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LIBOR Transition – Implications for Actuaries

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FCA speech July 2017 – "Transition to a world without LIBOR"

"Firms shouldn't assume LIBOR will continue to be published beyond 2021"

- Insurers, like banks, also need to work out what to do when LIBOR ceases
- PRA has written to major insurers requesting plans for transition…
- …but smaller insurers also affected and planning for transition too

Working party objectives

- Review proposals for transition from LIBOR to SONIA
- Assess implications for actuaries in insurance, pensions and risk
- Highlight findings to the actuarial profession

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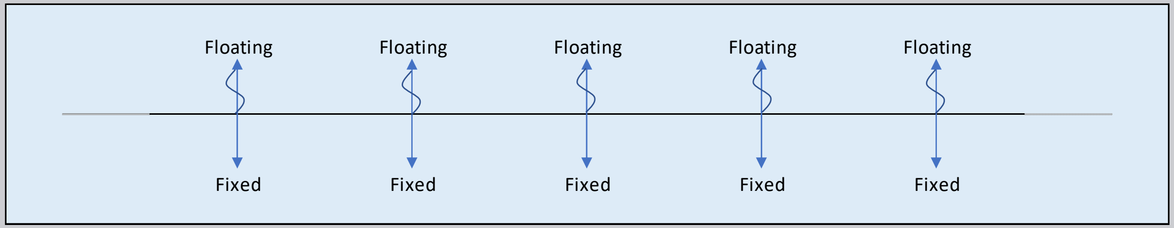
What do insurers use IBORs for?

Hedging liabilities - interest rate swaps

- Agree to pay a fixed cash flow for a period of time
- In return receive floating rate for a period of time
- Efficiently hedge interest rate risk



Floating rate bonds

- Coupons are set equal to LIBOR plus a spread
- Value of bond less sensitive to interest rates

Liability valuation

- Central part of liability calculation
- Covered in detail later!

Collateral

- Calculate collateral. Whilst derivative contracts have already moved, many non-derivative collateral still on LIBOR

Penalty interest in contracts

- Late payment
- Termination payments

Benchmarks

- Can measure fund performance relative to LIBOR

Deposits & money market funds

- Deposit will roughly follow bank deposit rates

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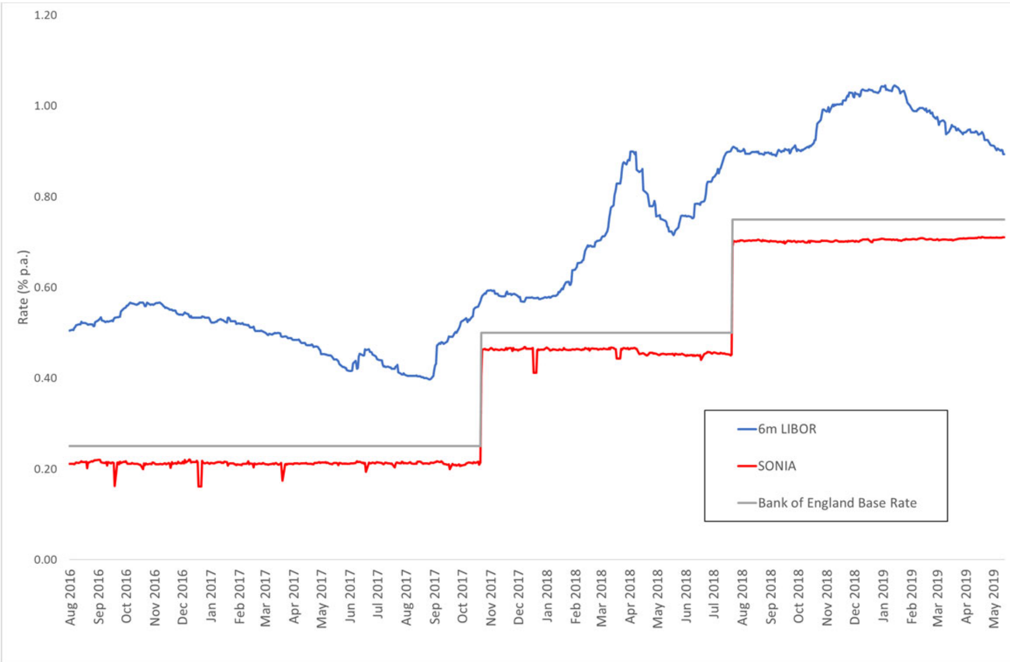
Reminder: LIBOR vs. SONIA

LIBOR	SONIA
• Expert judgement	• Real transactions
• Multiple tenors	• Overnight rate only
• Rate up to one year in advance	• Only available one day in arrears
• Incorporates an element of bank default risk	• Minimal bank default risk



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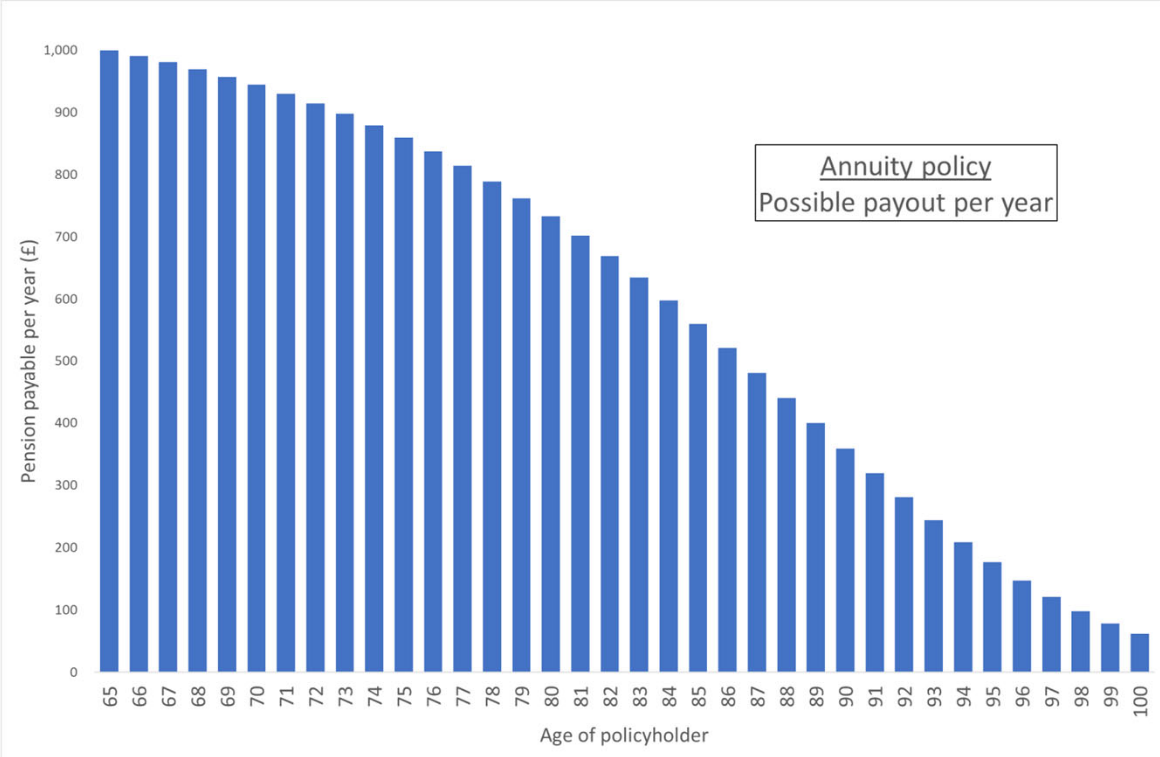
Insurance Liabilities

Key features

- No liquid market in insurance liabilities with quoted prices
- Based on estimates
- Can be very illiquid
- Long-term, payable over many years
- Calculation heavily regulated



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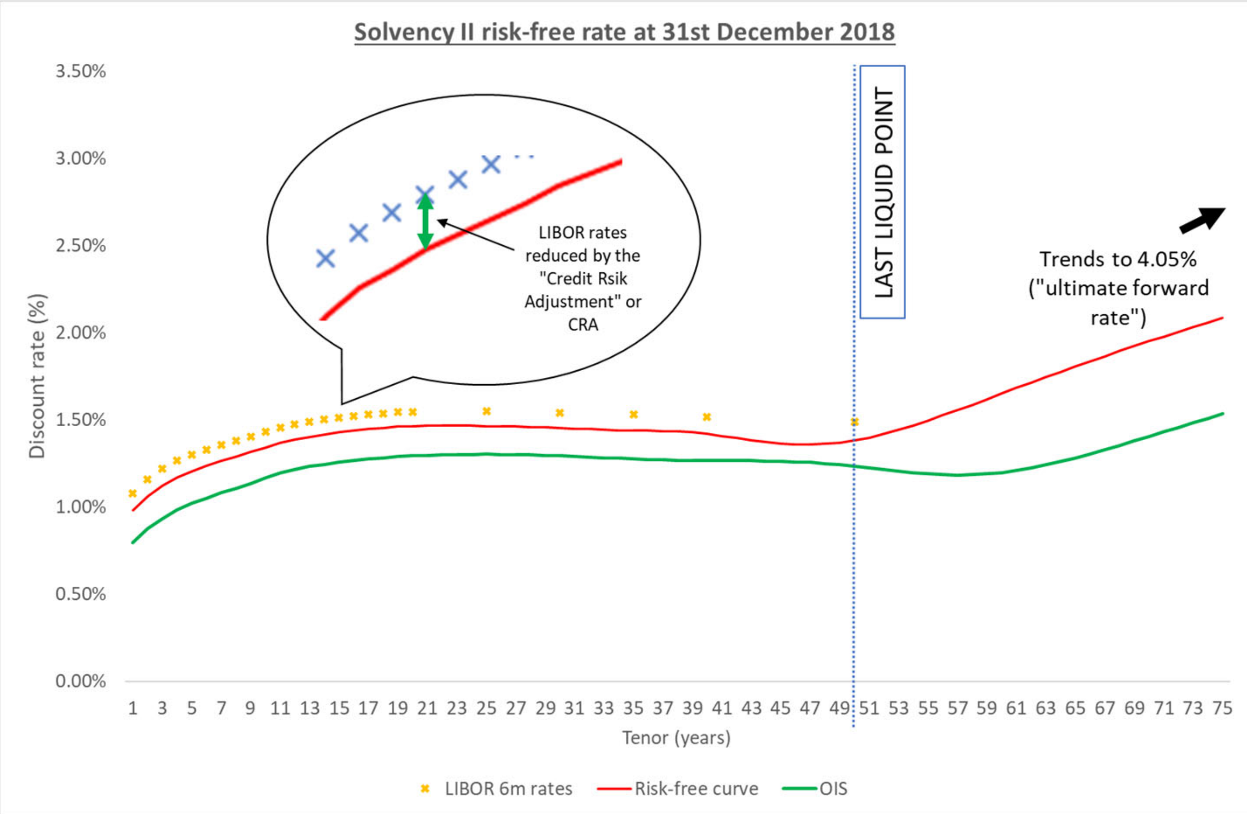
Regulatory discount rate



Curve at 31 December 2018

UK insurer liabilities affected by the regulatory discount rate are £620bn

EIOPA has not yet announced how they will move from LIBOR to SONIA. Many possibilities for change.

Several elements of the curve are dependent on LIBOR

- Basic inputs for curve
- Credit Risk Adjustments ("CRA")

CRA works in opposite direction to curve, potentially mitigates impact

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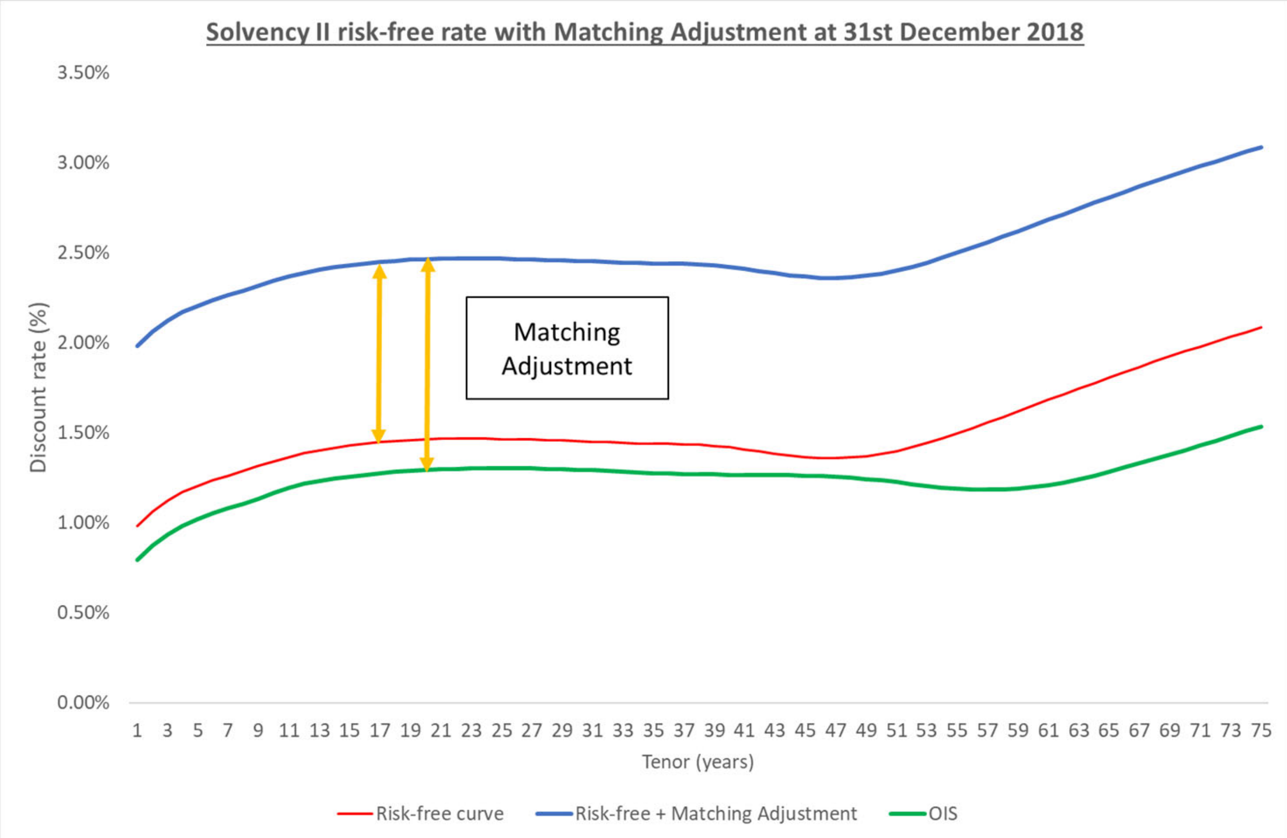
Regulatory discount rate (2)



- EIOPA allows annuity insurers to use a "matching adjustment":
  - Restrictions on types of assets that can be held
  - Must strictly match asset and liability cash flows

  …but reduction in liabilities to reflect illiquidity premiums that are likely to be earned

- Matching adjustment can be seen as the equivalent of illiquidity discount for assets

- Discount rate where there's a matching adjustment is effectively the risk-adjusted yield on the assets ⇨ removes dependency on risk-free rates and LIBOR/SONIA

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Contracts

- Rare for policyholder contracts to have link to LIBOR
- Common feature of life reinsurance contracts and other “business to business” type of contract
  - Collateral
  - Termination payments
  - Financing rates
- Detailed review of contract terms needed to identify exposures
- Then need to decide what to do

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Assets: derivatives held by insurers

- Main asset exposure to LIBOR is through derivatives, namely interest rate swaps.
- LIBOR referenced swaps, written under ISDA contracts, are not deigned to be administered in a world where LIBOR is no longer published.
- ISDA has consulted the market to determine fall-back protocols.

	Forward difference	**Historical mean/median**	**Spot -Spread**
Spot overnight rate	Not compatible		
Convexity-adjusted overnight rate	Not compatible		
Compound setting in arrears		✓	Not compatible
Compound setting in advance			

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Assets: strategy for derivatives portfolio

- Decision needs to be taken what to do with a LIBOR swaps portfolio. There is a ‘ready to go’ substitute market in OIS.
- ISDA consultation provides increased clarity to insures on the merits / disadvantages of each approach.

Approach	Rationale	Issues
1. Keep LIBOR swaps	• Avoids the need to trade • Fall-back protocols can enable contracts to be administered beyond 2021	• Contracts become illiquid over time • Need to ensure that counterparty adopts fall-back protocols
2. Replace with OIS contracts	• Consistent with the broader market migration from LIBOR	• Concerns around insufficient liquidity of longer dated tenor contracts • Basis levels could be unfavourable
3. Close out and hold different asset altogether	• Removes exposure (and risk) related to LIBOR	• Not appropriate if purpose is to closely match the discount rate

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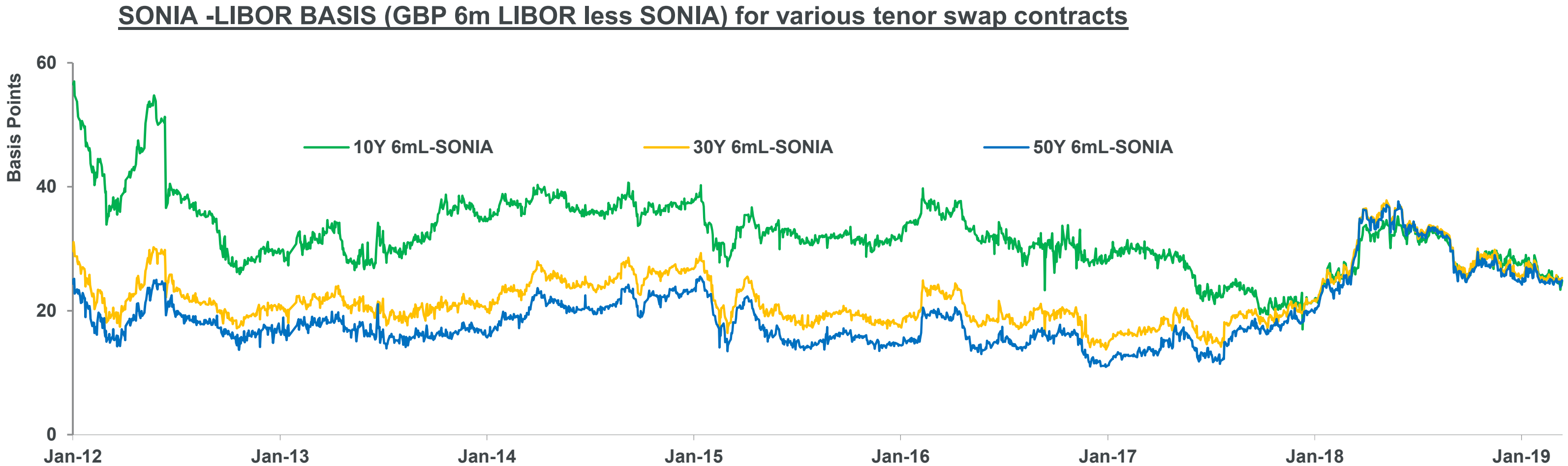
Assets: transition of derivatives portfolio

- For insurers, there are a number of hurdles for migrating a LIBOR swaps portfolio to OIS:
  - ALM consideration:
    - basis risk to discount rate
    - Impact on capital requirement
    - Mis-hedging due to not knowing true hedge requirement.
  - Concern around liquidity in OIS markets, particularly for long dated tenors.
  - Concern market basis level is not favourable for a transfer.



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Assets: Bonds

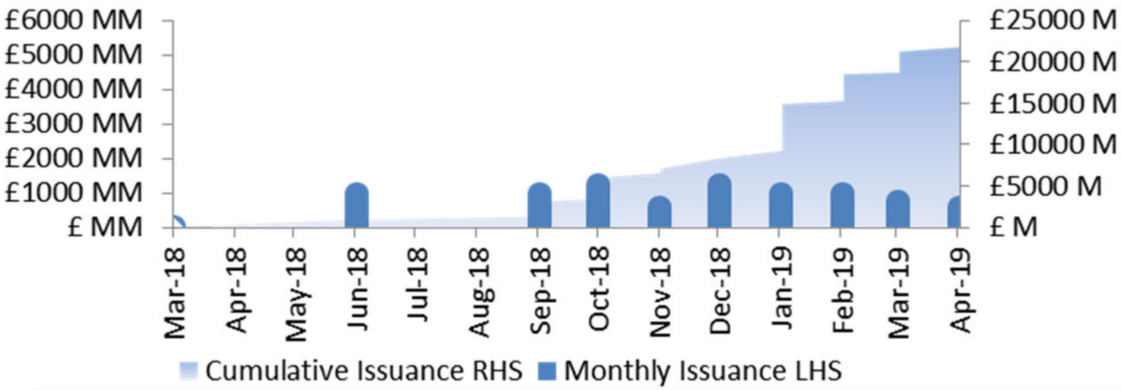
SONIA FRN New Issuance

- The SONIA referenced FRN market continues to grow with in excess of £21bn of issuances since the first EIB "test case" issue of £2mm in March '18
- There have been a number of issuers in the market with Commonwealth Bank of Australia and IBRD having the largest offerings of £1.25bn each
- Issuances to date have been based upon an observation period commencing five London business days before the start of the relevant interest period and ending five London business days before the end of the relevant interest period. (See below chart)
- The Bank of England has consulted on the development of term SONIA reference rates (TSRRs). The consultation focuses on how a TSRR can be constructed and indications are that a term rate could be available in the second half of 2019.

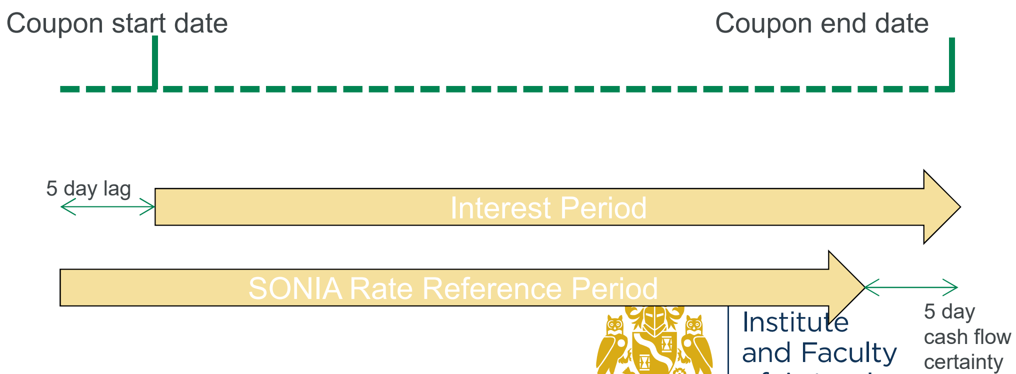
Existing LIBOR FRN

- All legacy floating rate notes referencing LIBOR will need to be shifted to new rates, either through updates to "fallback language" that can be used when LIBOR becomes unavailable, or through trading of exposures

SONIA FRN activity continues to grow with 22 issuances year to date



SONIA FRN – Observation period



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Systems

- Market infrastructure
  - Order management and settlements
  - Interest calculations – move from “in advance” to “in arrears”
  - Treasury desk
- Modelling systems
  - Hedging
  - Risk management

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What are insurers doing?

- Bank of England has written to largest banks and insurers in UK:
  - Need Board approved plan for LIBOR transition
  - Nominated senior manager who is responsible for transition
- Reviewing systems, contracts, hedging, asset portfolio strategy…lots of work happening (but minimal changes to portfolios compared to pension funds)

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Actuaries in the wider market

User / Product	Derivatives	Bonds	Loans	Discount Rates	Other
Pension funds	Manage LIBOR swaps				
Insurers	Manage LIBOR swaps			SII discount rate linked to LIBOR	Products / systems / models
Bank treasury	Derivatives backbook	FRN maturing post-2021			Update systems
Corporate issuers		FRN maturing post-2021			
Swap dealers	Manage LIBOR swaps				
Hedge funds / Asset managers	Manage LIBOR swaps				Performance benchmarks
Bank lending			Loan book maturing post-2021		

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Summary

- The transition away from LIBOR for insurers is gathering pace
- Uncertainty around the risk free discount rate
- High level of engagement and focus by senior management
- Preparation activity – contract discovery, system processes etc.
- Practicable actions taken on the asset portfolio

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Questions

Comments

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