Agenda

- IFRS 17 background and discount rate requirements
- Top-down: what is the reference portfolio and how can it change?
- Bottom-up: what is a liquidity premium and how can it be applied to liabilities?
- IFRS 17 discount rates compared to Solvency II
- Discount rate driven accounting mismatches under IFRS 17

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IFRS 17 background and discount rate requirements

IFRS 17 – Brief overview

- IFRS 17 was published in May 2017, 20 years after the IASB project on insurance contracts was initially announced
- Replaces interim standard IFRS 4 effective 1 January 2021 (?)
- Another change to insurance companies following the implementation of Solvency II

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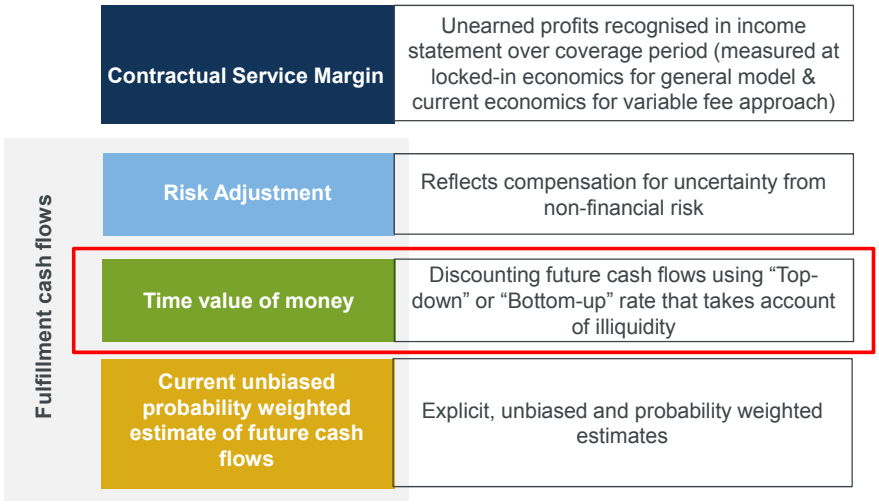
IFRS 17 – Balance Sheet



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What does IFRS 17 say about discount rates?

36	Discount rate should be consistent with: • **the timing, currency and liquidity of the liabilities** • **observable current market prices (where available)**

The standard gives a choice of two methodologies to set the discount rate:

B80	***B81***
Discount rate may be calculated using a **"Bottom-up" approach** (start with risk free curve and add a liquidity premium)	Discount rate may be calculated using a **"Top-down" approach** (start with the total yield on a reference portfolio and deduct credit risk)

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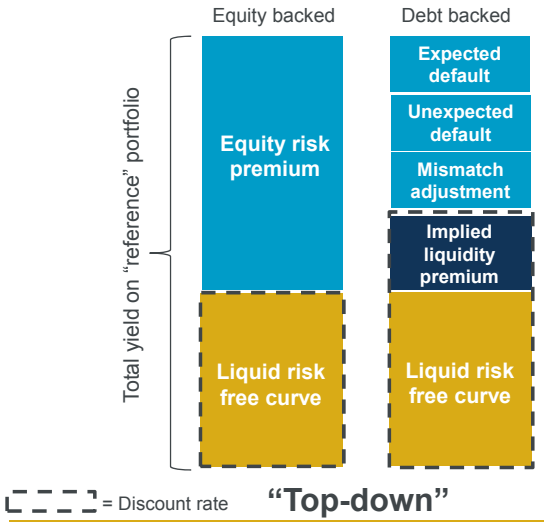
Top-down discounting

IFRS 17 Top-down discount rate



- Starting point is a reference portfolio of assets
  - "IFRS 17 does not specify restrictions on the reference portfolio of assets" which can lead to very different outcomes as
  - "not required to adjust yield curve for differences in liquidity characteristics" between liabilities and reference portfolio
- September TRG clarified that reference portfolio can be actual asset portfolio over time, but could use an appropriate 'hypothetical portfolio'
- Deductions on asset yields are also required for other factors not relevant to the liabilities

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Deriving credit risk deductions (CRD)

- Disentangling the incidence of credit risk from credit spreads is generally a difficult task and IFRS 17 does not prescribe a method to do so
- Academic literature illustrates that structural models tend to underestimate credit spreads and term this outcome as the "*credit spread puzzle*"
- Credit risk is a risk factor that influences the credit spread while the credit spread is made up by systematic and idiosyncratic risk factors, and these risk factors have different explanatory power:
  - Liquidity
  - Business cycle
  - Monetary policy

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Potential approaches to CRD

- In keeping with its principle based nature, the standard does not lay out a methodology to derive CRD
- Different potential approaches include:
  - Historical defaults
  - Distribution-based derivation of expected/unexpected losses
  - Credit Default Swap
  - EIOPA's fundamental spread
  - Fair value spreads derived from structural models á la Merton (1974)

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Mismatch risk

- The discount rate should reflect the *characteristics of the liability.* Practically, both Top-down and Bottom-up approaches start from asset considerations
- The implicit assumption is that assets appropriately reflect the features of the liability product in terms of cash flow timing, currency and liquidity
- The mismatch risk adjustments refer to those circumstances where this assumption doesn't hold e.g. cash flow mismatches between asset portfolio used to derive yields and liability

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Bottom-up discounting

IFRS 17 Bottom-up discount rate

"Bottom-up"

- Starting point is a liquid risk-free yield curve.
  - Not prescribed. Could use EIOPA risk free curves?
  - What is the ultimate forward rate?
- Calculate a 'market price for illiquidity' from suitable market instruments to get 100% liquidity premium
  - How to balance using market observable data with assessing 'market price of illiquidity' which isn't readily observable?
- Analysis on the predictability of cashflows is key to support the argument for the use of and size of liquidity premium

= Discount rate

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Liquidity premium: background

- Last significant industry efforts on illiquidity premium were in 2009 as part of QIS5
- Matching Adjustment and Volatility Adjustment were adopted into Solvency II, and illiquidity premium became a less urgent topic
- QIS5 used a combination of three approaches:
  - Covered Bonds
  - CDS Negative Basis
  - Structural Debt Models
- There are other alternative approaches in financial literature based on bid-ask spreads and pricing a hypothetical liquidity swap, but these are less established and more conceptual

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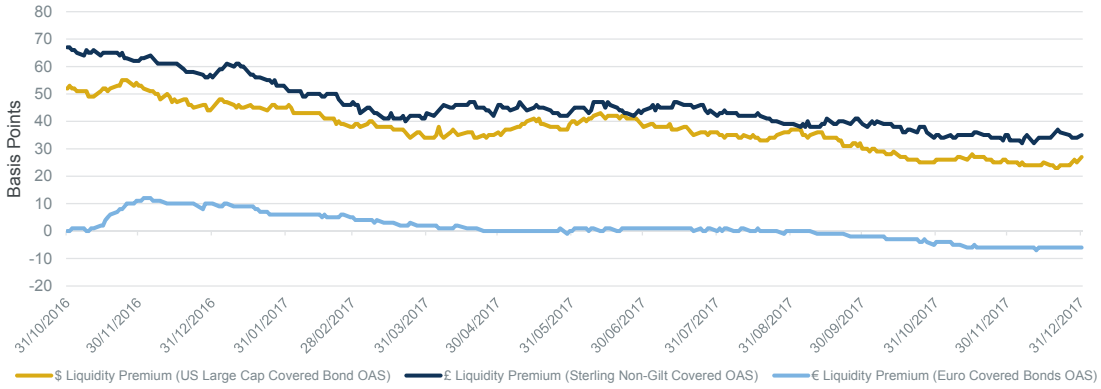
Covered Bonds



Source: ICE Index Platform

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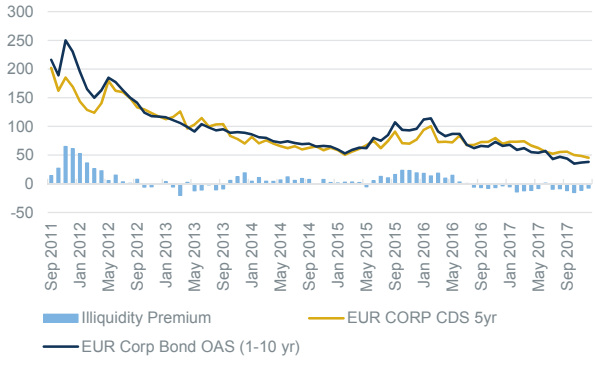
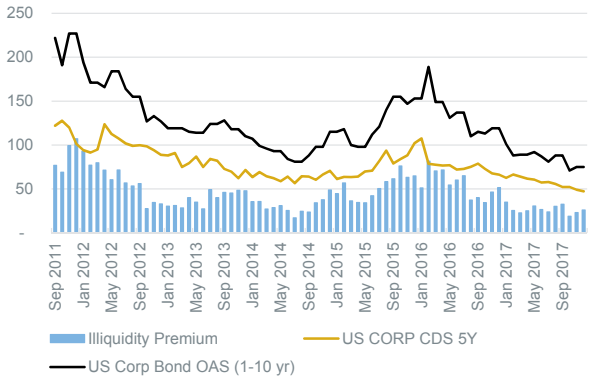
CDS Negative Basis

EUR



USD



Source: ICE Index Platform, Bloomberg

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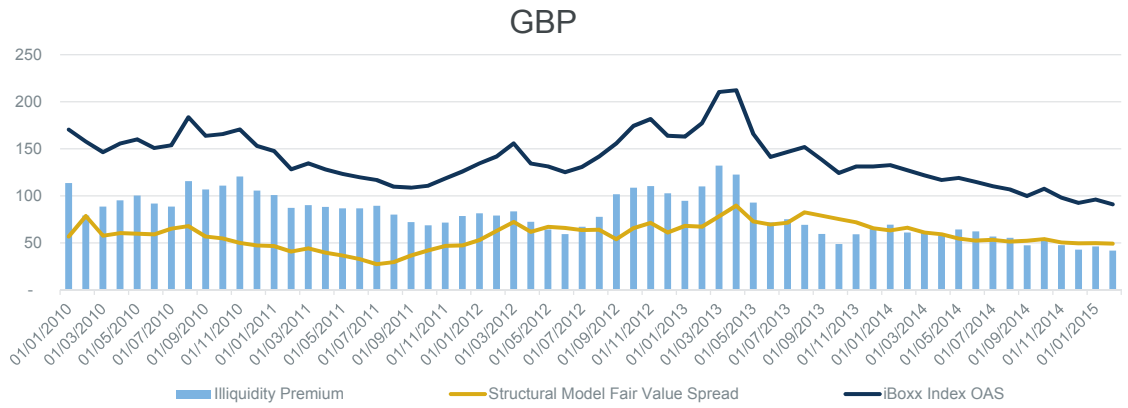
Structural Model



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IFRS17 – Bottom-up discount rates

- No clear preferred method
- QIS 5 approach was based on a 'Simplified Formula' based on a combination of these approaches:

$$MAX\left(0\,,50\%\,(Corp\ Spread\ over\ Swaps\ -0.4\%)\right)$$

- Hard-coded values in the QIS 5 approach were the results of a calibration to a bond index using EUR, GBP and USD data over 2005-2009. Those values may require updating.
- The formula produces a flat liquidity premium to add to the risk free rate term structure

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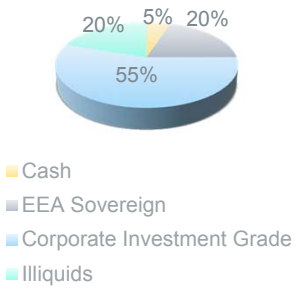
A term structure of illiquidity premiums



- For example a term structure of illiquidity premiums has been obtained by applying the QIS 5 formula to the spread of different maturity buckets of this allocation

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How to apply liquidity premium to liabilities?

- Qualitative assessment e.g. similar to QIS5 bucketing approach?

100% LQP
e.g. Annuities

75% LQP
e.g. With-profits

50% LQP
e.g. Unit linked protection

… Or is quantitative testing required to assess the predictability of the liability cash flow profile e.g. Compare base to stressed liabilities under a range of scenarios

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Top-down vs. Bottom-up: illustrative comparison

Illustrative example

- The portfolio below resembles the high-level allocation of a Matching Adjustment Fund and would be considered as an adequate starting portfolio to derive a top-down discounting

Asset Class	Allocation	Spread over Swaps
Cash	5%	-
Gilts	20%	1.4%
Corporate Bonds	55%	3.2%
Illiquid Assets	20%	4.0%
Total	**100%**	**1.59%**

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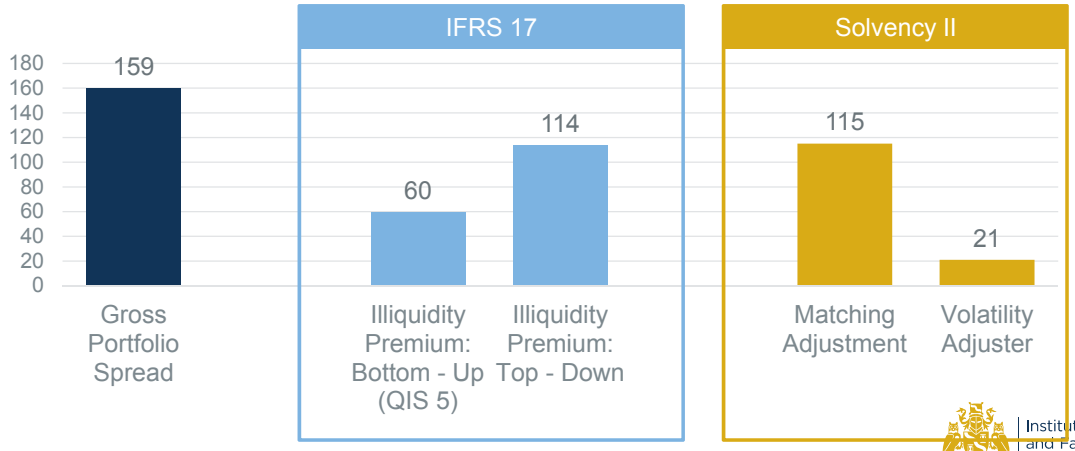
Illustrative example cont.



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Top-down versus bottom-up?

Bottom-Up

- Volatility primarily driven by the volatility of the spread of the reference portfolio/index used to derive the illiquidity premium.
- Wide host of methodologies available introduces also some model risk, i.e. different answers may result from different methods to calculate the illiquidity premium
- In case representative market indices are used to proxy holdings, then the approach is less sensitive to ALM inputs (e.g. SAA reviews). However, some basis risk may arise when the reference portfolio/index does not mirror the actual asset holdings
- Likely to be conducive to a greater alignment with Solvency II discounting
- Forward-looking choice of reference discount curve will minimise the issues stemming from Libor reform. However, transitional calculations still would have to refer to Libor

Top-Down

- The volatility is predominantly driven by the actual yield of the reference portfolio and, in particular, its spread over the reference rate.
- Spreads may change due to systematic and/or idiosyncratic risk of default and downgrades of the securities held in the underlying portfolio as well as its asset allocation.
- Expected losses (i.e. default probabilities and recovery rates) are updated infrequently and are based on long-term experience. Therefore, it may have lesser impact in terms of volatility of the discount
- Tactical ALM choices (e.g. a duration mismatch) may trigger an extra-deduction, in addiction to the one for expected/unexpected losses.

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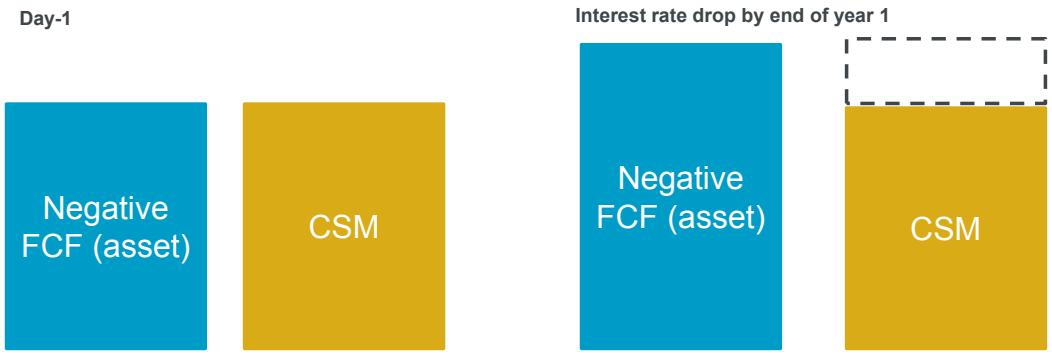
Discount rate driven accounting mismatches under IFRS 17

Accounting mismatch 1 (general model)



- Accounting mismatch introduced as interest rate fall increases FCF asset, but CSM is not impacted by change in interest rates as measured based on locked-in discount rate. This causes P&L and equity volatility.
- P&L volatility could potentially be minimised by electing the OCI option. The effectiveness of the OCI option should be explored alongside IFRS 9

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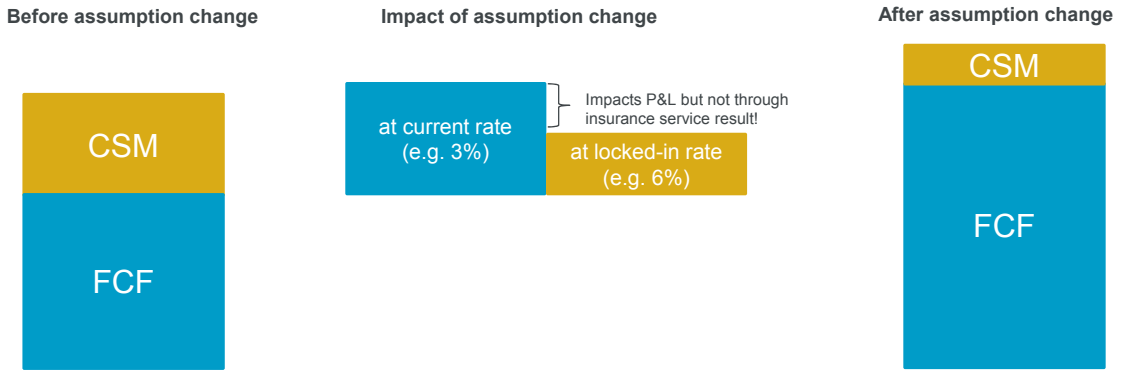
Accounting mismatch 2 (general model)



- The use of a locked in discount rate for the CSM in the general model means that the impact of operating assumption updates is absorbed in the CSM at the locked-in rate.
- As the BEL is measured at the current rate the difference between the assumption change measured at the locked-in rate and current rate is reflected in the P&L and can distort the current period result.

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OCI: Income statement implications and IFRS 9

- Under the general model, changes in the liability due to changes in the discount rate flow through P&L or are disaggregated between P&L and OCI ("OCI-option")
- Under the OCI option, the insurance finance income & expenses is stable over time:
  - Unwind of time value of money: calculated by using the curve at initial recognition
  - Interest accretion on the CSM: calculated by using the curve at initial recognition
- Different classification of assets based on the new IFRS 9 standard may also result in different volatility profiles for P&L and OCI

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Conclusions

Conclusions

- IFRS 17 is a principles based standard with explicit choice to use a “top-down” or “bottom-up” approach to setting discount rates
- Top-down: Expected to use actual assets backing liabilities (not a new concept) with main challenge around estimating unexpected default allowance
- Bottom-up: No market consensus on approach to incorporating allowance for liquidity premium but will likely have increasing focus over next year or so
- Accounting mismatches will exist where locked-in discount rates are required
- Analysis of the simultaneous impact of the applications of IFRS 9 &17 on P&L and profitability are required

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Questions

Comments

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