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IFRS17 discount rates – Global perspectives and practical implementation considerations

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Agenda for today....



What are the requirements?



The Reference Portfolio and components of credit risk



How to measure illiquidity premia?



IFRS 17 at HSBC Global Life



Q&A



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Straw-poll Question 1

- Should discount rates used for financial reporting be consistent with assets or liabilities?

- Assets



- Liabilities



- Either / not sure

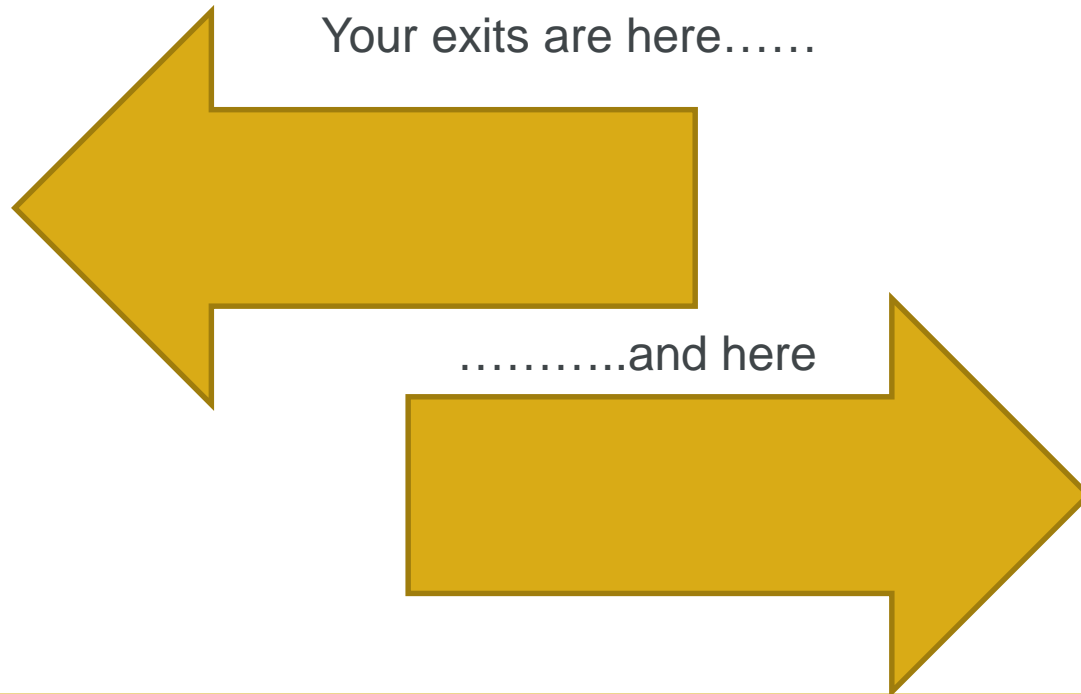


- I'm at the wrong presentation!



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People who pressed 4?



What does the standard say?

36

Discount rate should be consistent with timing, currency **and liquidity** of **Liabilities**

No allowance for 'own' credit risk

B80/B81

A 'top-down' (deduct credit risk from total yield) or 'bottom-up' (add liquidity premium to risk free curve) approach may be used

B82

Market observable prices used where available, estimates ok where not (own data ok with more emphasis on long term assumptions vs short term fluctuations)



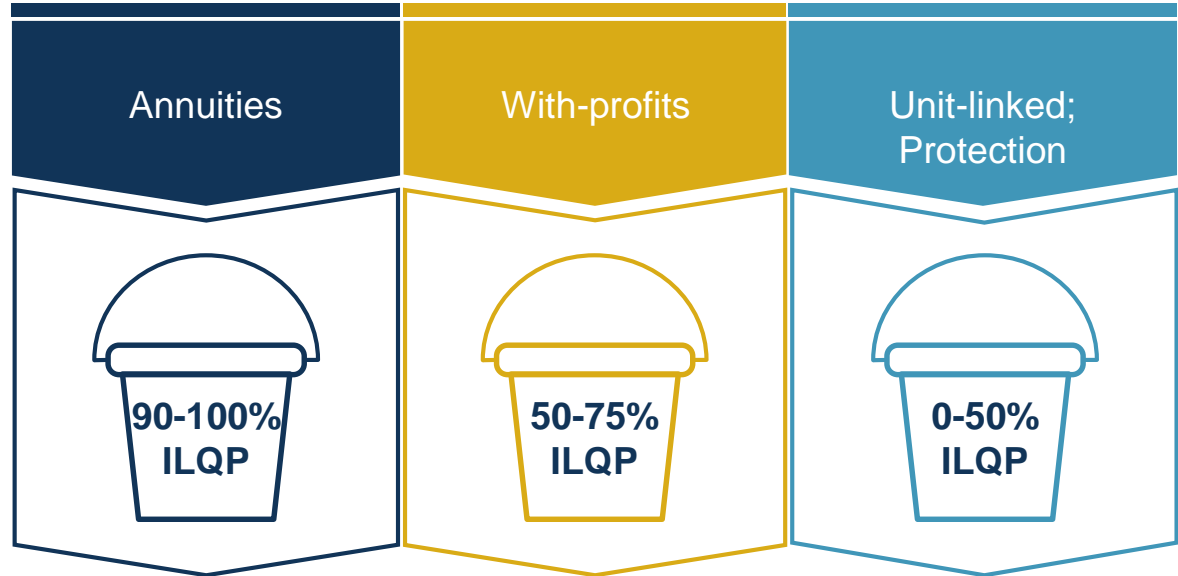
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What does liquidity of liabilities mean?

Consider the expected liability cashflow profile and the illiquidity of the cashflows

- Best estimate cashflow profile projection (taking into account lapses, mortality etc.)
- Consider ability of policyholders to lapse the product – what is a worst case mass lapse stress – this will help determine the liquidity assessment of the cashflows.

QIS5 'bucketing' approach?



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'Own' portfolio versus 'replicating' portfolio

36

Discount rate should be **consistent** with observable current market prices (if any) for financial instruments with cash flows whose characteristics are **consistent** with those of the insurance contracts

If 'Own Portfolio' of assets produces cashflows which are **consistent** with the liabilities then this can be used as a starting point.

If Own Portfolio is not consistent with the liabilities (e.g. as invested much shorter than the liabilities even though longer dated assets are readily available) then a Replicating Portfolio may need to be used

B81

An entity shall adjust the yield curve to eliminate any factors that are not relevant to the insurance contracts, but is **not required to adjust the yield curve for differences in liquidity characteristics of the insurance contracts and the reference portfolio**

B81 and 'consistency' in 36 may imply that using a portfolio of assets that is more liquid than theoretically the 'best match' for the liabilities may be ok (but using a less liquid portfolio of assets would not be consistent with the liabilities) – i.e. credit may not be taken for illiquidity premium yield where this does not match the liabilities, but not taking full credit for illiquidity yield theoretically available to match the liabilities may be ok

Suitable allowance for reinvestment risk will need to be taken into account for longer dated liabilities



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'Top-down' versus 'bottom-up' estimation

The exhibit below shows the various components of credit and illiquidity risk premia in bond yields. In setting the discount rate for a specific level of liability illiquidity, the components below should be taken into account in deriving the discount rate

Total Bond Yield	Yield component	Component Elements	Observation on ease of calculation	
	Credit Risk Premium	Expected Defaults	Reasonably straightforward	Top Down Approach
		Expected Cost of Downgrade		
		Default Risk Premium	Difficult to estimate from market observable data	
		Downgrade Risk Premium		
	Illiquidity Risk Premium	Asset Illiquidity risk premium	By definition, may be difficult to obtain market observable data for illiquid assets	Bottom Up Approach
		'Risk of illiquidity' premium	Can be taken as 'usual spread' over risk free for liquid assets	
	Risk Free Rate	Risk Free Rate	Reasonably straightforward (apart from UFR)	IFRS 17 Discount Rate

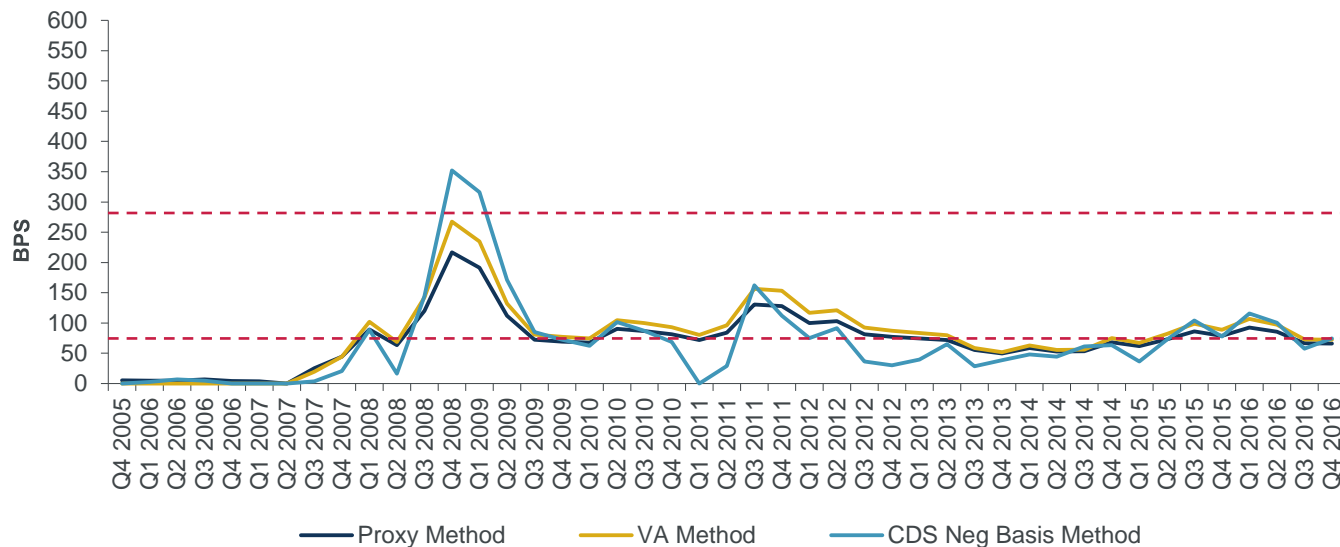


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Different types of illiquidity premium – “A” CB over time

1. Illiquidity in times of market stress

KPMG GBP 'A' 10r Corp Bond ILQP Comparison (2005 – 2016)



2. YE 2008 Stressed ILQP on liquid asset approximately 200-350 bps

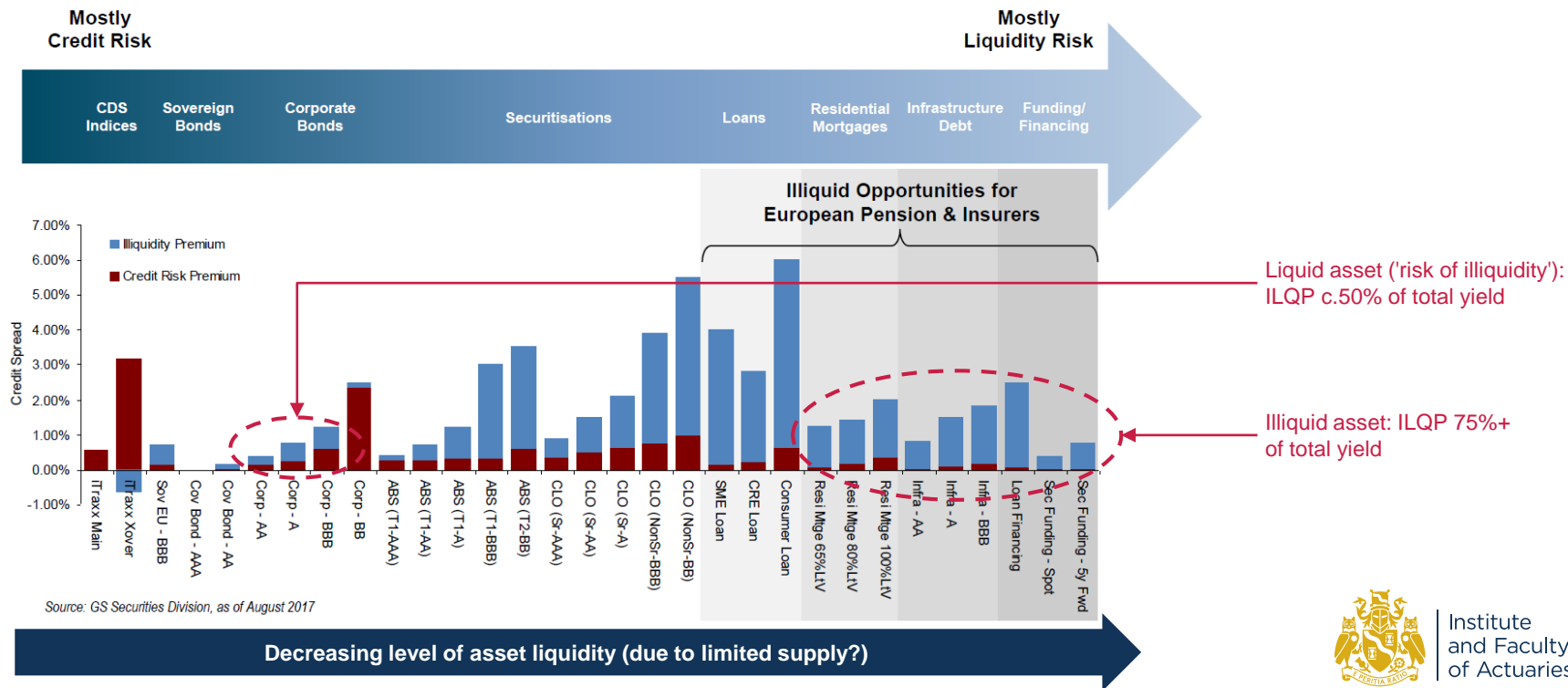
1. Average ILQP in normal market conditions approximately 75bps
(UK VA: 20-30bps in 2017)

Note: Quarterly CDS data is only used from Q4 2010
Source: Swaps (Thomson), GBP A 10 Year+ Spreads (iBoxx), CDS (iTraxx Europe 1-10year)



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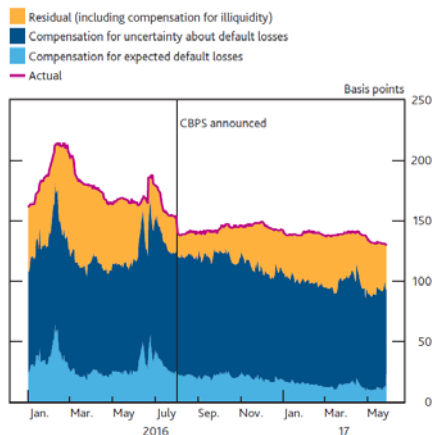
Different types of illiquidity premium – asset types



However, BofE ILQP appears lower

BofE Merton model based on investment grade bonds gives < 25% ILQP currently

Chart 9 Decomposition of financial and non-financial sterling-denominated investment-grade corporate bond spreads^{(a)(b)}



Sources: Bank of America Merrill Lynch Global Research, Bloomberg, Thomson Reuters Datastream and Bank calculations.

(a) Implied liquidity premia are estimated using a Merton model as in Leland and Toft (1996) to decompose corporate bond spreads.

(b) Data as at 31 May 2017.

Observations

- Is “a” view of ILQP but
- BBB bonds may be shorter duration (so have lower ILQP) than A rated bonds
- Relies on equity volatility as an input – FTSE equity volatility not as low as VIX
- Corporate Bond Purchase Scheme may be distorting slightly
- Lag in publishing not suitable for e.g. YE processes.

Simple example: Annuities

Sample Assets	Spread over risk free	Credit risk	ILQP
'AA' Govt Bonds ('risk free')	0.0%	0.0%	0.0%
'A' Corp Bonds ('liquid ILQP')	1.0%	0.47%	0.53%
'A' infra/ERM ('illiquid ILQP')	2.0%	0.47%	1.53%

Annuities			
	Own portfolio investment %	Reference portfolio1 investment %	Reference portfolio2 investment %
Govt Bonds	25%	5%	5%
'A' Corp Bonds	25%	45%	10%
'A' infra/ERM	50%	50%	85%
IFRS17 ILQP	0.90%	1.00%	1.35%
Matching Adjustment ^(a)	1.00%		

Note: (a) Assumes 10bps adjustment for full credit risk allowance under IFRS17 and all assets MA compliant (in practice may be lower)

Observations

- IFRS 17 discount rate based on Own Assets could be lower than MA
- IFRS 17 discount rate based on reference portfolio may be higher than rate achievable on own assets => drag on future profits
- May need to balance derived illiquidity of liabilities between back-book and new business (can't have different %?)
- Volume of 'illiquid assets' hypothetically available to match liabilities needs to be considered.



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Simple example: With-Profits

Sample Assets	Spread over risk free	Credit risk	ILQP
'AA' Govt Bonds ('risk free')	0.0%	0.0%	0.0%
'A' Corp Bonds ('liquid ILQP')	1.0%	0.47%	0.53%
'A' infra/ERM ('illiquid ILQP')	2.0%	0.47%	1.53%

With-Profits			
	Own portfolio investment %	'Liquid ILQP' reference portfolio %	'Illiquid ILQP' reference portfolio %
Govt Bonds	40%	25%	25%
'A' Corp Bonds	60%	75%	0%
'A' infra/ERM	0%	0%	75%
IFRS17 ILQP	0.32%	0.40%	1.15%
Volatility Adjustment	0.2-0.3%		

Note: (a) Assumes 10bps adjustment for full credit risk allowance under IFRS17 and all assets MA compliant (in practice may be lower)

Observations

- Unclear if 'VA' style addition to RFR to set 'mean' RFR (for stochastic models) is envisaged by IFRS 17
- If it is, then IFRS 17 ILQP is likely to be higher than S2 VA (due to illiquidity of liabilities vs low illiquidity of EIOPA asset portfolios)
- In particular;
 - B48 requires that the 'technique used must result in the measurement of any options and guarantees included in the insurance contracts being consistent with observable market prices (if any) for such options and guarantees.' – no ILQP?



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Comparison: BofE ILQP

Sample Assets	Spread over risk free	Credit risk	ILQP
'AA' Govt Bonds ('risk free')	0.0%	0.0%	0.0%
'A' Corp Bonds ('liquid ILQP')	1.0%	0.75%	0.25%
'A' infra/ERM ('illiquid ILQP')	2.0%	0.75%	1.25%

Annuities			
	Own portfolio investment %	Reference portfolio1 investment %	Reference portfolio2 investment %
Govt Bonds	25%	5%	5%
'A' Corp Bonds	25%	45%	10%
'A' infra/ERM	50%	50%	85%
IFRS17 ILQP	0.69%	0.74%	1.09%
Matching Adjustment ^(a)	0.79%		

With-Profits			
	Own portfolio investment %	'Liquid ILQP' reference portfolio %	'Illiquid ILQP' reference portfolio %
Govt Bonds	40%	25%	25%
'A' Corp Bonds	60%	75%	0%
'A' infra/ERM	0%	0%	75%
IFRS17 ILQP	0.15%	0.19%	0.94%
Volatility Adjustment	0.2-0.3%		

Observations

- BoE ILQP makes it more difficult to achieve the MA / significantly more than the MA
- Even getting the VA from BoE ILQP could be difficult.

Note: (a) Assumes 10bps adjustment for full credit risk allowance under IFRS17 and all assets MA compliant (in practice may be lower)



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Straw-poll Question 2

- Do you think this level of flexibility is a good thing?

— Yes



— No



— I can't believe I'm still here!



If you pressed 3....

You know where the exits are.... I am not an airsteward!



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Some recent developments....



TRG Meeting 26, 27 September 2018 – good news for UK annuity companies?

- TRG members observed that: IFRS 17 does not specify restrictions on the reference portfolio of assets used in applying a top-down approach to determine discount rates. Also, IFRS 17 does not define ‘a reference portfolio of assets’. Consequently, a portfolio of assets that an entity holds can be used as a reference portfolio of assets to determine the discount rates as stated in paragraph B81 of IFRS 17, provided
 - that the discount rates reflect the characteristics of the insurance contracts; and
 - consistent with observable current market prices.
- **The expectation is that the disclosures around discount rates will identify and explain impact of the methods and assumptions used to determine the discount rates.**



EIOPA 19th October – call for a delay of 2 years to resolve issues, in particular the discount rate....

- “The introduction of IFRS 17 is a long overdue and positive shift of paradigm compared to IFRS 17's predecessor IFRS 4 Insurance Contracts. Notwithstanding the significant improvements to the financial reporting applying IFRS 17, EIOPA has reservations on a few concepts that may affect comparability and relevance of IFRS 17 financial statements and should be duly addressed: **IFRS 17's principles on determining the applicable discount rate and risk adjustment may have exceeded the appropriate level of allowing for entity-specific inputs and consequently may give rise to significantly different and potentially incomparable results**”.



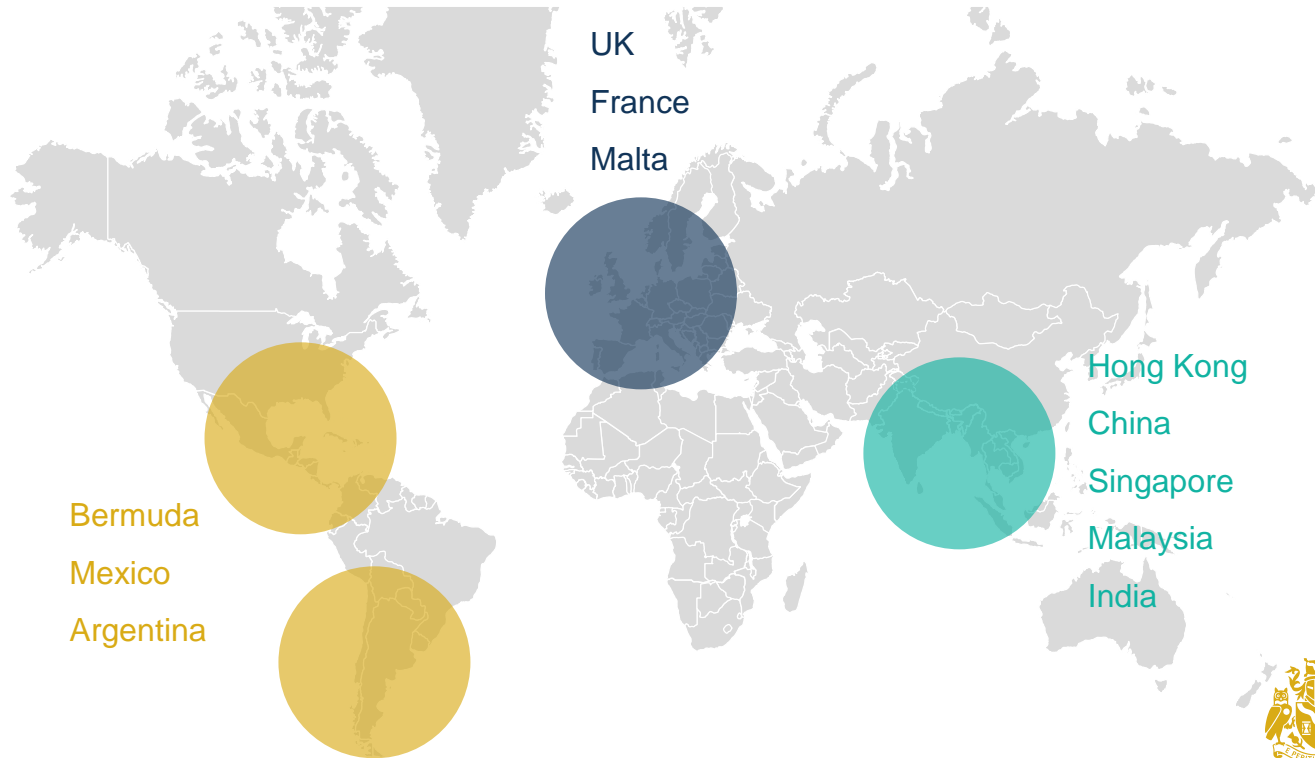


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IFRS17 at HSBC Life

Anish Malde

Introduction to HSBC Life



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Introduction to HSBC Life – Key products

Participating business in Asia

- Traditional guarantees deferred annuity policies; OR
- Whole Life terminal bonus policies;
- Primarily HKD or USD;
- Generally supported by bonds and growth assets;
- Existing customer expectations of stable bonus rates.

Universal Life business in Asia

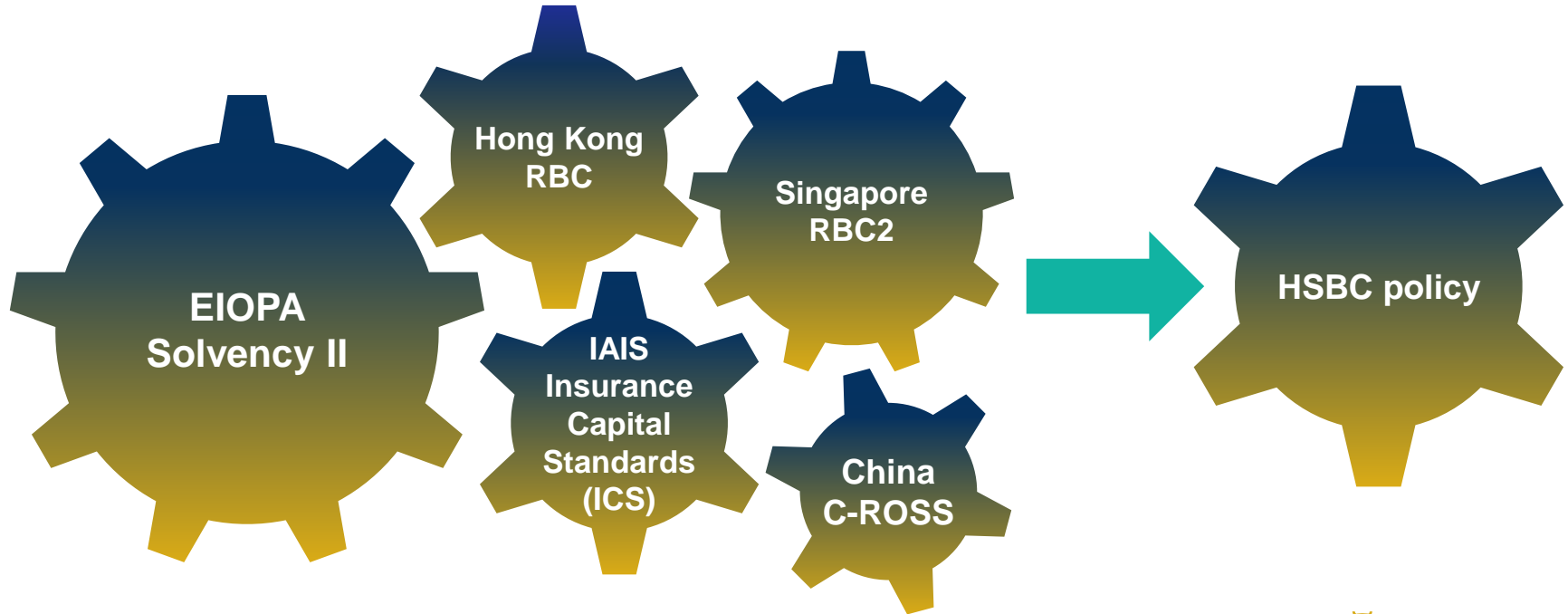
- Primarily whole life USD policies;
- Offers combination of protection and savings;
- Minimum guaranteed credited rate offered to policyholder accounts;
- Death benefit is maximum of the sum assured and account value;
- Surrender penalties apply for early years;
- Generally supported by bonds but trends in the industry are to consider exposure to growth assets;
- High competition in Singapore significantly challenges margins.

Participating business in France

- Primarily EUR savings policies;
- Death benefit is guaranteed and no penalties apply on surrender;
- High competition leading to low margins;
- Low rates and hence investment returns;
- Upside is more risk sharing with policyholders.



Journey to set the IFRS17 discount rates



Considerations for setting IFRS17 discount rates

Below are some of the areas we considered to set the policy:

- What is the primary objective when setting the discount rate approach;
- Own asset portfolio vs. Notional portfolio;
- Calibration of the Risk free rate;
- Calibration of the Credit risk deduction;
- Allowance for reinvestment and lapse risks.



1. Objectives

The choice of discount rate will have a fundamental impact on the business because the discount rate underpins almost all of the key IFRS17 calculations.

Therefore, it is important for management to agree what is the primary focus:

- **Maximise day 1 equity** (by recognising a higher rate but could lead to a higher CSM and greater variances flowing through the P&L for under-performance);
- **Minimise day 1 impact** on the balance sheet (by aligning to current rates);
- **Minimise P&L volatility** (by recognising a rate which is more consistent with asset movements);
- **Achieving consistency** (by aligning to EC and Regulatory frameworks).



2. Own asset portfolio vs. Notional portfolio

Standard: Discount rate should reflect characteristics of the liabilities

Own asset portfolio

- + Preferable option by local teams because directly relates to actual holdings;
- + Minimises balance sheet and P&L volatility;
- + Easier to explain changes to management.
- Difficult to demonstrate own assets reflect profile of liabilities, particularly where we have minimum guaranteed investment returns.
- Cash flow and duration mismatch because Hong Kong dollar assets only available up to 15 years to support long-dated liabilities;
- Short term investment decisions will impact the calibration of the discount rate;
- How do you differentiate returns for products pooled together within single fund.



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2. Own asset portfolio vs. Notional portfolio

Standard: Discount rate should reflect characteristics of the liabilities

Notional portfolio

- + Based on market observable data so easier to implement;
- + Enables consistency globally;
- + Easier to apply for new business;
- + Potential scope to calibrate higher discount rate.
- Degree of basis risk because expert judgement is required to construct notional portfolio in terms of asset mix, credit quality and durations.
- Limited market observable data for credit spreads for Asian markets for HKD and SGD;
- Limited market observable data for illiquid instruments.



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3. Calibration of the Risk Free Rate – LLP and UFR

Standard: Rates should be derived from market observable data

Choice of the last liquid point (LLP)

- Solvency II refers to a deep, liquid and transparent (DLT) markets assessment for the LLP;
- We reviewed frequency of trades and the bid-offer spread at particular tenors to suggest where liquidity ends.

Choice of the ultimate forward rate (UFR)

- Solvency II UFR is to reduce from 4.2% to 3.6% over a phased period;
- Adopting the same phasing would ensure no competitive disadvantage for new business however can this be argued to be market observable?;
- However could mean new business which is profitable under today's UFR rate becomes onerous in the future as the UFR gradually reduces.



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Straw-poll Question 3

- Which Ultimate Forward Rate do you think it makes sense to use?

- Solvency 2 with phasing



- Solvency 2 without phasing



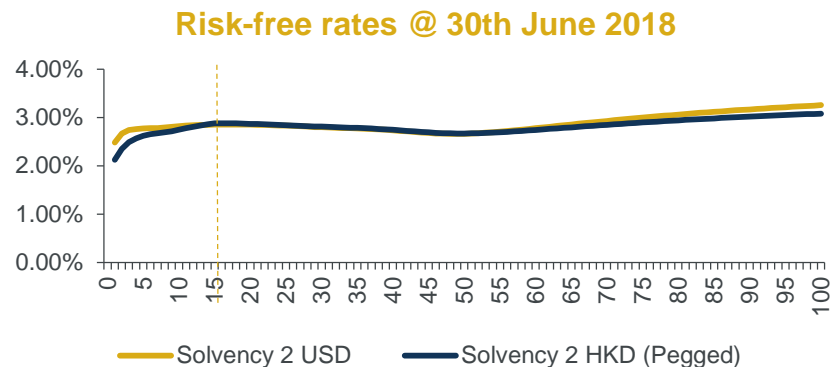
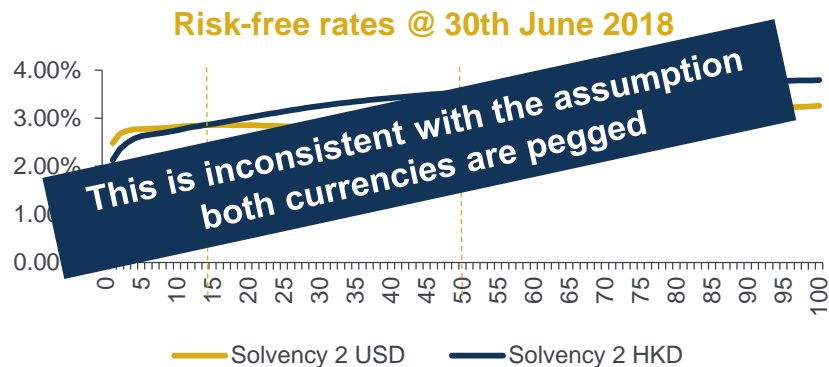
- Something else



3. Calibration of the Risk Free Rate – Extrapolation

Choice of extrapolation over the illiquid part of the market

- Solvency II extrapolates the yield curve to the UFR after the last liquid point;
- Whilst this is reasonable for Hong Kong dollar and US dollar in isolation, it implies arbitrage exists because Hong Kong yields are more attractive than US yields despite the pegged currency.



4. Calibration of the Credit Risk deduction

Probability of default (PD)

- Whilst historical public data exists for US and European markets, limited data around for Asia;
- Is there sufficient own experience to argue using lower PD rates than rating agencies suggest?

Cost of downgrades (CoD)

- Solvency II data assumes a “Buy and Sell” strategy;
- However, some firms may still hold assets even after a downgrade i.e. “Buy and Hold” strategy.

Minimum floor on the Credit Risk deduction

- Should we continue using the 35% of the long term average spread (LTAS) floor set by EIOPA?
- Justification to reduce the spread if only consider investment grade bonds i.e. 15-25%;
- Using LTAS may not be very responsive particularly during stress conditions.



Straw-poll Question 4

- Do you agree there should be a minimum floor on the credit risk deduction?

— Yes



— No



— WHY AM I STILL HERE!!!



If you pressed 3....

It's probably more awkward to leave at this point.... SORRY!



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5. Allowance for Reinvestment and Lapse Risks

Allowance for Reinvestment Risk

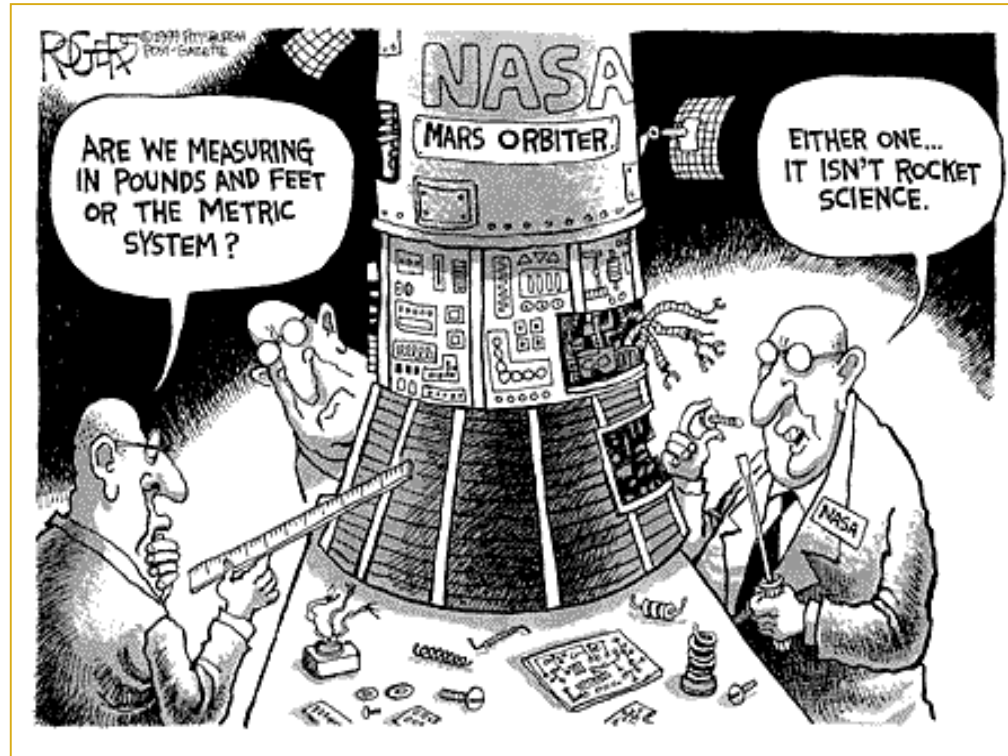
- Where assets are too short to match liabilities, judgement is required on the reinvestment rate:
 - Should we apply a constant illiquidity premium up to the LLP or the entire curve?
 - Should we consider a long term “illiquidity premium” to be added to the UFR?

Treatment of Lapse Risk

- Should we include an allowance to reflect dynamic / mass lapse?

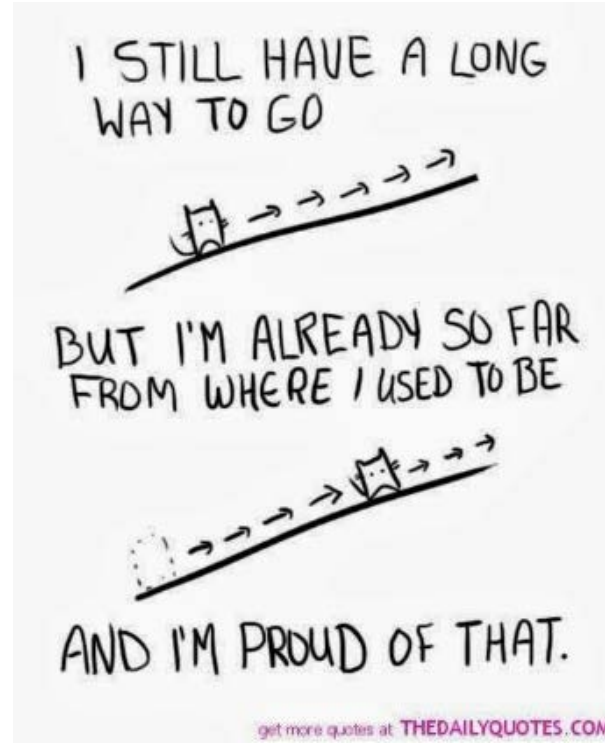


Lessons learned



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Lessons learned



Questions

Comments

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