The package of measures to avoid artificial volatility and pro-cyclicality

Explanation of the measures and the need to include them in the Solvency II framework

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1. Key messages
2. Why the package of measures is needed
3. Details of the package components
   - Counter-cyclical premium
   - Matching adjustment
   - Extrapolation

Key messages

- The European insurance industry supports the goals of the forthcoming Solvency II regulatory regime of:
  - Ensuring high levels of policyholder protection
  - Harmonising requirements across Europe
  - Encouraging and requiring transparency and high standards of risk management
  - Leading to a strong and efficient European insurance industry
- However, vital issues still need to be resolved to take into account the long-term nature of the insurance industry
  - Unless the right steps are taken, Solvency II risks creating artificial volatility (in Own Funds) and pro-cyclicality
- One of the main findings from QIS5 was that the way the excessive volatility seen in the financial markets since 2008 is reflected in the Solvency II balance sheets distorts companies' true solvency positions
  - The current Solvency II framework makes insurance business appears far more volatile than it really is, with major unintended consequences for policyholders, markets and the industry

Key messages

- The insurance industry is the largest institutional investor in Europe, investing heavily in long-term assets
- Not addressing the issues of artificial volatility and pro-cyclicality risks insurers shifting from longer-term to shorter-term assets, leading unnecessarily to a range of unintended adverse macroeconomic impacts:
  - Limiting the insurance industry's traditional role of investing in and assisting growth in the European economy
  - Reducing the insurance industry's traditional role as a stabiliser in financial markets, and thereby reducing systemic risk and market volatility
- Unless these issues are resolved, consumers may also suffer because companies stop selling long-term guaranteed products and/or increase policyholders' charges due to unnecessarily high capital requirements for these products
  - Products with long-term guarantees provide essential social benefits, such as retirement provision, in many countries

Key messages

- A Working Group on Long-Term Guarantees, set up by the European Commission in 2011, developed a package of measures comprising three key elements, each of which plays a crucial role in preventing artificial volatility and pro-cyclicality

1. Counter-cyclical premium

- Enables the industry to cope during distressed market conditions
- Must be predictable so the industry can use it in forecasting the impact of known issues and must include sufficient discretion and control for EIOPA to react to unexpected situations

2. Matching adjustment

- Mechanism to recognise the significant benefits where investment strategies and product features mitigate the impact of spread movements
- Must not be artificially limited to very few products and must apply across Europe

3. Extrapolation methodology

- Extrapolation methodology must avoid creating volatility in the value of long-term liabilities
- Need to ensure extrapolation starts where bond markets are no longer deep, liquid and transparent (eg after 20 years for the Euro under current conditions) and reaches the Ultimate Forward Rate appropriately early (ie 10 years)

It is imperative that all these measures are included and implemented appropriately within the Solvency II framework

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Why are artificial volatility and pro-cyclicality of such concern?

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- Not addressing the issues of artificial volatility and pro-cyclicality risks insurers shifting from longer-term to shorter-term assets, leading unnecessarily to a range of unintended adverse macroeconomic impacts:
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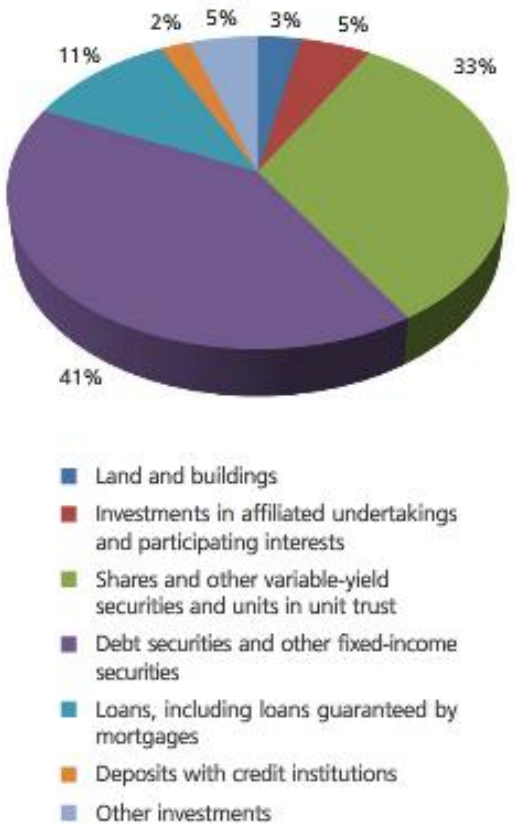
The insurance industry is the largest institutional investor in Europe, investing heavily in fixed income assets

- Over **€7 700bn*** invested in company shares, bonds and other assets on behalf of millions of savers and non-life insurance customers
- Represents **55% of the GDP of the European Union**
- Of this, more than 80% is held by the life insurance industry
- About 41%** (roughly €3 200bn) in debt securities and other fixed income

* As at 31 December 2011
** Based on 2010 data

European insurers' investment portfolio — 2010



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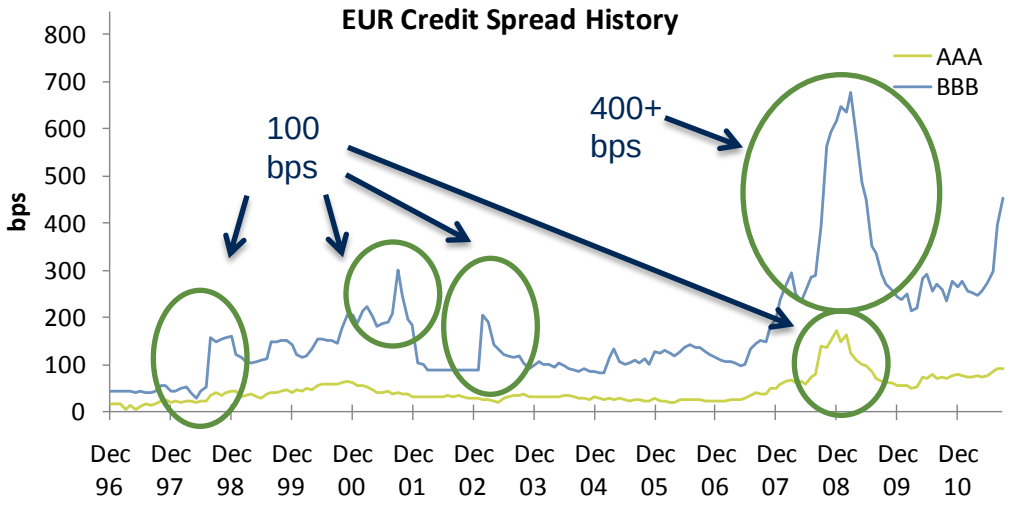
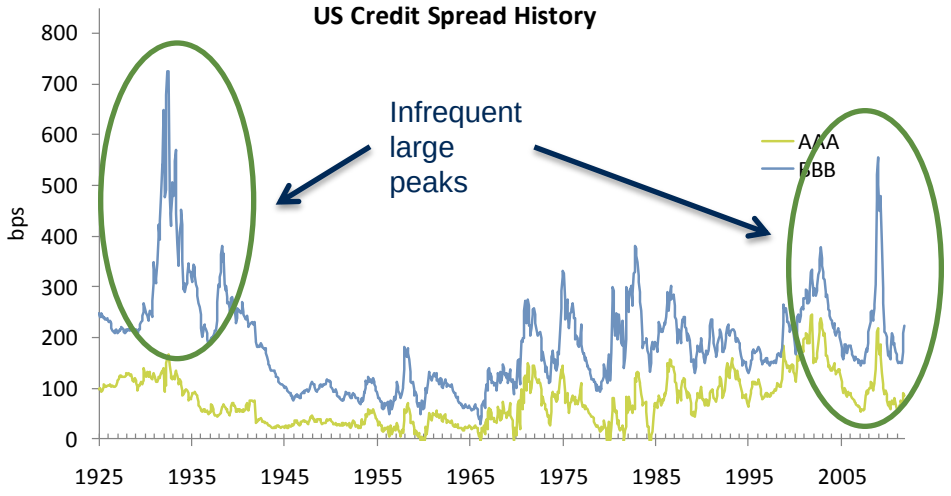
Volatility in bond markets is artificial when insurers are investing long-term

- When insurers invest long-term in fixed income markets, they are not exposed to frequent market fluctuations (caused by spread movements)
- Changes in spreads, both large and small, happen all the time
  - The matching adjustment is needed to deal with these changes where the impact of spread movements has been mitigated
- Very large changes happen occasionally
  - The CCP is needed to deal with these changes for all portfolios (excluding portfolios where the matching adjustment already applies)



Source: Bank of America Merrill Lynch



Source: Federal Reserve and Barrie and Hibbert Calculations

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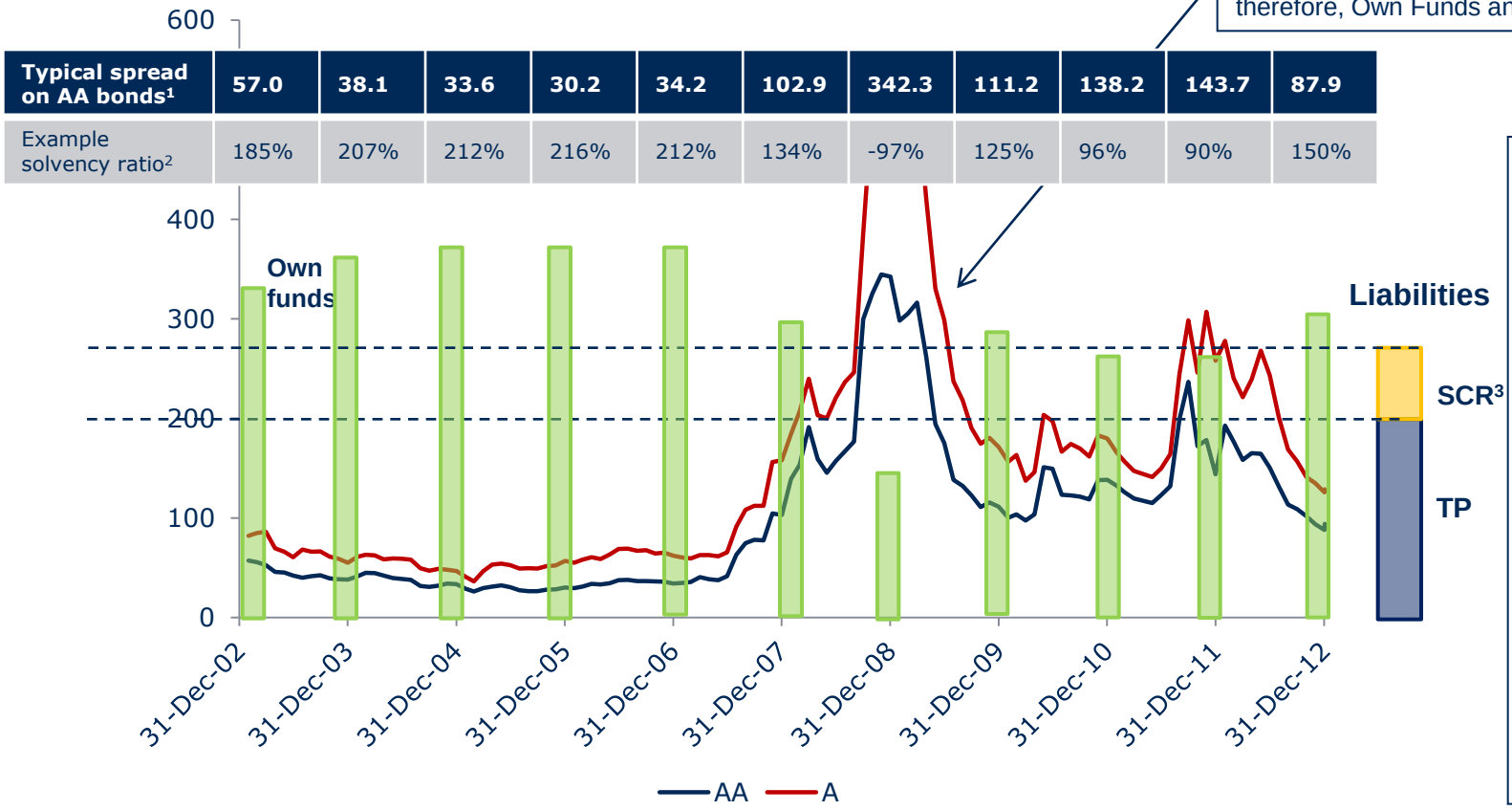
Impact of artificial volatility on companies' balance sheets

Frequent fluctuations in credit spreads create significant volatility in asset values and, therefore, Own Funds and solvency.

Typical spread on AA bonds[1]	**57.0**	**38.1**	**33.6**	**30.2**	**34.2**	**102.9**	**342.3**	**111.2**	**138.2**	**143.7**	**87.9**
Example solvency ratio[2]	185%	207%	212%	216%	212%	134%	-97%	125%	96%	90%	150%



Even under "normal" spread movements and with a high quality (AA) asset portfolio, the MA is required where liabilities are illiquid in order to avoid very significant volatility in Own Funds and solvency.

This example shows that a Solvency II framework without any adjustments would have caused many life insurers to take unnecessary pro-cyclical actions during 2008.

[1]Typical spreads are indicative values based on observation of relative movements of EUR AA credit spreads.
[2]Solvency ratio estimated assuming assets are invested in 10 year AA corporate bonds and using the relative movements in credit spreads – graphics not shown to scale.
[3]For the purposes of this illustration, the SCR is assumed to remain constant at 10% of liabilities throughout the periods of spread movement. While, in practice, the level of the SCR would also be expected to fluctuate in response to movements in credit spread, these fluctuations would not be sufficient to offset the decrease in asset values.

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How will the package of measures help protect long-term guarantees?

- There are a number of different ways to reduce artificial volatility and pro-cyclicality
- The package consists of three different measures, each addressing a different element of the problem, all of which are in line with the Solvency II framework
- Depending on the nature of their liabilities and investment strategy, companies can apply one of the following two adjustments which produce the appropriate outcomes through adjustments to the discount rates used to value insurance liabilities:
  - Counter-cyclical premium – a key element of the valuation framework whose role is to avoid pro-cyclicality. Applied in abnormal circumstances
  - Matching adjustment – a key element of the valuation framework whose role is to ensure that the framework does not create artificial volatility due to spread movements for products that are not exposed to the impact of spread movements
- The third element applies to all liabilities
  - Extrapolation – need to ensure the method for extrapolation of the interest-rate term structure beyond the point at which the market is deep, liquid and transparent does not in itself create artificial volatility
- In addition to the package, appropriate use of the two-level MCR / SCR plays a vital role in removing artificial volatility from Solvency II

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Counter-cyclical premium (CCP): What outcome does it need to achieve?

- The role of the counter-cyclical premium (CCP) is to help avoid pro-cyclicality and so enable insurers to continue offering reasonably priced long-term products and take long-term investment strategies
  - This helps ensure insurers can maintain their traditional role as a stabiliser in financial markets, thereby reducing systemic risk and market volatility by holding assets throughout market cycles
- The CCP is to be applied to liability discount rates in periods of abnormal market conditions
- The SCR calculation must not eliminate the effect of the CCP
  - Currently the SCR standard formula shock removes 100% of the CCP, which risks removing around 50% of the benefits of the measure

Why is a predictable CCP so important?

- Only a predictable CCP will achieve its aims by allowing companies to take the existence of the CCP into account in:

1) Capital planning and risk appetite setting

- This will allow companies to offer long-term guarantees and invest in long-term assets knowing that, with appropriate risk management in place, they will be able to continue to do business during times of market turbulence
- Without being able to include the dampening effect of the CCP in forward capital planning, internal stress tests will forecast unacceptable levels of volatility in solvency levels during market disruption, leading companies to avoid the long-term products and investments that would expose them to such volatility

2) Decision-making during a crisis

- Companies will not want to take the risk of being the last to sell when ballooning spreads are depleting solvency unless there is a known CCP to dampen the impact. They will not want to take the risk of "holding on" in the hope of a recovery or the hope that EIOPA will decide to apply the CCP.

How can the CCP be predictable but still allow EIOPA discretion and ability to deal with unexpected situations?

- The CCP should be sufficiently predictable to allow companies to forecast the impact
  - EIOPA should publish the formula and the trigger points regularly
  - At least the known issues of ballooning corporate bond spreads and government bond spreads should be included in the formula

- However, EIOPA should have sufficient control and discretion
  - EIOPA should be responsible for initial calibration of formulae and trigger points and for making appropriate changes to the calibrations and formula over time – in a transparent and consultative process
  - EIOPA should be allowed to override formulae and trigger points if justified by unexpected situations

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What is the matching adjustment?

- **The matching adjustment** (MA) is a mechanism that prevents changes in the value of assets, caused by spread movements, from flowing through to companies' balance sheets for portfolios where companies have fully or partially mitigated the impact of these movements
  - This prevents non-economic (artificial) volatility and pro-cyclicality in Own Funds
  - Failure to address this may have major unintended consequences for policyholders, markets and the industry.
- The MA adjusts the best estimate liabilities to ensure that where insurers may need to sell such assets to meet their unpredictable liabilities, they are exposed to these short-term asset value fluctuations; but not where they hold the assets to maturity
  - In order to assess this exposure, the MA considers the extent to which the company is exposed to "losses on forced sales"
- To ensure the full economic impact of the MA is recognised, the SCR should be based on the impact of default losses rather than changes in spreads

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What is the matching adjustment?

- **Losses on forced sales** describes the situation where companies may be forced to sell assets that it had intended to hold to maturity in order to cover unexpected liability payments (such as lapses) and hence realise any losses in the value of those assets since they were purchased
  - Without the MA, where the company is not exposed to losses on forced sales, asset movements cause unrealised losses or gains to impact the balance sheet. This would create artificial volatility
- Insurers are not at all exposed to losses on forced sales in the following situations:
  - When insurers are not at all exposed to forced sales because liabilities are predictable and the timing of asset cash flows enables the timely payment of liability cash flows, eg for annuities
  - When insurers are exposed to forced sales but can pass on the potential losses to policyholders, eg via market value adjustment (MVA) clauses
- Additionally, there are situations where insurers are only partially exposed to losses on forced sales

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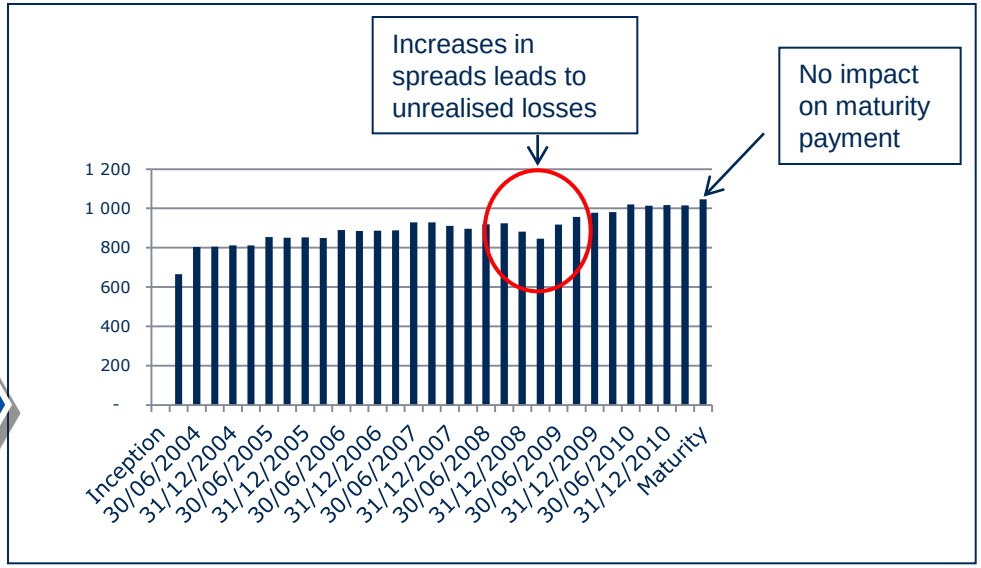
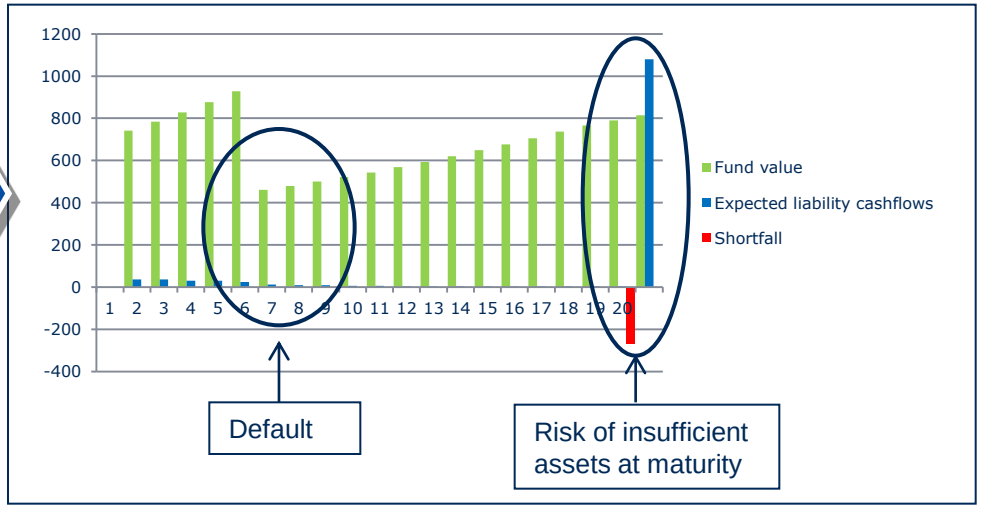
For assets held to maturity, the real risk to companies is default, not spread risk

- Spread risk refers to changes in the difference between the current market yield of bonds and the risk-free rate
- Falls in asset market values caused by spread volatility do not impact on the final asset maturity payment, which is guaranteed unless asset counterparties default
- However, companies are still exposed to the risk of assets defaulting which may result in insufficient assets at maturity to cover guaranteed liability payments





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But spreads and expected defaults are linked?

- There is strong evidence that credit spreads exceed the actual average losses from default and that increases in these spreads in stress conditions are driven by increased illiquidity, rather than default, expectations
- Many studies of historical data and market-consistent modelling support this. None that we are aware of provide evidence against it, eg:

"Over the long term, credit spreads are roughly twice as large as default losses, resulting in an average credit risk premium of about 80 basis points. We also find that credit spreads do not adjust in response to realized default rates."

K. Giesecke, F. Longstaff, S. Schaefer, I. Strebulaev, 2011. Corporate Bond Default Risk: A 150-Year Perspective. Journal of Financial Economics, 102(2), 233-250

"Contrary to theory, recent empirical work suggests that changing default expectations can explain only a fraction of the variability in credit spreads."

M. Manning, 2004. Exploring the Relationship Between Credit Spreads and Default Probabilities. Bank of England Working Paper No. 225

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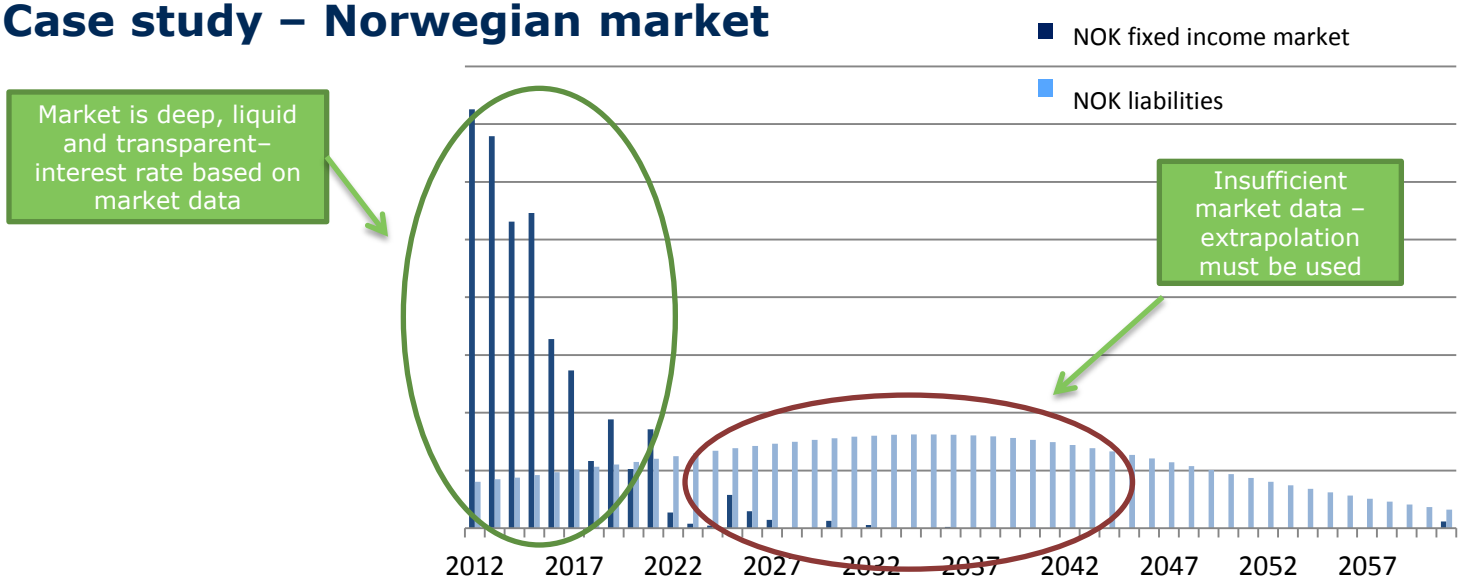
Why is extrapolation needed?

- Where markets are not sufficiently deep, liquid and transparent, extrapolation must be used to extend the interest rate curve to its ultimate forward, or equilibrium, rate

Case study – Norwegian market



- Various assumptions are needed throughout the extrapolation process. However, care needs to be taken to avoid assumptions introducing artificial volatility and to encourage investment in long-dated assets

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How should extrapolation be performed?

- A robust extrapolation method is needed for all currencies to ensure it does not introduce artificial volatility
  - This is of particular significance for currencies with little liquidity at longer durations
- The extrapolation methodology should ensure that:
  - Extrapolation starts where bond markets are no longer deep, liquid and transparent - taking into account the ability of the undertaking to match liabilities with bonds (eg after 20 years for the Euro under current conditions)
  - Time between cut-off point and Ultimate Forward Rate is short (ie 10 years)
- Without these outcomes it will be difficult for the industry to manage its solvency position

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