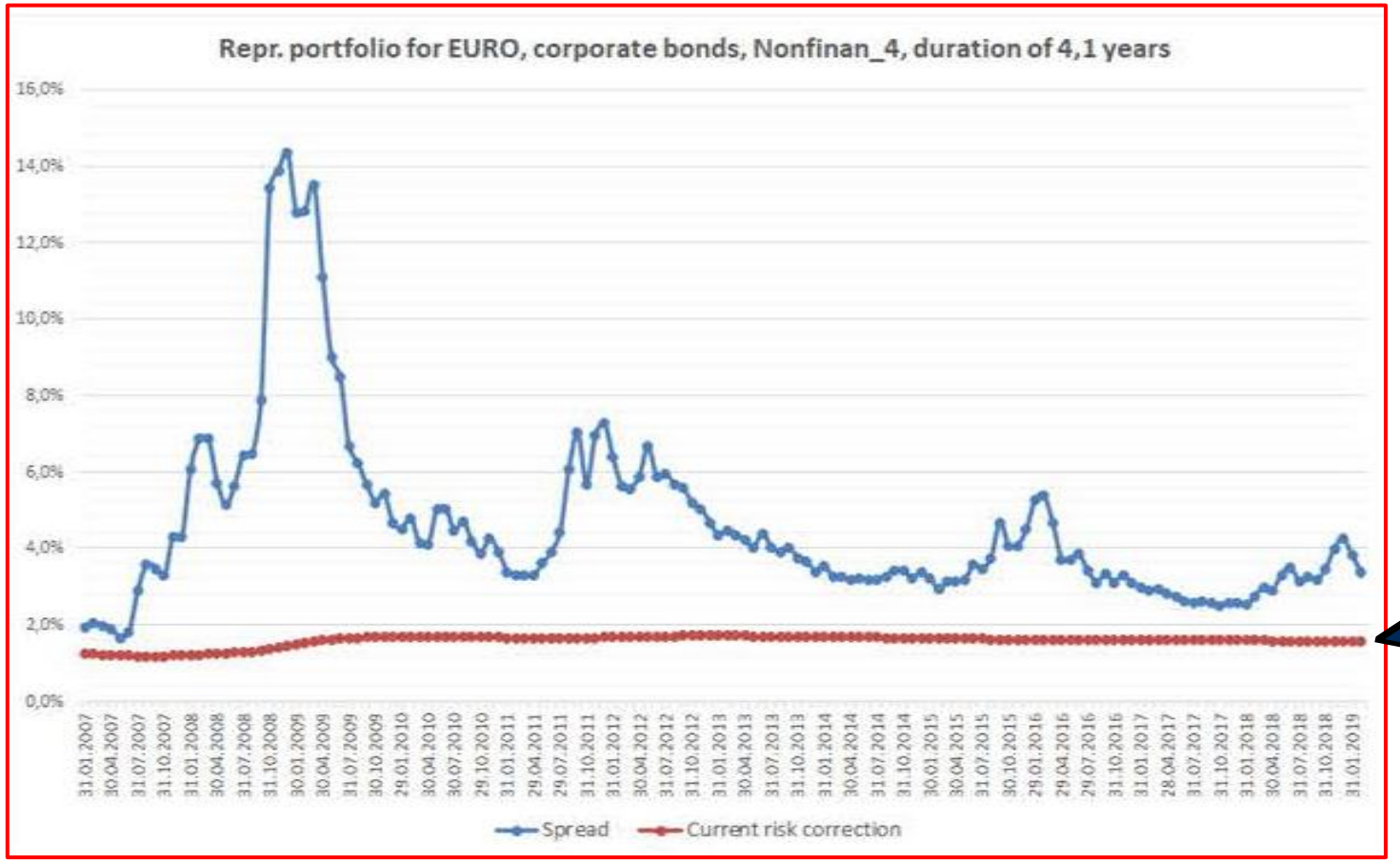
The proposed change would:
- **make the VA worse at mitigating volatility**
- **neutralise other improvements agreed by co-legislators in extreme market stress conditions**

… and reduce insurers' capacity to take risk and invest:
This will undermine EU political objectives of encouraging recovery, growth and sustainable investment

THE RISK CORRECTION SHOULD NOT BE CHANGED

Flaws in EIOPA's arguments and proposals

EIOPA says this shows an increase in defaults during the 2008 crisis



Yet the risk correction hardly increases

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Flaws in EIOPA's arguments and proposals

EIOPA says this shows an increase in defaults during the 2008 crisis

BUT the huge movements shown in the graph are of **spreads** and **NOT defaults**

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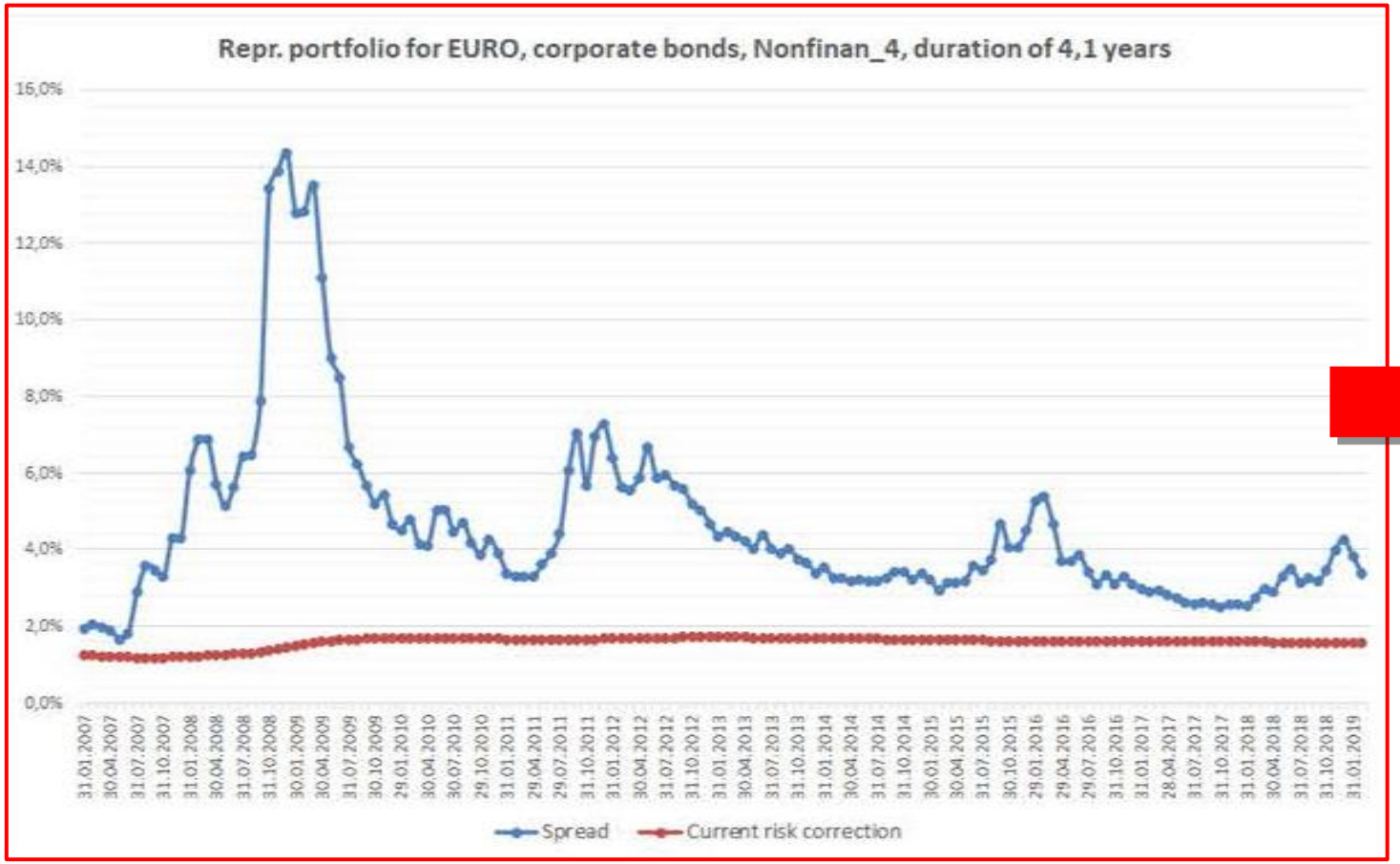
Flaws in EIOPA's arguments and proposals

EIOPA's graph also uses BB bonds as evidence



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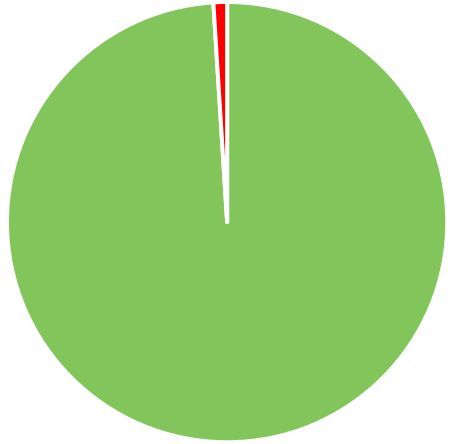
BUT BB bonds represent
<1% of insurers' assets



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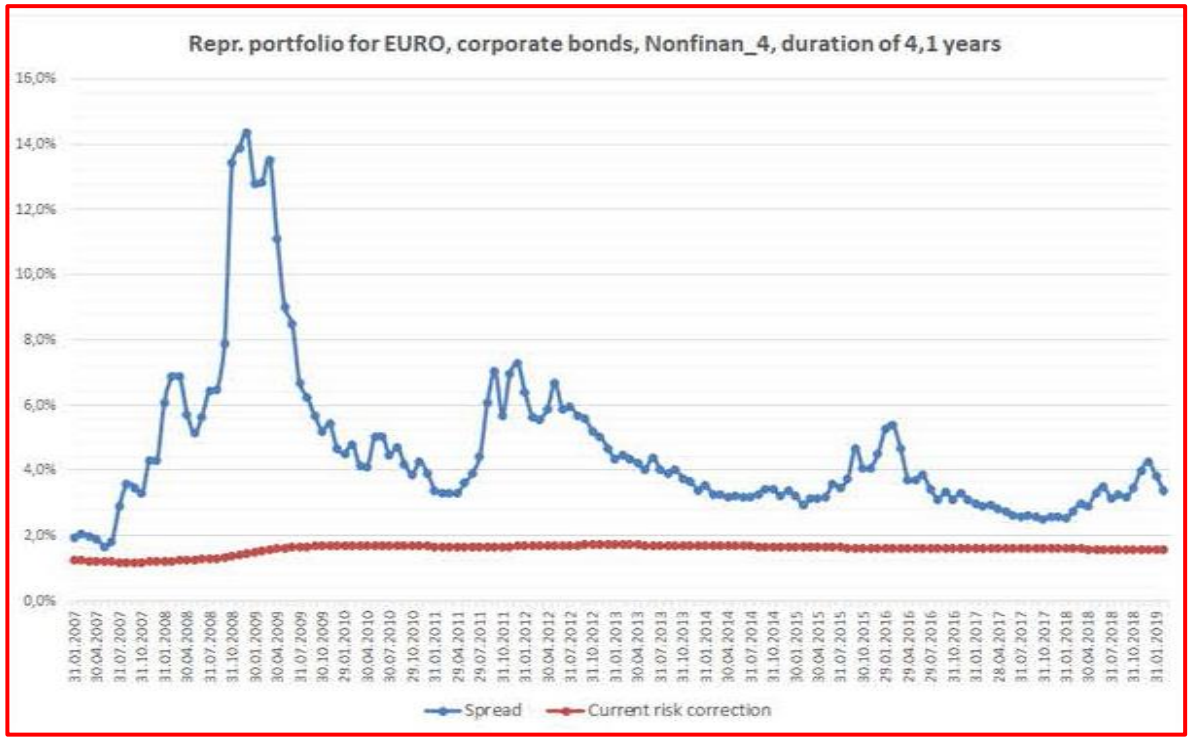
Flaws in EIOPA's arguments and proposals



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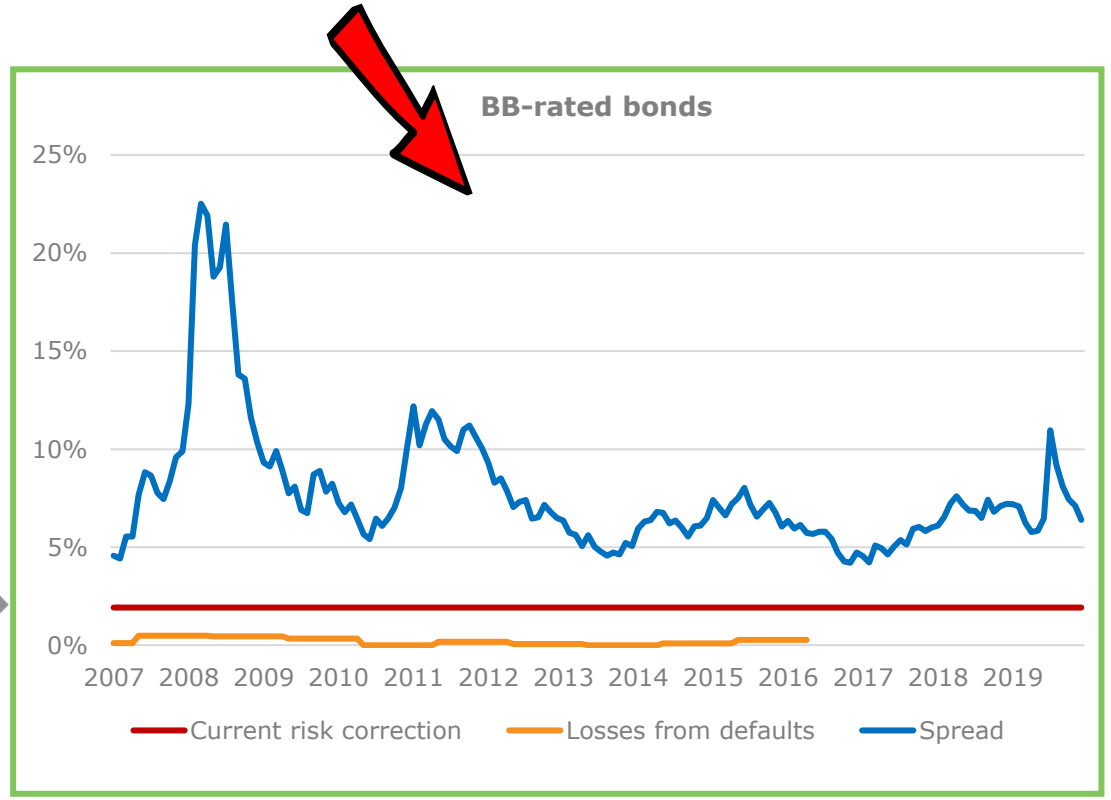
Looking at the actual losses from defaults



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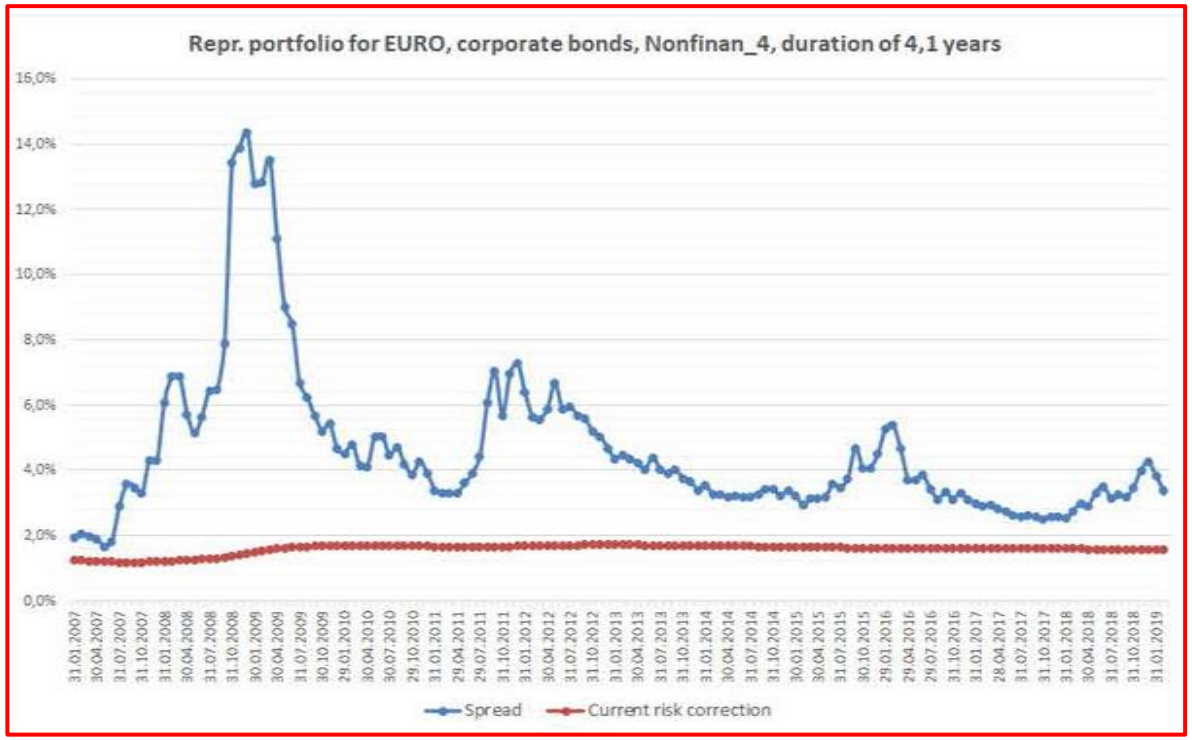
Flaws in EIOPA's arguments and proposals



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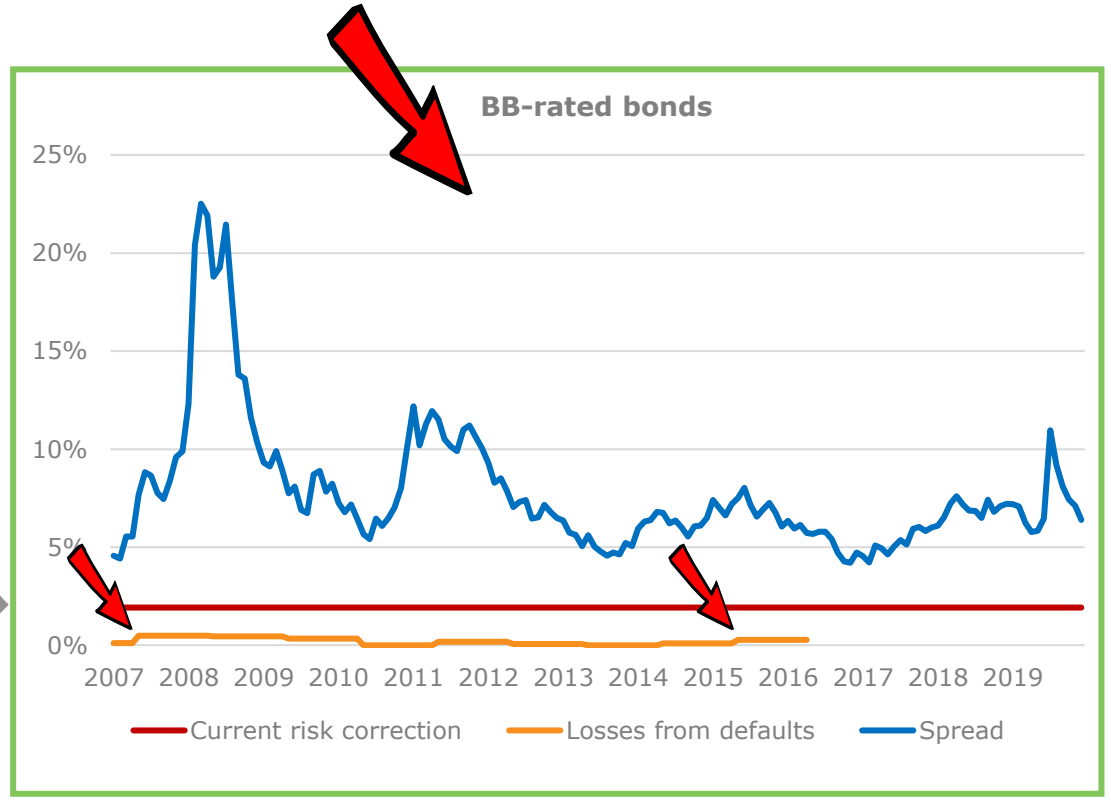

There are slight increases for these bonds after crises ..

... BUT below current risk correction, which is already conservative enough

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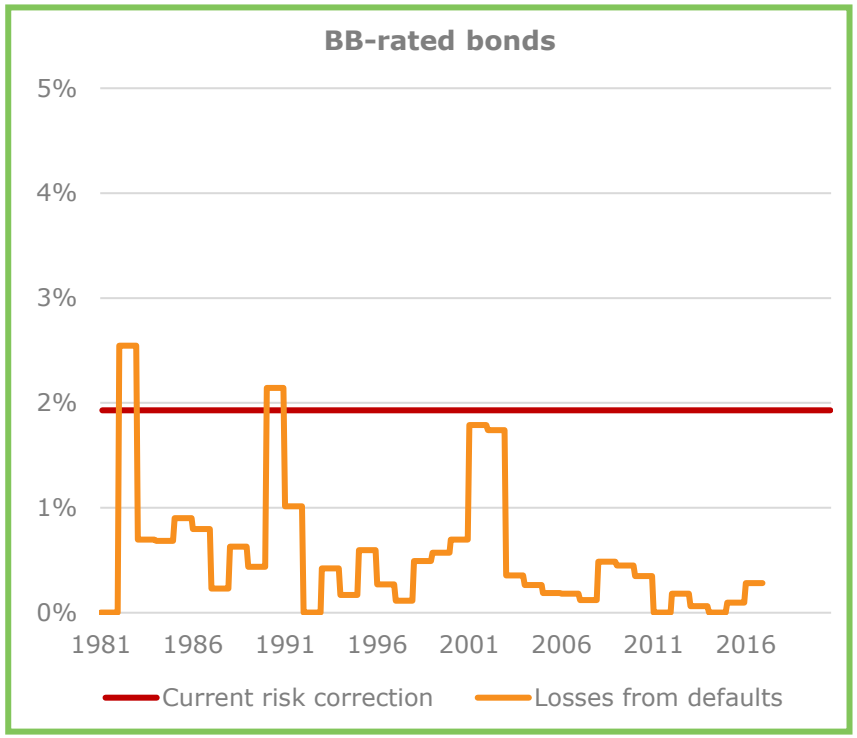
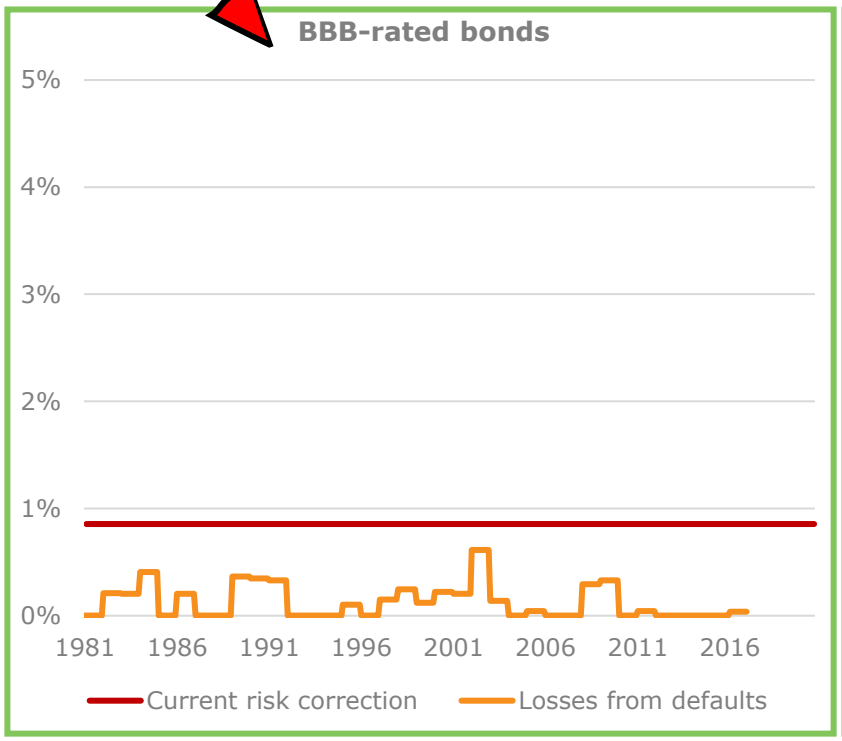
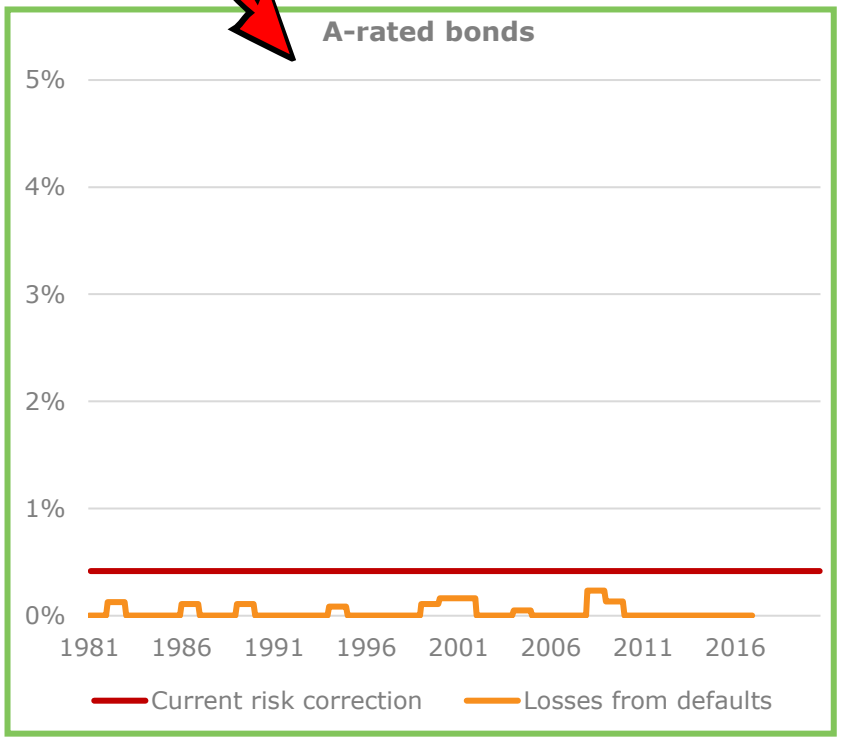
Flaws in EIOPA's arguments and proposals

This is confirmed by looking at loss data going back to 1981 AND …

… is even more true for the bonds actually held by insurers eg BBB or A







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* Risk correction assumes equal split between financial and non-financial bonds

3. Extrapolation

Why a 10% calibration of the key convergence parameter will not always result in higher liability valuations and be the best for customer protection

SII extrapolation must work well in ALL market conditions

- The current extrapolation methodology uses market data until year 20* and after that extrapolates using a method called Smith-Wilson to the Ultimate Forward Rate (currently 3.45% and will be 3.3% in 2024) which applies from year 60 onwards.
- EIOPA asked its national supervisor members about potential changes to the current extrapolation methodology the NSAs *"did not emphasise the need to reassess the current derivation of the UFR or the choice of the speed of convergence."* **
- However, EIOPA and the EC have proposed changing the extrapolation methodology in order to include market data beyond year 20. This new methodology requires a new parameter: the ***convergence parameter***
- For liabilities of under 20 years* these changes have no material impact, but they will impact very long-term products

*For the EURO
** See EIOPA Background analysis on Solvency II 2020 Review, para 2.25 (here)

What is the impact of calibrating the convergence parameter to 20% vs 10%?

- A 10% calibration would have a number undesirable impacts compared with a higher calibration of 15% to 20% as it would:
  - add more volatility to the SII framework
  - Push insurers towards otherwise unnecessary procyclical behaviour
  - Make it harder for insurers to offer long-term guarantees
  - Push insurers towards extensive derivative usage
  - Over-estimate very long-term liabilities when rates are low and under-estimate them when rates are high

- Some believe a 15% or 20% parameter would always "under-estimate" the valuation of liabilities compared to a 10% calibration*
  - This is not correct, because when interest rates are high, **a 10% calibration will result in lower liability valuations** than a 20% calibration

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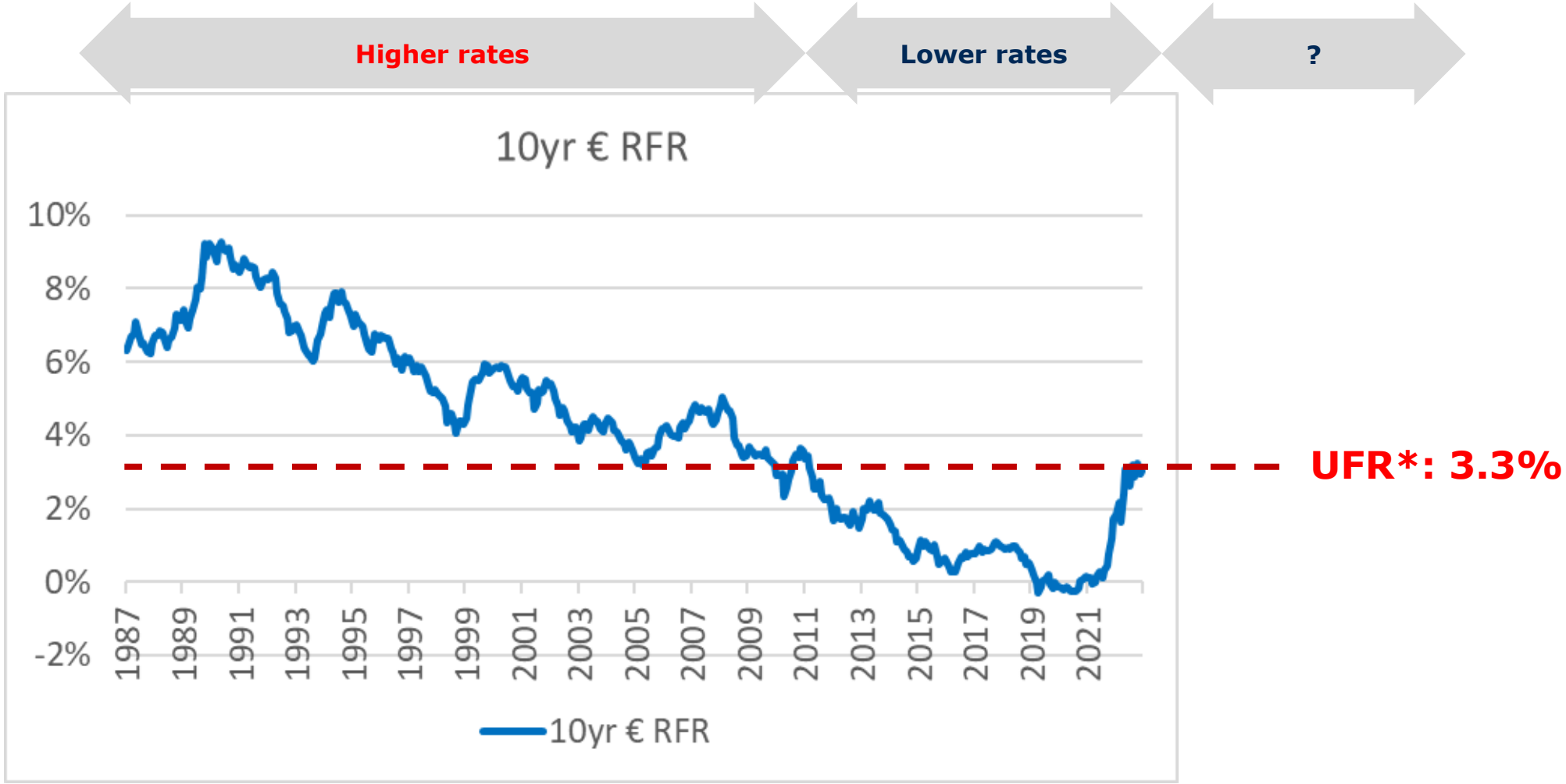
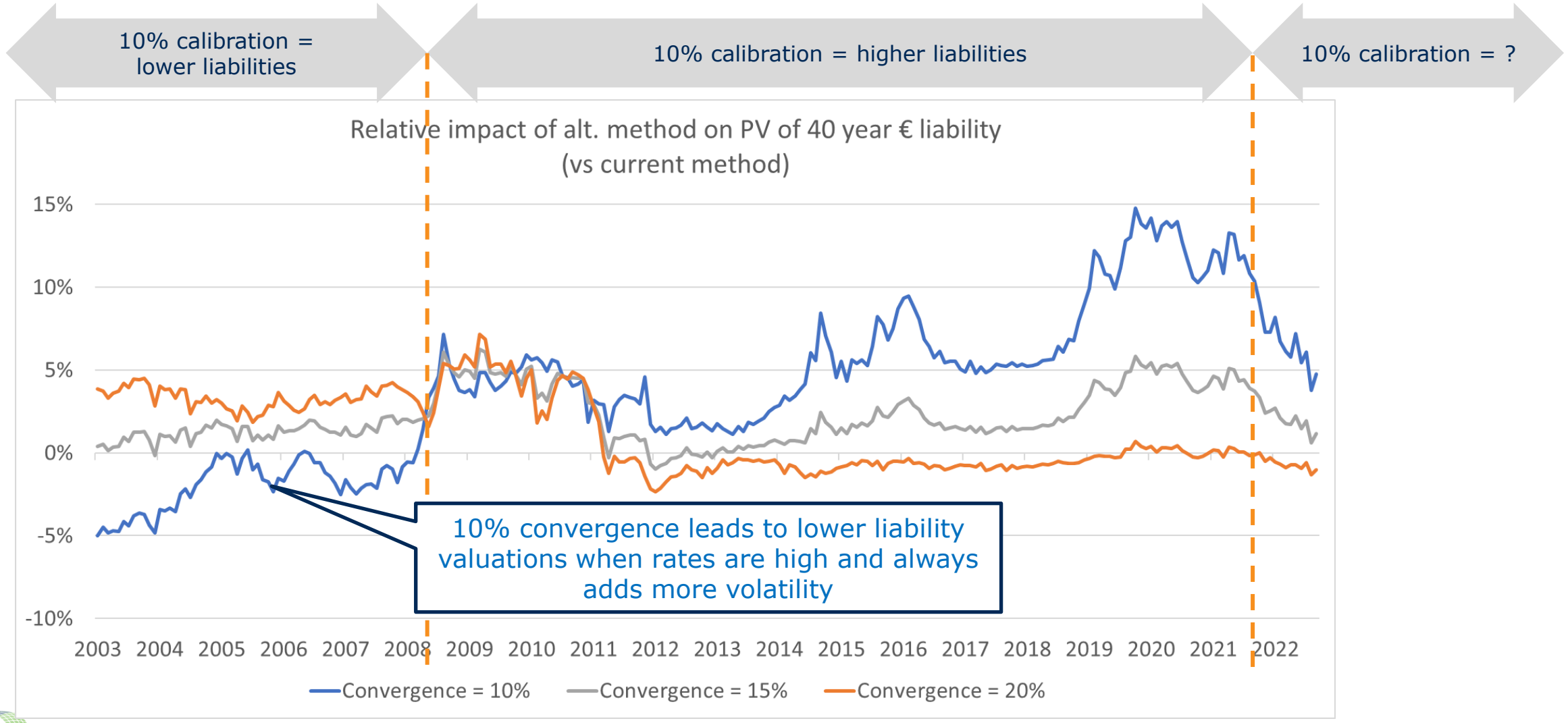
*Similar problems with a low convergence parameter, e.g. 10%, exist for other currencies. In the case of SEK , there would also be severe problems with a parameter of e.g. 20 %. For SEK this parameter should be around 70 %, while for the euro and other currencies 15 % or higher.

Rates have been high more often than low



Source: Refinitiv *EIOPA has announced that the UFR will fall to 3.3% in 2024

10%, 15% or 20% calibrations vs current SII valuation



Source: Refinitiv, Insurance Europe calculations