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ACT LEADING TREASURY PROFESSIONALS

The future of LIBOR: what you need to know

(second edition)

Contents

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
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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

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

LIBOR and EURIBOR reform

- IBA proposals on LIBOR evolution published in March 2016 (and ICE Evolution Paper published in April 2018)
  - 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 to be phased in progressively over 2018/2019 (ICE published test data in March 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 being 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 transition to a world without LIBOR

- On 12 July 2018, Andrew Bailey gave a further speech highlighting why firms need to end their reliance on LIBOR by the end of 2021, why RFRs are the right foundation for interest rate markets, and the progress made on transition to RFRs and the work that remains to be done

- In particular, Andrew Bailey noted that:
  - "*The discontinuation of LIBOR should not be considered a remote probability 'black swan' event. Firms should treat it is as something that will happen and which they must be prepared for*"
  - "*Firms that we supervise will need to be able to demonstrate to FCA supervisors and their PRA counterparts that they have plans in place to mitigate the risks, and to reduce dependencies on LIBOR*"

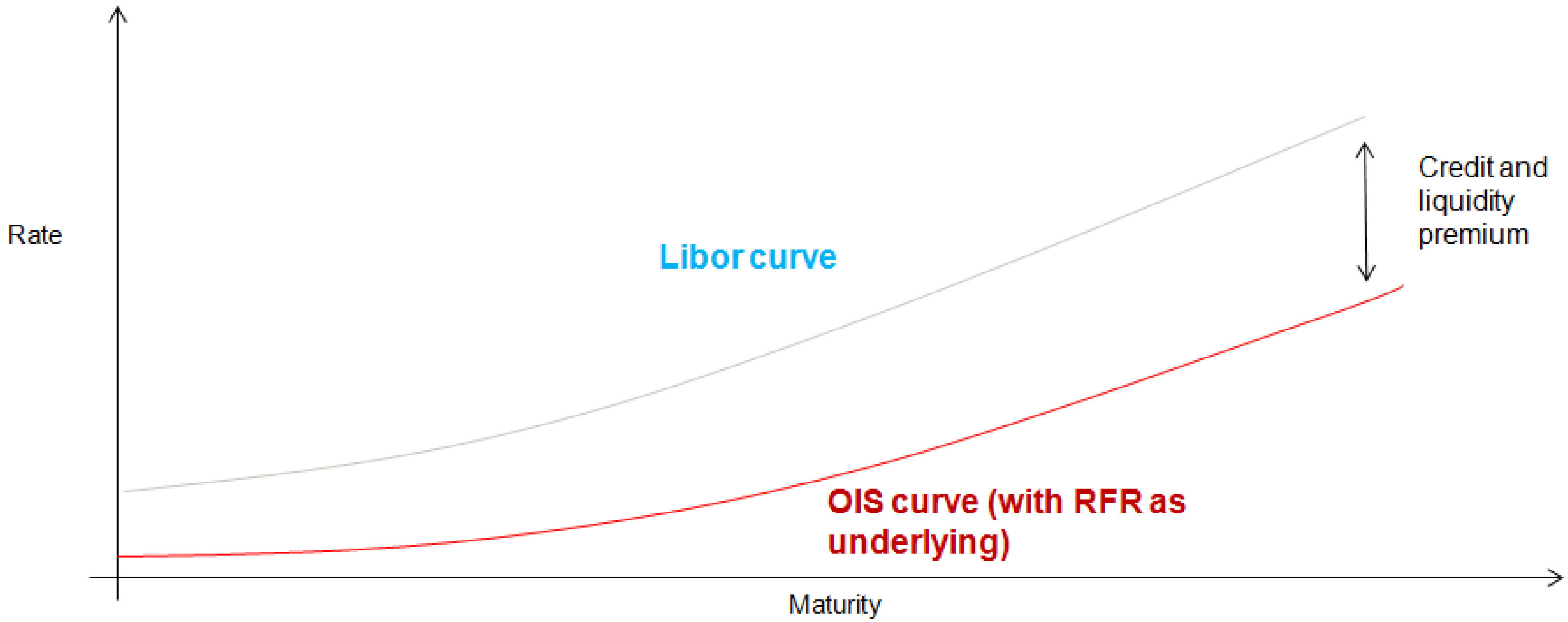
- The market must therefore work towards finding alternatives to LIBOR

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 reform was completed on 23 April 2018*	N	09:00 GMT *T+1*
Euro (€)	ESTER (Euro Short-Term Rate) *This is a new overnight rate being developed by the ECB and expected to be published by October 2019*	N	09:00 CET *T+1*
US Dollar ($)	SOFR (Secured Overnight Funding Rate) *This is a new rate which has been published since 3 April 2018*	Y	08:00 ET *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 (¥)	TONA (Tokyo Overnight Average Rate)	N	10:00 JST *T+1*

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

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 was originally on the derivatives market, and has recently 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, ESTER, the euro RFR, is expected to be published by October 2019)

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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 developing at different rates, as the transition process is not currently being coordinated globally

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

Will different pricing / margins 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 for certain products, deals being documented today which mature after 2021 are being based on LIBOR, compounding the number of legacy deals

- Industry template documentation for certain products 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 23 to 28 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

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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

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

ISDA consultation on benchmark fallbacks

- ISDA is amending its standard documentation to implement fallbacks for certain key IBORs to the identified RFRs

- ISDA launched a consultation in July 2018 (closing on 12 October 2018) seeking input on the approach for addressing certain technical issues associated with adjustments that will apply to the RFRs if the fallbacks are triggered

- The consultation sets out four options to account for the move from a term rate to an overnight rate:
  - spot overnight rate
  - convexity adjusted overnight rate
  - compounded setting in arrears rate
  - compounded setting in advance rate

ISDA consultation on benchmark fallbacks

- Three options are proposed to calculate a spread adjustment:
  - forward approach
  - historical mean/median approach
  - spot-spread approach

- In each case, the spread adjustment will be fixed at the point the fallback is triggered

- The ISDA consultation is looking only at derivatives, however any outcomes could impact the cash markets either directly or indirectly. As a result the consultation is open to all market participants, not just ISDA members

Wider impact of LIBOR transition

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

Product	Product examples	Market participants	
• Over-the-counter (OTC) derivatives	• Interest rate swaps, forward rate agreements (FRAs), cross-currency swaps	• Central counterparties (CCPs)	• Asset managers
• Exchange-traded derivatives (ETDs)	• Interest rate options, Interest rate futures	• Exchanges	• Pension funds
• Loans	• Syndicated loans, business loans, mortgages, credit cards, auto loans, consumer loans, student loans	• Government-sponsored enterprise (GSE)	• Hedge funds
• Bonds and floating rate notes (FRNs)	• Corporate and non-US government bonds, agency notes, leases, trade finance, FRNs, covered bonds, capital securities, perpetuals	• Investment banks	• Regulated funds
• Short-term instruments	• Repos, reverse repos, time deposits, credit default swaps (CDS), commercial paper	• Commercial banks	• Insurance/ Reinsurance
• Securitized products	• Mortgage-backed securities (MBS), asset-backed securities (ABS), commercial mortgage-backed securities (CMBS), collateralized loan obligation (CLO), collateralized mortgage obligation (CMO)	• Retail banks	• Corporations
• Other	• Late payments, discount rates, overdraft		• 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

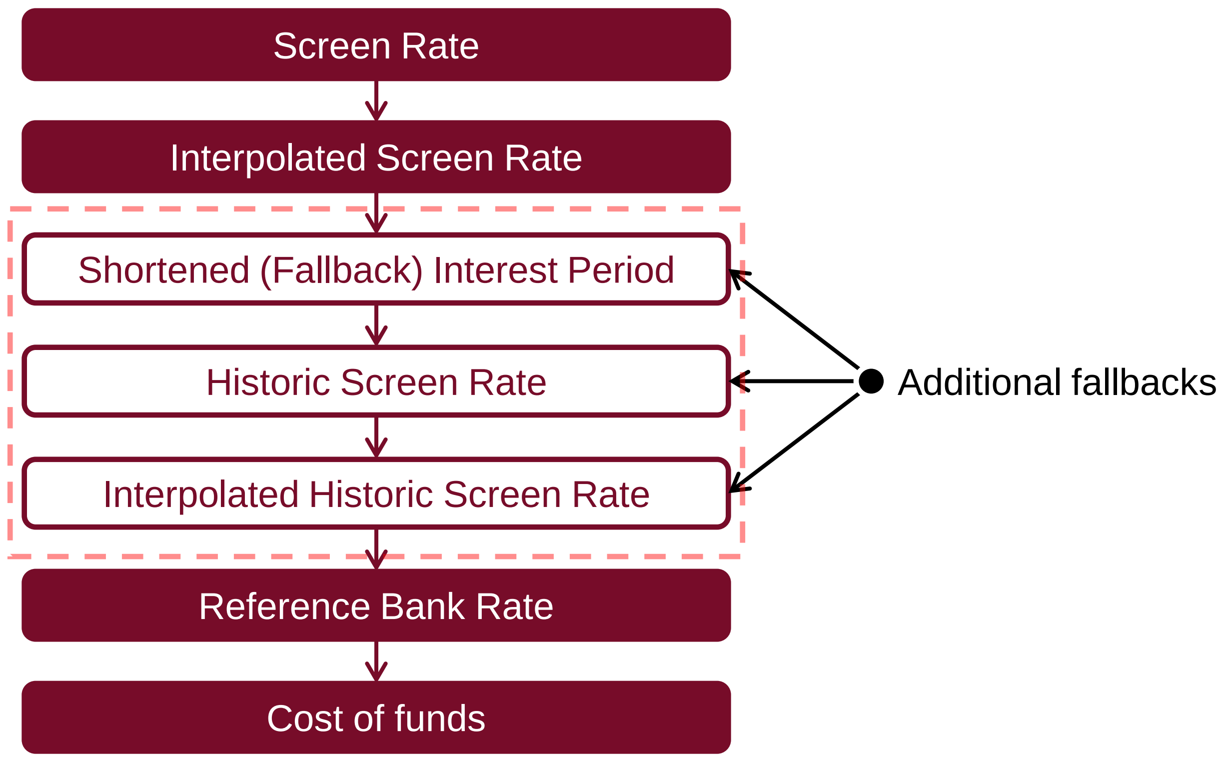
- Changes were made to the interest rate fallback provisions in LMA documentation in November 2014 following reforms to LIBOR
  - the disappearance of LIBOR for "less common" currencies and tenors caused unexpected difficulties

- 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

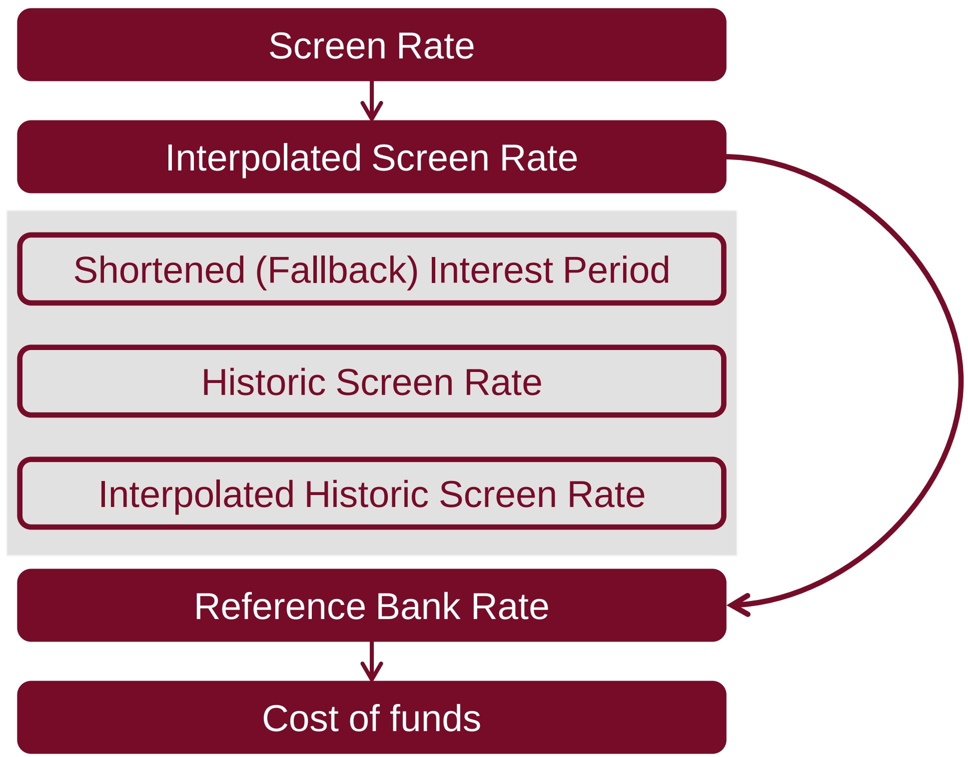
  These two options are represented diagrammatically on pages 24 and 25

- 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)

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) if any Screen Rate is not available for a currency which can be selected for a Loan, any amendment or waiver which relates to providing for another benchmark rate 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 consent of the Majority Lenders and the Parent.*

  - 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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Revised replacement of screen rate clause

- The LMA published a rider on 25 May 2018 with a revised version of the Replacement of Screen Rate clause

- The revised version facilitates further flexibility than the existing clause by permitting amendments with a lower consent threshold than may otherwise be required in a wider range of circumstances

- It allows amendments to be made to facilitate inclusion of a replacement benchmark which:
  - is formally selected as a replacement for LIBOR by the LIBOR administrator or by an appropriate regulator; or
  - is otherwise accepted by the relevant markets; or
  - is deemed appropriate by the requisite majority of lenders and the obligors

- The clause can either apply at any time or upon a “Screen Rate Replacement Event”

- The wording was agreed with the ACT and borrower representatives

- The drafting is mindful (to the extent possible) of the then current draft of the ISDA Benchmark Supplement

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National working groups and timelines

Currency	Working group	Key sub-groups established	Key timings
Sterling (£)	Bank of England Working Group on Sterling Risk-Free Rates	"Term-rate", "Loan market transition", "Bond market transition", "Communications and Outreach" & "Infrastructure"	Term rate consultation published in July 2018, closing 30 September 2018
Euro (€)	Working Group on Euro Risk-Free Rates	"Term structure", "Contractual robustness: legacy and new contracts" & "EONIA transition"	ESTER to be published by October 2019, with transition to be completed by end-2019
US Dollar ($)	Alternative Reference Rates Committee (ARRC)	"Market Structures", "Regulatory Issues", "Term Rate", "Legal", "Floating Rate Notes" & "Business Loans and CLOs"	Production of SOFR began on 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 (¥)	Cross-Industry Committee on Japanese Yen Interest Rate Benchmarks	"Loans", "Bonds", & "Development of Term Reference Rates"	The Committee was formed in August 2018 and expects to consult in mid-2019

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 has been published since 23 April 2018

- SONIA is 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 launched 1 and 3 month SONIA futures in Q2 2018
  - 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

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

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 identify relevant use cases for term SONIA reference rates (**TSRRs**), assess the feasibility of constructing robust TSRRs, and provide practical guidance on how these could be developed in order to facilitate benchmark transition

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

– A consultation on TSRRs was published in July 2018 (closing on 30 September 2018), setting out potential TSRR use cases, information on the SONIA derivatives market and potential data sources and methodologies for a TSRR

– TSRRs 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

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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 communicate best practice for referencing SONIA in syndicated loan markets (planned for later in 2018). 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 (and ICMA is represented on the loan sub-group)

- In July 2018, a paper produced by the sub-group on new issuance of sterling bonds referencing LIBOR was published on the Bank of England website. The paper can be accessed here

Focus on the euro RFR

- In September 2017, the European Central Bank (**ECB**), together with the Financial Services and Markets Authority (**FSMA**), the European Securities and Markets Authority (**ESMA**) and the European Commission set up a working group to recommend a euro RFR
- A public consultation, which closed in July 2018, on the candidate euro RFRs showed the preferred candidate to be ESTER (see slide 39 for more details)
- In September 2018, the working group recommended ESTER as the euro RFR and replacement for EONIA
- Three sub-groups on term structure, contract robustness and EONIA transition have been established

Focus on the euro RFR – timeline

- The EU Benchmarks Regulation (**BMR**) requires EMMI, as administrator of EURIBOR and EONIA, to seek authorisation before the end of 2019
- After this transitional period it will no longer be possible for supervised entities in the EU to use these benchmarks from January 2020 unless the administrator has been authorised or its supervisor has granted an exemption
- Use of benchmarks in legacy contracts may be permitted following a decision by the FSMA under the BMR
- EMMI has indicated that, given decrease in underlying volume and increase in concentration, EONIA's compliance with the BMR cannot be warranted
- In relation to EURIBOR, EMMI is working on a hybrid methodology with the aim of achieving BMR compliance
- The euro RFR working group is therefore working to an end-2019 deadline for transition to ESTER

Focus on ESTER

- The ECB is developing a euro short-term rate (**ESTER**) based on data already available to the Eurosystem (as reported by banks in accordance with the ECB's money market statistical reporting (**MMSR**))
- ESTER will reflect the wholesale euro unsecured overnight borrowing costs of euro area banks
- The ECB will begin publishing ESTER by October 2019, with the rate to be available at 09:00 CET on each TARGET2 business day, based on the previous day's transactions
- Until ESTER is available, the ECB will publish figures referred to as pre-ESTER, which market participants can use to assess the suitability of the new rate

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Euro RFR – key working groups

Working Group on Euro Risk-Free Rates
(Chair: Koos Timmermans, ING)

Workstream 1: Identify alternative RFRs

Sub-group 2: Identify term structure on RFRs *(Chair: Dominique Le Masson, BNP Paribas)*

Sub-group 3: Contractual robustness legacy and new contracts *(Chair: José Manuel González-Páramo, BBVA)*

Sub-group 4: EONIA transition *(Chair: Carlos Molinas, Crédit Agricole)*

Sub-group 2A: Methodologies on RFR *(Chair: Neil McLeod, Erste Bank)*

Sub-group 2B: Compliance with BMR / IOSCO principles *(Chair: Carlos Infesta, Santander)*

Sub-group 2C: Requirements for adoption *(Chair: Alberto Covin, UniCredit)*

Working group on euro risk-free rates

Mandate	– Identify alternative euro RFRs – Identify best practices for contractual robustness – Develop an adoption plan, and if necessary the creation of a transition plan for legacy contracts referencing existing benchmarks
Membership	– Major EU credit institutions – Representatives from FSMA, ESMA, ECB and the European Commission as observers – Trade associations (including the LMA) – EMMI

The terms of reference and list of members for the working group and three sub-groups can be found on the website for the working group here

Focus on the US dollar RFR – SOFR

- SOFR is a secured overnight reference rate, which acts as a broad measure of the cost of borrowing cash overnight collateralised by US Treasury securities
- SOFR is calculated as a volume-weighted median of transaction-level tri-party repo data collected from the Bank of New York Mellon and the Depository Trust & Clearing Corporation
- The Federal Reserve Bank of New York (FRBNY) began publishing SOFR on 3 April 2018

Focus on the US dollar RFR – SOFR

- Under the ARRC's "Paced Transition Plan", there is a focus on creating a baseline level of liquidity for derivatives contracts referencing SOFR

- As part of this plan, ARRC members were to put in place infrastructure for futures and/or OIS trading in SOFR by H2 2018
  - ARRC members are now already trading futures and OIS
  - CME Group launched 1 and 3 month SOFR futures in Q2 2018, with ICE announcing it will launch the same in Q4 2018

- The ARRC intends to create a term reference rate based upon SOFR derivatives once liquidity has developed sufficiently to produce a robust rate (expected to be available by end-2021)

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US dollar RFR – key working groups

The Alternative Reference Rates Committee (ARRC)
(Chair: Sandie O'Connor, JPMorgan Chase)

- Market Structures
- Term Rate
- Regulatory Issues
- Floating Rate Notes
- Business Loans and CLOs

Note: The full ARRC working group structure can be found here (see slide 9)

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Alternative Reference Rates Committee (ARRC)

Mandate	– Identify best practices for alternative RFRs – Develop a plan for the adoption of alternative RFRs – Create a plan for the implementation of alternative RFRs with metrics to indicate its success – To serve as a forum to coordinate and track planning across cash and derivatives products and market participants currently using US dollar LIBOR
Membership	Includes: – Credit institutions – US regulators and policymakers – Trade associations (including the LSTA and NACT) – ICE

ARRC guiding principles for fallback contract language

- In July 2018, the ARRC published guiding principles for the development of fallback language for new financial contracts for cash products to ensure they will continue to be effective in the event that USD LIBOR ceases to be produced
- The principles are primarily aimed toward newly issued cash products including business loans, securitisations, and floating rate notes referencing LIBOR
- The principles are intended to be voluntarily adopted by market participants to assist them in reformulating their contracts
- The principles include broad guidelines related to usage of successor rates, spread adjustments, and trigger events; encourage consistency of terms and conditions across asset classes; and ask practitioners to consider feasibility and fairness of implementation
- The principles can be accessed here
- The Floating Rate Notes and Business Loans and CLOs Working Groups are working on draft fallback language for their respective product areas and expect to consult on draft language in late September 2018

Focus on the Swiss franc RFR – SARON

- SARON is a secured overnight reference rate that reflects the interest paid on the interbank Swiss franc repo market
- SARON is based on an ongoing, volume-weighted reading from the transactions concluded and reference prices posted on a given trading day
- The Swiss National Bank (**SNB**) established the National Working Group on CHF Reference Rates (**NWG**) in 2013 to reform TOIS fixing
- SARON replaced TOIS fixing on 29 December 2017
- In October 2017, the NWG selected SARON as the alternative to CHF LIBOR
- Work in relation to SARON is currently focused on the transition away from LIBOR and the creation of a term rate structure

Swiss franc RFR – key working groups

National Working Group on Swiss Franc Reference Interest Rates (“NWG”)
(Co-chairs: Martin Bardenhewer, Zürcher Kantonalbank & Marcel Zimmermann, SNB)

Sub-group on Derivatives and Capital Market

(Chair: Otto Huber, Credit Suisse)

Sub-group on Loan and Deposit Market

(Chair: Alfred Ledermann, UBS)

Swiss NWG – mandate of the sub-groups

Mandate	Derivatives and capital market, includes: – Analyse infrastructure and legal requirements for implementation of financial products based on SARON – Propose best practices for contract robustness Loan and deposit market, includes – Analyse requirements to establish effective SARON based loan and deposit market – Propose best practices for contract robustness
Membership	Includes: – Major credit institutions – Representatives from the SNB, Swiss Financial Market Supervisory Authority (FINMA) and the SIX Swiss Exchange – Trade associations (including the LMA and ACTSR)

Swiss NWG – milestones

- In June 2018, the NWG released recommended specifications for 3 month SARON futures contracts
  - exchanges will be invited to follow the term sheet and provide the product
  - 1 month SARON futures are not being focused on at this point
- In June 2018, the NWG published a questionnaire for corporate outreach to understand the preferences of corporate clients for different term rate approaches and raise awareness of the impact of LIBOR transition
  - a workshop will be conducted in September 2018
- The NWG is to assess the feasibility of different term rate approaches, in particular technical details on infrastructure requirements of a derivatives based term rate

Focus on the Japanese Yen RFR – TONA

- TONA has been published daily by the Bank of Japan (**BoJ**) since 1996
- TONA is an unsecured benchmark, based on transactions in the uncollateralised overnight call rate market and is calculated as a volume-weighted average
- The BoJ formed the Study Group of Market Participants in 2015 with a view to identifying Yen RFRs and selected TONA as the alternative to Japanese Yen LIBOR in December 2016
- TONA is currently referenced for OIS in Japanese Yen, and the current framework for its calculation and publication is likely to remain the same
- In August 2018, the BoJ formed the Cross-Industry Committee on Japanese Yen Interest Rate Benchmarks, which is tasked with facilitating the use of Japanese yen interest rate benchmarks

Japanese Yen RFR – key working groups

The Study Group of Market Participants
(Chair: Takeshi Ogura, Bank of Tokyo-Mitsubishi UFJ
Vice-chair: Shigeru Hashimoto, Nomura Securities)

- Sub-group on market structure analysis
- Sub-group on general collateral repo reform
- Sub-group on market infrastructure development
- Sub-group on use of risk-free rate

Cross-Industry Committee on Japanese Yen Interest Rate Benchmarks
(Chair: MUFG Bank
Vice-chair: Nomura Securities)

- Sub-group on loans
- Sub-group on bonds
- Sub-group on development of term reference rates

Cross-industry Committee

Mandate	– Developing recommendations for the stocktaking of ideas on the appropriate choice and usage of Japanese Yen interest rate benchmarks – Identifying specific challenges arising from the above and proposing solutions – Developing transition plans based on the above for a new framework enabling the use of Japanese Yen interest rate benchmarks
Membership	Includes: – Major credit institutions – Trade associations (including the Japanese Bankers Association) – Regulators and policymakers

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the authoritative voice of the EMEA market

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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)
  - respond to relevant industry consultations

- Members of the currency working groups are focused on identifying appropriate benchmark rates for cash markets and transitional arrangements

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

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Links to further reading

- ACT LIBOR Microsite
- LMA LIBOR Microsite (which contains links to each of the currency working groups)
- Andrew Bailey speeches: July 2017 | July 2018
- Bank of England webpages: Benchmarks | Consultation on TSRRs
- 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
- ISDA consultation on IBOR fallbacks
- Oliver Wyman reports: Changing the World's Most Important Number: LIBOR Transition, February 2018 I Making the World's Most Important Number Less Important: LIBOR Transition, July 2018

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