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ACT LEADING TREASURY PROFESSIONALS

The future of LIBOR: what you need to know

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Introduction

– This joint ACT and LMA Guide is intended to provide an overview of developments and key issues with respect to the proposed transition away from LIBOR benchmarks

– The Guide covers:
  - background to LIBOR reforms
  - the alternatives being proposed
  - key issues for financial markets
  - national working groups and how to get involved

– Whilst a deadline of the end-2021 has been set, preparations must begin now on establishing alternatives to LIBOR which work for the cash markets. The regulators have made clear that the transition must be market-led and we would strongly encourage market participants to become involved in shaping the future of alternatives

– The transition is not a small task and will impact a large number of contracts and affect multiple product areas and business lines. The importance of understanding and engaging with the key issues cannot be overstated

Clare Dawson, Chief Executive
Loan Market Association

Caroline Stockmann, Chief Executive
Association of Corporate Treasurers

Background to LIBOR reform

– In 2012, following widespread allegations of LIBOR manipulation and numerous fines imposed on several international banks, the UK Government conducted the **Wheatley Review (2012)**, which:
  - recommended reform, rather than replacement, of LIBOR
  - called for strict processes to verify submissions with transaction data
  - suggested that market participants should play a significant role in LIBOR production and oversight

– In February 2014, ICE Benchmark Administration Ltd (**IBA**) took over administration of LIBOR. This prompted a **Review of the Implementation of IOSCO's Principles for Financial Benchmarks by Administrators of EURIBOR, LIBOR and TIBOR (2014)**, which found that ICE LIBOR was more "closely aligned" to IOSCO Principles than BBA LIBOR, but:
  - questioned whether LIBOR provided an accurate and reliable representation of the economic realities it sought to measure
  - stated that IBA needed to create specific transition policies for cessation / discontinuation, but noted the successful discontinuation of certain tenors and currencies of LIBOR rates
  - accepted that, since LIBOR had only recently been taken over by IBA, time would be needed to implement changes

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The FSB’s ‘multi-rate approach’

– In July 2014, the Financial Stability Board (**FSB**) published a report on **Reforming Major Interest Rate Benchmarks (2014)** which suggested a ‘multi-rate’ approach to reforming interest rate benchmarks across currencies:

Strengthening existing IBORS	+	Developing alternative nearly risk-free reference rates (“RFRs”)
– By anchoring in transactions – By fully implementing the IOSCO principles		– These would provide robust alternatives for IBORS – RFRs would be better suited for use in many applications

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LIBOR and EURIBOR reform

– IBA proposals on LIBOR evolution published in March 2016
  - aim was to ensure LIBOR rates are representative and can be published in all circumstances
  - extend: (i) transaction/counterparty types; (ii) submitters' funding centres; (iii) transaction timing/window
  - proposals were to be phased in progressively over 2017/2018

– European Money Markets Institute (EMMI) published similar proposals for EURIBOR
  - concluded in May 2017 it would not be feasible to move to a fully transaction based methodology
  - hybrid methodology to be consulted on in 2018

FCA speech on the future of LIBOR – July 2017

- On 27 July 2017, Andrew Bailey, Chief Executive of the Financial Conduct Authority (**FCA**), gave a speech highlighting:

  - **Limitations to LIBOR reform**
    - significant improvements have been made to LIBOR since 2013…
    - but the absence of active underlying markets raises a serious question about the sustainability of the LIBOR benchmarks that are based upon these markets

  - **The way forward**
    - panel bank support to sustain LIBOR until end-2021 will enable a transition that can be planned and executed smoothly
    - work must begin in earnest on planning the transition to alternative reference rates that are based firmly on transactions
    - "*Our intention is that, at the end of this period, it would no longer be necessary for the FCA to persuade, or compel, banks to submit to LIBOR*"

- In November 2017, the FCA confirmed that LIBOR panel banks have agreed to continue submitting to LIBOR until end-2021

FCA speech on financial market developments

– On 1 March 2018, Andrew Bailey gave a further speech commenting on LIBOR and the prospect of IBA entering a voluntary arrangement to sustain LIBOR:

  - *“I don’t rule this out, but I would stress that I don’t see a prospect of a reversal in the decline of the market activity that LIBOR seeks to measure, and the FCA has not changed its position that it is not going to use powers of compulsion towards submitters beyond that point.”*

– The market must therefore work towards finding alternatives to LIBOR

LIBOR alternatives – Risk Free Rates (RFRs)

– Working groups in the various LIBOR currency jurisdictions have been working on selecting RFRs as a replacement benchmark for LIBOR. The table below sets out the relevant RFRs selected to date:

Currency	RFR	Secured?	Publication time
Sterling (£)	SONIA (Sterling Overnight Index Average) *SONIA is undergoing reform, which is to be completed by 23 April 2018*	N	09:00 GMT *(from 23 April 2018) T+1*
Euro (€)	TBC *The ECB are developing a new euro unsecured overnight rate and there is a working group which will select a euro RFR*	TBC	TBC
US Dollar ($)	SOFR (Secured Overnight Funding Rate) *This is a new rate which will begin to be published on 3 April 2018*	Y	08:00 ET *(from 3 April 2018) T+1*
Swiss Franc (CHF)	SARON (Swiss Average Rate Overnight) *This replaced TOIS fixing in December 2017*	Y	12:00, 16:00 and 18:00 CET *same day*
Japanese Yen (¥)	TONAR (Tokyo Overnight Average Rate)	N	10:00 JST *T+1*

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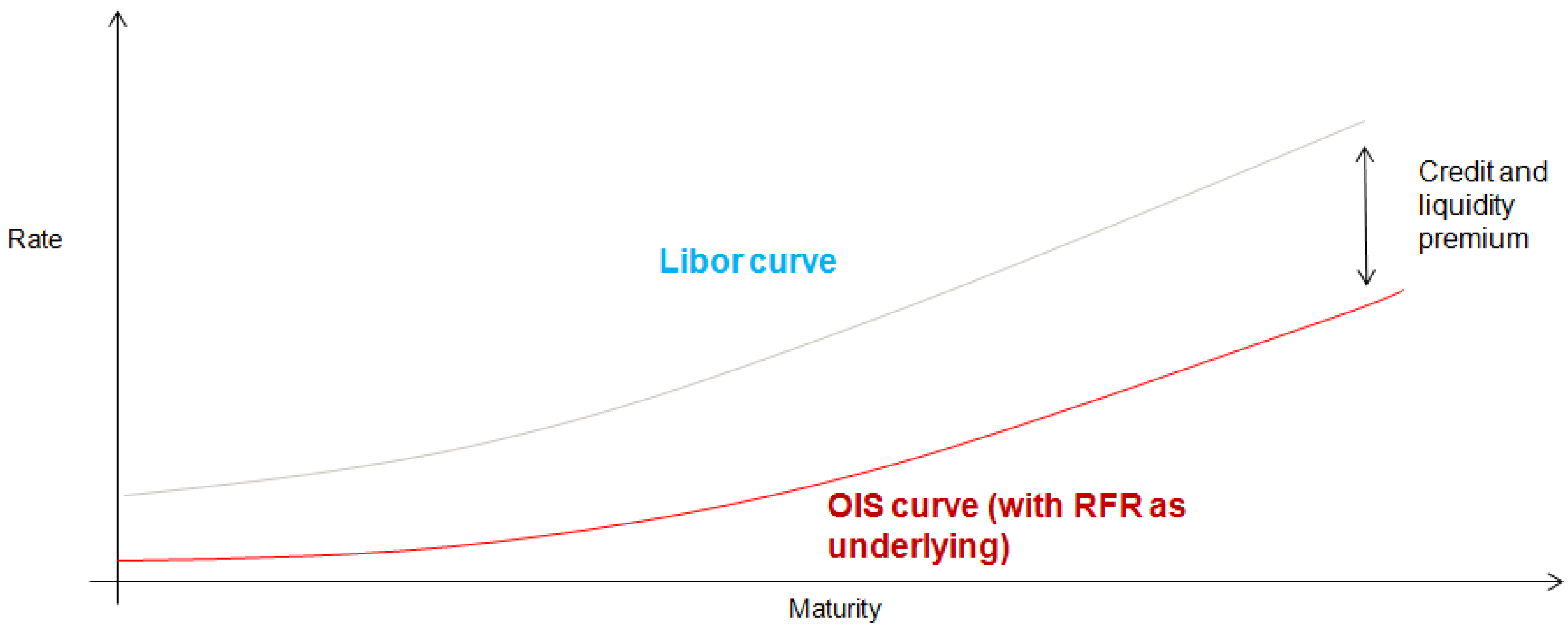
What is the difference between LIBOR and RFRs?



Source: Bank of England

- **Term benchmarks:** LIBOR is a forward-looking term rate published for 7 tenors (e.g. 1, 3, 6 months); *RFRs are backward-looking overnight rates*
- **Credit premium:** LIBOR includes term bank credit risk; *RFRs are near risk-free*
- **Term liquidity premium:** LIBOR will include the premium paid on longer-dated funds; *RFRs will not include a premium for term*

Implications for financial markets

- The pricing, documentation and administration of many floating rate products, including syndicated loans and floating rate notes, depend on the current features of LIBOR

- The difference between LIBOR and RFRs raises a number of issues in terms of transition

- Certain of these key issues are highlighted on the following slides, looking generally at financial markets and then focusing on syndicated loans, bonds and derivatives

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Use of RFRs – key issues in financial markets

No clear alternative to LIBOR for all financial products has been identified, as yet…

- The focus of work on RFRs has been on the derivatives market, and has now shifted to the cash markets. The two will need to work together given inter-relationships of products
- The RFRs chosen are not equivalent to LIBOR, given their overnight (and, in some cases, secured) nature and the lack of a term structure
- Replacement of LIBOR with a lower RFR potentially leaves a pricing gap which needs a reimbursement mechanism or to be built into pricing
- Some RFRs are not yet in existence (for example, the new euro RFR is yet to be selected and is expected to be published by 2020)

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Use of RFRs – key issues in financial markets

LIBOR is quoted on the same basis for each LIBOR currency. The RFRs are currency specific

LIBOR is published as of 11:00 across each currency. RFRs are to be published at different times to LIBOR and each other

Different rates and methodologies are being proposed in different jurisdictions

Certain RFRs are secured and others unsecured. This can cause issues, particularly for cross-currency swaps

The RFRs are likely to become available at different times, as the transition process is not currently being coordinated globally

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Use of RFRs – key issues in financial markets

Term rates are not available, as yet…

The RFRs are backward-looking overnight rates. LIBOR is a forward-looking term rate, quoted for various tenors. The RFRs do not compensate lenders for making longer-term funds available

A forward-looking rate provides certainty of funding costs, as the interest payable will be known in advance. This is important for cashflow management

There are currently no term rate options available for the RFRs. The timing and ultimate availability of forward-looking term rates is uncertain. Robust term rates require the development of liquid markets

If different benchmarks are chosen by derivatives markets and the underlying products hedged this could lead to basis risk and impact liquidity

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Use of RFRs – key issues in financial markets

Operational issues

- The administration of many floating rate products depends on the current features of LIBOR
- A move to different publication times will cause operational disruption and challenges for existing IT systems
- Different pricing / margins may need to be applied across different currencies

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Use of RFRs – key issues in financial markets

Contractual implications

- Existing fallbacks are not suitable long-term and are designed for temporary disruptions. Fallbacks may not be available or possible to administer market-wide
- The amendment process to accommodate replacement rates depends on the market. ISDA has a protocol system for amendments, but syndicated loans and bonds do not and require individual amendments
- Given the current lack of available alternatives, deals being documented today which mature after 2021 are being based on LIBOR, compounding the number of legacy deals
- Industry template documentation can only be updated once a suitable alternative is available

Specific implications for syndicated loans

– For loans, the LIBOR benchmark rate is set at the beginning of the interest period which determines the interest amount payable at the end of the period, providing certainty of payments

– Loan systems are not set up to process and calculate interest based on overnight rates

– Flexibility and optionality are key for the product to work, e.g. multicurrency facilities can be provided for under one document

– See pages 21 to 25 for a discussion on loan agreement fallbacks

– Each individual loan agreement would need to be amended and renegotiated to refer to an alternative benchmark rate, with significant time and cost implications

Specific implications for bonds / floating rate notes

- Bond issuers and underwriters need to consider how to disclose the risks arising from a possible discontinuation of LIBOR
  - some issuers are including risk factors relating to LIBOR transition in their prospectuses

- There is no standard set of industry template documentation, however, existing fallbacks are usually to reference bank rates with an ultimate fallback to a fixed rate (which will be the last calculated floating rate)

- Potential changes to existing bond documentation will need to be agreed with bondholders, which is not a simple process
  - liability management exercises (such as bondholder meetings or consent solicitations) are required to make amendments
  - amendments to interest rate provisions tend to require a higher threshold for consent (often unanimous)

Specific implications for derivatives

- ISDA is updating its definitions to include the RFRs as fallbacks to LIBOR
  - 2006 ISDA definitions referencing LIBOR typically fall back to reference banks
  - updated definitions can be incorporated by reference in new trades
  - amendments to legacy trades could be implemented using a protocol arrangement (allowing any two counterparties to an ISDA Master Agreement adhering to the protocol to amend the terms of any trades between them)
  - note that ISDA Master Agreements are bilateral contracts (cf. multilateral syndicated loans and bonds)

- Legacy hedging contracts may become less effective if RFR transition is not coordinated across underlying products and their corresponding hedges

- Redocumentation may trigger falling away of hedge relationships and loss of regulatory grandfathering arrangements (e.g. in respect of EMIR)

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Wider impact of LIBOR transition

– Syndicated loans, bonds and derivatives are not the only products impacted…

Product	Product examples
• Over-the-counter (OTC) derivatives	• Interest rate swaps, forward rate agreements (FRAs), cross-currency swaps
• Exchange-traded derivatives (ETDs)	• Interest rate options, Interest rate futures
• Loans	• Syndicated loans, business loans, mortgages, credit cards, auto loans, consumer loans, student loans
• Bonds and floating rate notes (FRNs)	• Corporate and non-US government bonds, agency notes, leases, trade finance, FRNs, covered bonds, capital securities, perpetuals
• Short-term instruments	• Repos, reverse repos, time deposits, credit default swaps (CDS), commercial paper
• Securitized products	• Mortgage-backed securities (MBS), asset-backed securities (ABS), commercial mortgage-backed securities (CMBS), collateralized loan obligation (CLO), collateralized mortgage obligation (CMO)
• Other	• Late payments, discount rates, overdraft

Market participants

- Central counterparties (CCPs)
- Exchanges
- Government-sponsored enterprise (GSE)
- Investment banks
- Commercial banks
- Retail banks
- Asset managers
- Pension funds
- Hedge funds
- Regulated funds
- Insurance/ Reinsurance
- Corporations
- Non-bank lenders
- Supranationals
- Others

Source: IBOR Global Benchmark Survey 2018 Transition Roadmap (AFME, ICMA, ISDA, SIFMA, SIFMA AMG)

LIBOR and the LMA documents

– LMA documentation is drafted to accommodate the calculation and publication conventions applicable to LIBOR

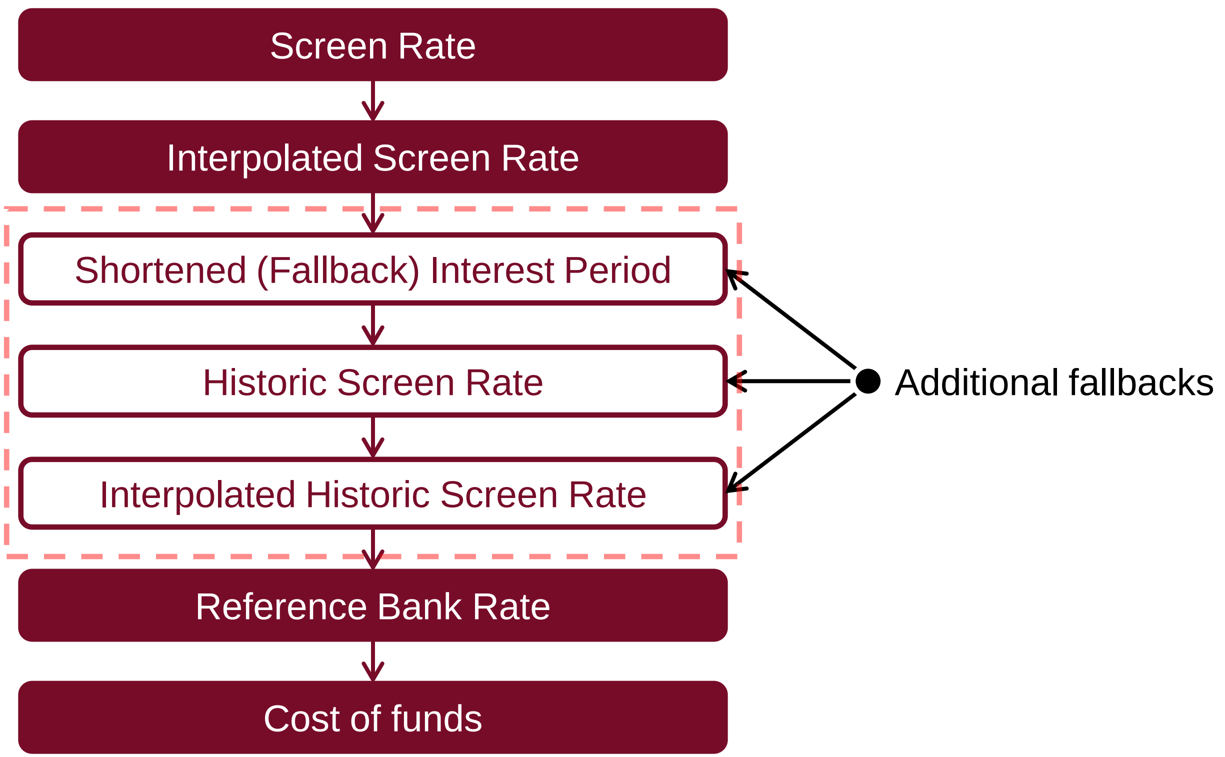
– Changes were made to the interest rate fallback provisions in LMA documentation in November 2014 following reforms to LIBOR
  • the disappearance of LIBOR for "less common" currencies and tenors caused unexpected difficulties

– There are now two alternative optional fallback provisions:
  • Option 1 which provides for additional fallbacks to shortened interest periods and/or historic interest rates
  • Option 2 which provides for a shorter waterfall, but which was redrafted from the pre-2014 fallbacks

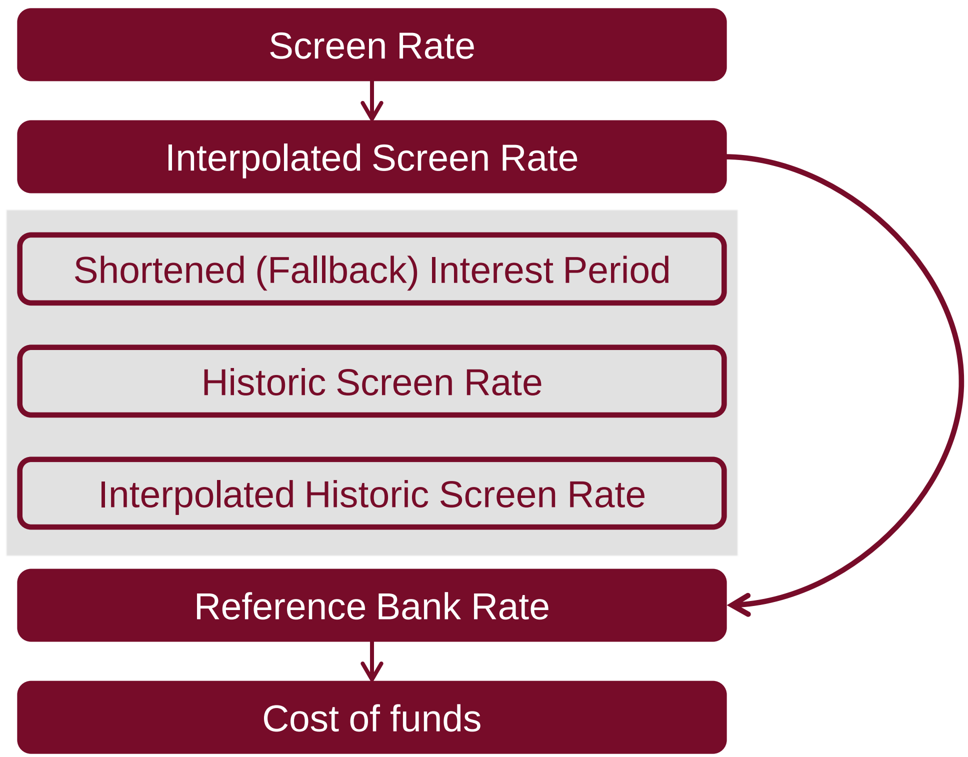
  These two options are represented diagrammatically on pages 21 and 22

– The LMA also introduced "domestic interest rate benchmark schedules" for non-LIBOR currencies
  • language included in LMA facility agreements to allow use of a "Benchmark Rate" for a "Non-LIBOR Currency" and to add details of appropriate market conventions by way of a schedule for each Non-LIBOR Currency

Post-November 2014 fallback waterfall: Option 1



Post-November 2014 fallback waterfall: Option 2



Use of existing LMA fallbacks

– Existing fallbacks are not designed to be used long-term, or where LIBOR has been permanently replaced by a different rate with a different methodology for calculation

– A fallback to reference bank rates is difficult in the current market and may be even more so if LIBOR ceases to exist
  • the LMA documentation does not compel reference banks to quote

– The ultimate fallback is to cost of funds, however administering loans on this basis for any significant period of time is unworkable (as shown when certain LIBOR currencies and tenors were discontinued in 2014)

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Ability to amend the Screen Rate

- There is a longer-term solution which was included in the LMA documentation in 2014
  - Optional provision in Clause 42.5 (*Replacement of Screen Rate*):

> *Subject to paragraph (a) of Clause 42.4 (Other exceptions) <u>if any Screen Rate is not available</u> for a currency which can be selected for a Loan, <u>any amendment or waiver which relates to providing for another benchmark rate</u> to apply in relation to that currency in place of that Screen Rate (or which relates to aligning any provision of a Finance Document to the use of that other benchmark rate) may be made with the <u>consent of the Majority Lenders and the Parent</u>.*

  - This only applies where a Screen Rate is unavailable and only to providing for a substitute benchmark (an earlier transition to a new rate and/or changing the margin would need all lender consent)
  - It may not be commercially accepted on all deals (where all lender consent may be requested)
  - Practical difficulties with obtaining consent of the requisite lenders and borrower group need to be considered

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National working groups and timelines

Currency	Working Group	Key sub-groups established	Timescale
Sterling (£)	Bank of England Working Group on Sterling Risk-Free Rates	"Term-rate", "Loan market transition" & "Bond market transition"	Reform of SONIA to be completed by 23 April 2018 (*term-rate consultation H1 2018*)
Euro (€)	Working Group on Euro Risk-Free Rates	"Term structure" & "Contractual robustness legacy and new contracts"	Selection of euro RFR by end-2018, with adoption plan to be developed by end-2019 (*term-rate group being established*)
US Dollar ($)	Alternative Reference Rates Committee (ARRC)	"Market Structures", "Regulatory Issues", "Term Rate" & "Legal"	Production of SOFR to begin 3 April 2018 (*term-rate to be available by Q4 2021*)
Swiss Franc (CHF)	National Working Group on Swiss Franc Reference Rates	"Loan and deposit market" & "Derivatives and capital market"	Switched from TOIS to SARON in December 2017, now focus on LIBOR transition and term-rate
Japanese Yen (JPY)	Study Group on Risk-Free Reference Rates	"Market structure analysis", "Market infrastructure development" & "Use of RFR"	-

Focus on the sterling RFR: SONIA

- SONIA is a measure of the rate at which interest is paid on sterling short-term wholesale funds in circumstances where credit, liquidity and other risks are minimal
- SONIA is the trimmed mean of interest rates paid on eligible sterling denominated deposit transactions
- SONIA has been administered by the Bank of England since April 2016
- Reformed SONIA will be published from 23 April 2018 (indicative data shows reformed SONIA as being on average 1.3 basis points below current SONIA)
- SONIA is to be used as the RFR benchmark for the sterling Overnight Index Swaps (**OIS**) market, which provides the standard discount curve used to value swap positions

The SONIA OIS market

- SONIA OIS are interest rate swap agreements where one party pays an agreed fixed rate and receives the compounded SONIA rate, which is derived from the daily published SONIA rates

- The payments on a SONIA OIS depend on each and every SONIA fixing during the period of the OIS

- ICE and CurveGlobal have stated they will produce 1 and 3 month SONIA futures respectively
  - these futures settle to the mean (1 month) and compounded (3 month) average SONIA rate over the underlying period of the future
  - they provide a means to hedge exposure to forward SONIA rates during the underlying period of each contract
  - futures prices represent the market expectation of the average value of SONIA observations during the underlying period of the future
  - taken with Short Sterling futures, which reference 3 month GBP LIBOR, these futures permit the observation of market expectations of OIS/LIBOR spread and the hedging of OIS/LIBOR spread risk

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Sterling RFR: key working groups

Working Group on Sterling Risk-Free Rates
(Chair: Francois Jourdain, Barclays
Vice Chairs: Simon Wilkinson, Legal & General Investment Management
Frances Hinden, Shell International Ltd)

Sub-group on term SONIA reference rates

(Chair: Nick Saggers, BAML)

Sub-group on benchmark transition issues in syndicated loan markets

(Chair: Clare Dawson, LMA)

Sub-group on benchmark transition issues in bond markets

(Chair: Paul Richards, ICMA)

Discussion Forums
Open stakeholder forums to raise awareness and provide input to RFR WG
Corporate Forum | Banks | Investor Forum

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Working Group on Sterling Risk-Free Rates

Mandate	– Catalyse a broad-based transition to SONIA by end-2021 – Potential development of term SONIA reference rates – Adoption of SONIA in sterling bond and loan markets – International coordination of RFR adoption
Membership	Broadened in January 2018 to include: – Investment managers – Non-financial corporates and other sterling issuers – Infrastructure firms – Trade associations (including the ACT and LMA) – Banks and broker dealers

Sub-group on term SONIA reference rates

- The objectives of the sub-group are to:
  - assess relevant potential use cases
  - identify and review potential data inputs and calculation methodologies
  - propose measures to limit systemic reliance on these indices
  - agree design criteria for potential administrators and data providers

- Term RFRs could be derived from:
  - taking the fixed leg of a set of maturity OIS contracts (e.g. 1, 3 or 6 months) as a term reference rate. The rate could be produced from executable quotes for OIS on regulated electronic trading platforms or using rates on executed transactions of OIS on a particular day
  - SONIA futures order book data
  - these options require the development of liquid forward-pricing curves

- A consultation is expected in H1 2018

- The ACT and LMA are members of this sub-group

Sub-group on transition issues in syndicated loan markets

- The objectives of the sub-group are to:
  - develop documentation which could allow discretionary transition to SONIA (or a SONIA term rate)
  - develop template documentation for loans referencing SONIA (or a SONIA term rate)
  - develop contingency plans for legacy LIBOR loans
  - promote the adoption of SONIA in syndicated loan facilities
  - consider coordination of transition from non-GBP LIBORs
  - mitigate challenges created by a switch to SONIA (or a SONIA term rate)

- Work is ongoing through the sub-group to provide more flexibility in LMA documentation to transition to a new rate (by amending the existing replacement of screen rate language). This work will be kept as consistent as possible with similar work on other financial products

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Sub-group on transition issues in bond markets

- The objectives of the sub-group are to:
  - develop documentation which could allow discretionary transition to SONIA (or a SONIA term rate)
  - develop template documentation for new bond issuances referencing SONIA (or a SONIA term rate)
  - develop contingency plans for legacy LIBOR bonds
  - promote the adoption of SONIA in bond issuances
  - consider coordination of transition from non-GBP LIBORs
  - mitigate challenges created by a switch to SONIA (or a SONIA term rate)

- The LMA is represented on this sub-group to ensure consistency across financial products

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Getting involved

- It is important for market participants to:
  - conduct due diligence on how the business uses LIBOR and in what context
  - monitor developments
  - evaluate adjustments to documentation
  - get involved, where relevant, to help shape the alternatives being proposed to ensure they are suitable for the cash markets (financially and operationally)

- Members of the Working Groups are focused on identifying appropriate benchmark rates and transitional arrangements

- Corporate treasurers can engage via the ACT and loan market participants can engage via the LMA

- They can also engage in sterling RFR transition by contacting: RFR.Secretariat@bankofengland.gsi.gov.uk

Links to further reading

- ACT LIBOR Microsite
- LMA LIBOR Microsite
- Andrew Bailey speech on the Future of LIBOR, July 2017
- Bank of England webpage on Benchmarks
- Joint letter to the FSB listing key issues for non-derivatives markets of a transition away from LIBOR, January 2018
- IBOR Global Transition Roadmap 2018
- Oliver Wyman Report – Changing the World's Most Important Number: LIBOR Transition, February 2018

Disclaimer

- The views and opinions expressed in this publication are the views of the authors. The LMA and the ACT have made every effort to ensure the complete accuracy of the text but neither can accept any legal responsibility or liability for any error or omission in its contents. This edition should be current as of 12 March 2018
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