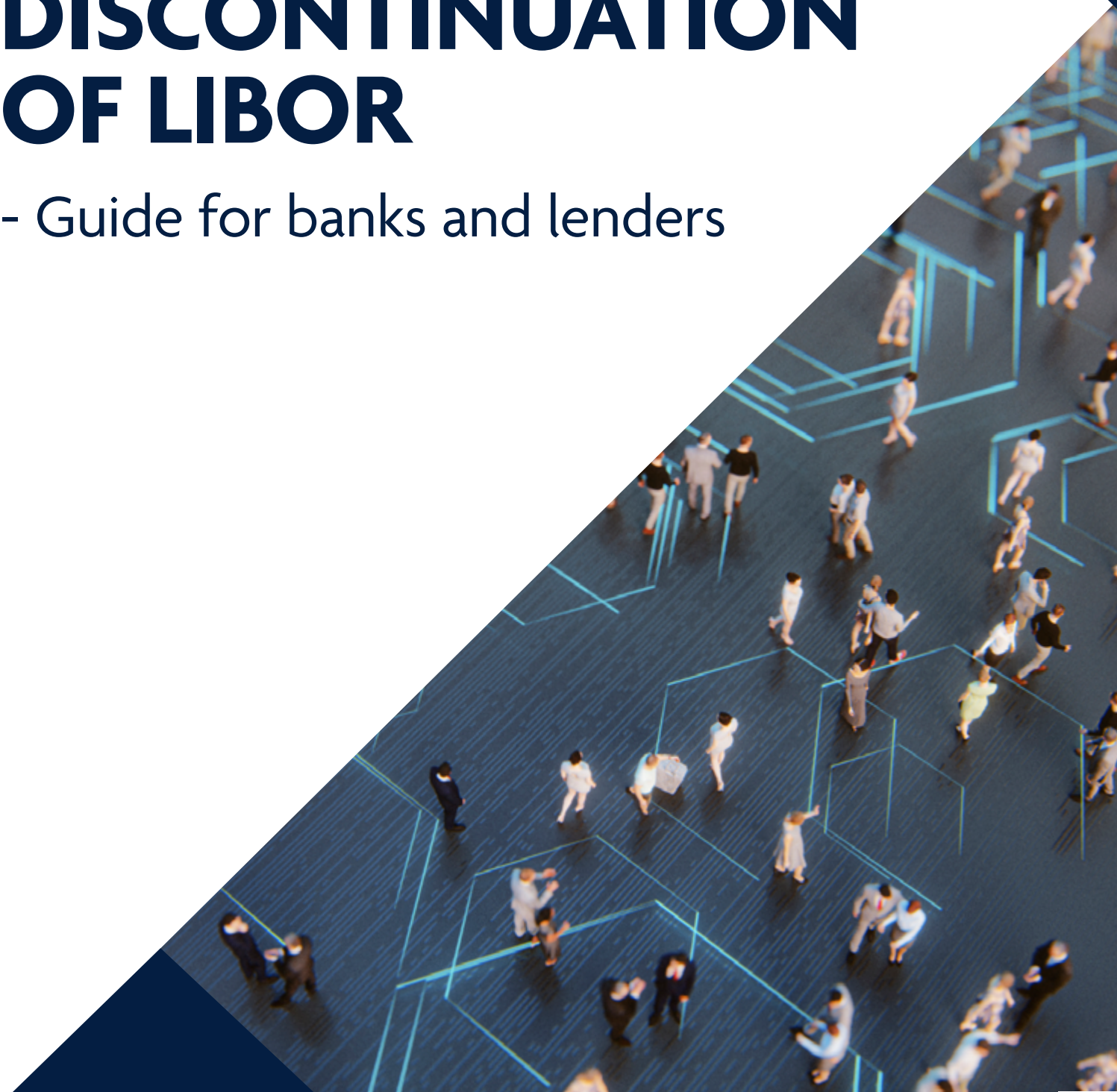
UK FINANCE

With thanks to

pwc

DISCONTINUATION OF LIBOR

- Guide for banks and lenders



UK FINANCE

UK Finance is the collective voice for the banking and finance industry. Representing more than 250 firms across the industry, we act to enhance competitiveness, support customers and facilitate innovation. We work for and on behalf of our members to promote a safe, transparent and innovative banking and finance industry. We offer research, policy expertise, thought leadership and advocacy in support of our work. We provide a single voice for a diverse and competitive industry. Our operational activity enhances members' own services in situations where collective industry action adds value.

PWC

At PwC, our purpose is to build trust in society and solve important problems. PwC is a network of firms in 157 countries with more than 276,000 people who are committed to delivering quality in assurance, advisory and tax services. Find out more and tell us what matters to you by visiting us at www.pwc.com/UK.

TABLE OF CONTENTS

1. PURPOSE AND OBJECTIVES

The London Inter-bank Offered Rate (LIBOR) is intended to reflect the interest rate at which banks borrow from and lend to each other in the unsecured short-term market. It is a benchmark for hundreds of trillions in financial contracts worldwide, and has often been called the most important number in the world.

In 2017, Andrew Bailey, then the CEO of the Financial Conduct Authority (FCA), set out why the regulator does not intend to sustain LIBOR through its influence or legal powers beyond 2021.[1]

Banks have agreed to continue to submit LIBOR until 31st December 2021 (in some USD tenor cases, the submission may continue until 30th June 2023).

The impact of the transition from LIBOR will be far-reaching for financial services firms, businesses and customers alike. Key impacted businesses and functions include capital markets, commercial lending, retail banking and wealth management, investment management, insurance, some parts of the mortgage market, market infrastructure and corporate treasury.

As a result, the FCA expects that market participants will have already set up their LIBOR transition programmes, with a programme oversight and accountability at Board level and Senior Management overseeing the day to day activities of the transition. This expectation has been formalised by several Dear CEO letters the FCA has issued to the financial services sector since 2018, as well as other guidance it has published together with Prudential Regulatory Authority (PRA), Bank of England's (BoE) Financial Policy Committee (FPC), and national working groups shaping LIBOR transition.[2] As we approach the end of LIBOR transition, banks may soon need to demonstrate their programme plans and progress to regulators.

The FCA, and other regulators globally, expect market participants to actively transition away from LIBOR in accordance with the timelines set out by the relevant national working groups. The potential changes to LIBOR submission dates or other regulatory and legislative developments should not be considered as a reason to delay or otherwise defer the transition. The national working group in the UK has made it clear that all issuance of GBP LIBOR should end well ahead of the end of 2021. In the US, authorities have stressed they will be focusing on restricting use of USD LIBOR beyond this point, including those tenors that may endure until June 2023.

1 https://www.fca.org.uk/news/speeches/the-future-of-libor

2 https://www.fca.org.uk/publication/correspondence/dear-ceo-letter-transition-from-libor-banks.pdf
https://www.fca.org.uk/publication/feedback/feedback-on-dear-ceo-letter-on-libor-transition.pdf

The move from LIBOR to risk-free reference rates (RFRs) requires financial firms to make a variety of internal changes, for example update front-and back-office systems, retrain staff and redesign processes, as well as potentially needing to modify or renegotiate potentially thousands of LIBOR-linked contracts. There is a lot of work to do and long lead times to do it, so the potential costs of delay grow with each passing week.

The purpose of this document is to help UK Finance members understand where we are with transition at the start of 2021, and identify the actions they need to take now to ensure they are ready to meet the various LIBOR implementation deadlines. Due to the scale and complexity of the change, it can take considerable resource to identify the key aspects of LIBOR transition and digest the wide range of technical information and guidance on this area.

In order to help meet this challenge, this guide will provide a UK focused introduction to regulatory, commercial and operational challenges of LIBOR transition. It will also give the reader a useful checklist (see Section 6) for potential next steps and how to transition away from LIBOR with minimal disruption. The guide will also provide links to further information.

This document is intended to provide general information only on the topic of LIBOR transition and is published after the UK RFRWG's January 2021 roadmap updates.[3] This user guide should not be taken as legal, tax, financial or accounting advice. Market participants should always refer to the official sources for the latest, most up to date information on the requirements and milestone dates for LIBOR transition globally and contact their advisers for formal guidance.

3 https://www.bankofengland.co.uk/-/media/boe/files/markets/benchmarks/rfr/rfr-working-group-roadmap.pdf?la=en&hash=92D95DFA056D7475CE395B64AA1F6A099DA6AC5D

2. INTRODUCTION

2.1. What is LIBOR?

LIBOR is a series of interest reference rates which, since the 1980s, has underpinned and been used as a basis for calculating many interest rates for financial products. LIBOR rates are based on banks' submissions of their interbank borrowing rates and produced for 5 currencies (pound, euro, US dollar, Swiss franc and Japanese yen) and in 7 tenors (overnight/spot next, 1 week, 1 month, 2 months, 3 months, 6 months and 12 months).

To determine LIBOR, ICE Benchmark Administration (IBA) surveys a pool of banks to estimate an average interest rate for intra-bank funding. The results of the survey are published daily in the form of an unsecured interest rate, with different maturities across the 5 currencies, i.e. the LIBOR. LIBOR represents one of the most important benchmark rates used globally by financial institutions. However, the transaction volume in the market is on the decline as banks do not fund themselves through the same inter-bank, unsecured market anymore. As a result, LIBOR has been based increasingly on expert judgement and the underlying transactions which support LIBOR fixings are more limited.

The FCA was able to secure voluntary agreement from the banks that submit to LIBOR to fulfil their role in submissions. As a result, LIBOR is likely to continue until the end of 2021, or in some USD dollar setting cases, June 2023 (subject to recent consultation). The availability of LIBOR cannot be relied upon beyond these points. RFRs, rate-based products, derivatives, liquidity pools and clearing capabilities need to evolve as part of an overall programme transition timetable. Global coordination across currencies and asset classes is critical, as transactions are highly interlinked and relationships between assets in a portfolio must also be addressed and handled in order to avoid any disruption.

2.2. Why is LIBOR being discontinued?

As noted above, LIBOR has been based increasingly on expert judgement and the underlying transactions which support LIBOR fixings have become more limited. This low volume of market transactions increases LIBOR's vulnerability, and has resulted in the UK regulators concluding it is no longer suitable for ongoing use.

This is due to the number of transactions which underpin the estimates submitted by panel banks to IBA being substantially lower than it has been historically. LIBOR has increasingly become a rate which reflects major banks' judgements concerning their cost of borrowing, rather than market transactions representing their actual cost of borrowing. For example, market volatility in March 2020 highlighted the long-standing weaknesses of LIBOR, with the limited market transactions leaving these rates almost entirely reliant on expert judgement from panel banks. While a series of reforms have anchored LIBOR as much as possible on actual transactions and established strong controls, the fall in real 'observable' transactions means it is no longer a sustainable model.

2.3. Why do you need to act?

LIBOR transition is hugely complex. It is the most widely used reference rate in the world today, determining the interest rates paid by individuals and corporations on trillions of dollars of mortgages, personal and corporate loans, as well as derivatives and other financial contracts.

The transition from LIBOR to RFRs will reduce conduct risk, on the part of the submitting panel banks, and address concerns around ongoing benchmark manipulation. But the transition brings about its own operational, legal, conduct and other risks. It is therefore important for banks to start assessing, planning, engaging with their customers, training their people and delivering changes immediately. Further information on how to do this can be found in section 6 of this document.

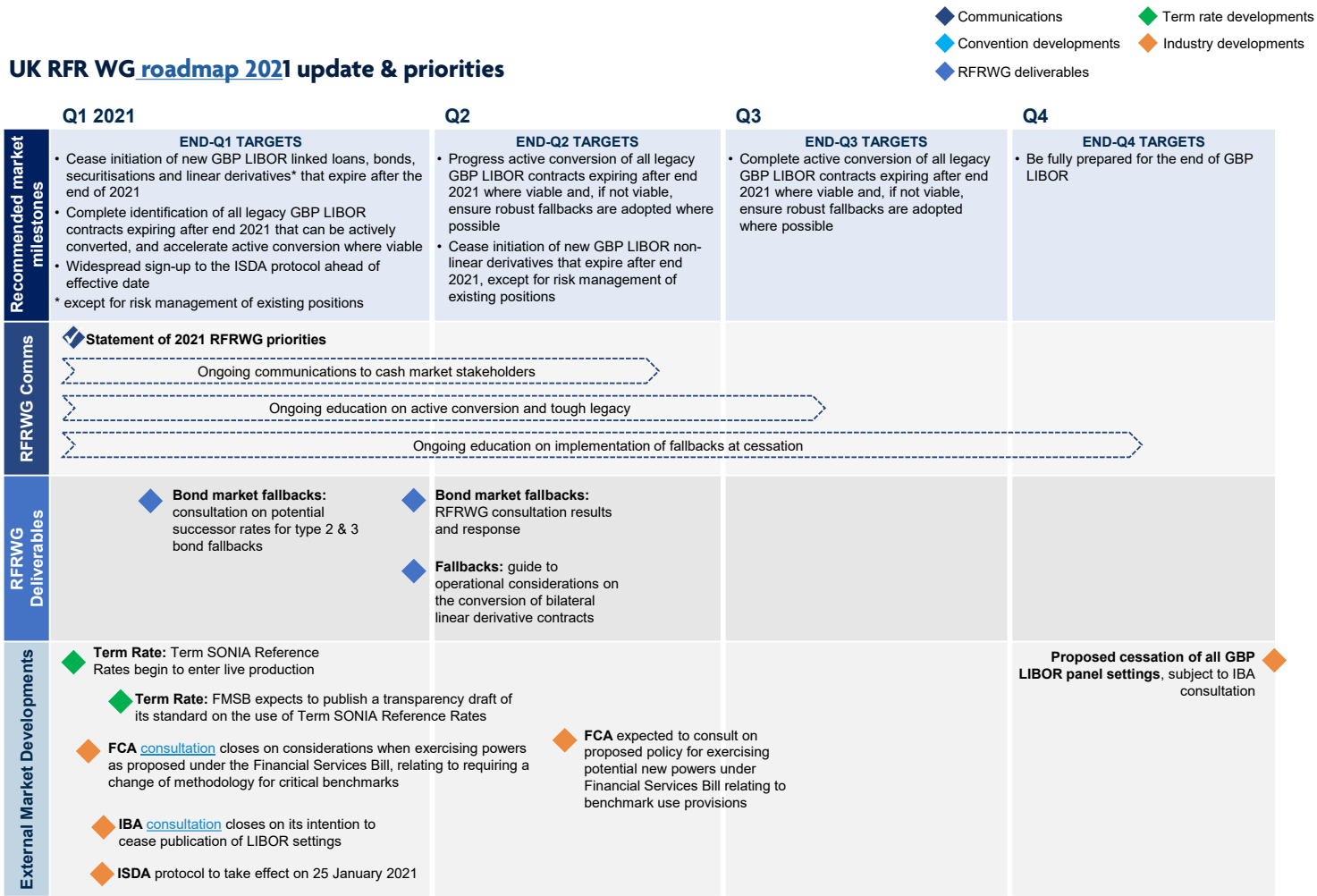
Some of the challenges of LIBOR transition include:

Ubiquitous	Uncertain	Complex
Everyone, everywhere	High degree of uncertainty over short time frame	Dynamic, operationally intensive and technical problem
• In its 30-year history, LIBOR became the world's default discount, benchmark and interest rate • Hundreds of trillions worth of bonds, loans and derivatives across USD, GBP, EUR, CHF, JPY • All parts of the organisation will be affected including, business, operations, treasury, risk • LIBOR transition will have dependencies on accounting, tax and regulatory relief, calculation of value transfer • LIBOR transition is a multijurisdictional and global challenge	• New rates may change commercial performance of financial instruments • Evolution of replacement rates is still taking place • Different LIBOR currencies, and products are moving at different speeds • There is a limited capacity of the industry to manage scale and scope of change, particularly due to new COVID-19 related challenges • The speed of market uptake in new rates can be unpredictable as much of the development is market-led. This will also dictate the pace of transition.	• Need to identify and remediate counterparty / customer contracts that reference LIBOR (i.e. a firm cannot remediate itself without the agreement of counterparties) • Need to identify and remediate technology platforms and data to operate with new reference rates and contract terms • Need to create / modify product portfolios, pricing and underlying models • Need to alter funding and financing strategies in use today

2.4. Transition roadmap and 2021 priorities – expectations for the firm's progress

Below is the public roadmap set out by UK RFRWG and last updated in January 2021. This priority milestone plan has been welcomed by the FCA in the UK. It sets out the key expectations for market participants. Section 6 of this document provides further information on the potential practical steps market participants may consider taking, in order to fulfil the regulatory expectations.

The readers of this guide should always refer to the latest version of the LIBOR transition timeline, published and updated by the UK RFRWG. Other working groups and jurisdictions have also issued their own milestone plans.



2.5. Further information

Topic	Link	Source
Introduction to LIBOR	Video and supporting slides	UK RFRWG
Why do I need to transition away from LIBOR	Video and supporting slides	UK RFRWG
What is SONIA	Video and supporting slides	UK RFRWG
Calling time on LIBOR factsheet	Factsheet	UK RFRWG
LIBOR Transition Readiness Survey	Report	UK Finance
Discontinuation of LIBOR – Guide for Business Customers	Guide	UK Finance
What is LIBOR and why replace it?	Video	PwC
Why the move to replace LIBOR?	Video	PwC
What are the replacement rates for LIBOR	Video	PwC
Priorities and transition roadmap 2021	Roadmap	UK RFRWG
Global roadmap for LIBOR transition	Roadmap	FSB
The milestones to LIBOR transition. What firms need to do and the major milestones that must be met to ensure a smooth transition.	Podcast	ISDA
Goodbye LIBOR. Progress in shifting from LIBOR and the challenges posed by 'tough legacy' exposures.	Podcast	ISDA
UK Finance LIBOR Transition Micro-Site (member access only). See here also for more information on the UK Finance LIBOR transition weekly newsletter.	Micro-Site	UK Finance

3. WHAT ARE THE NEW REFERENCE RATES AND HOW DO THEY DIFFER TO LIBOR?

3.1. Risk-free reference rates

The transition from a reference rate regime centred on Interbank Offered Rates (IBORs) to one based on a new set of overnight RFRs is an important paradigm shift for markets. The table below provides an overview of RFR benchmarks and compares some of their key characteristics with those of existing benchmarks.

While the new RFRs can serve as robust and credible overnight reference rates rooted in transactions in liquid markets, they do so at the expense of not capturing banks' marginal term funding costs. There is a possibility that multiple rates may coexist, fulfilling different purposes and market needs.

Jurisdiction	Working Group	Risk-Free Reference Rate	Rate Name	Administrator	Collateralisation	Publication Date	Description
	Working Group on Sterling Risk-Free Reference Rates (UK RFRWG)	SONIA	Sterling Overnight Index Average	Bank of England	Unsecured	Reformed 23/04/2018 Legacy 31/03/1997	Unsecured rate that covers overnight wholesale deposit transactions
	Alternative Reference Rates Committee (ARRC)	SOFR	Secured Overnight Financing Rate	Federal Reserve Bank of New York	Secured	02/04/2018	Secured rate that covers multiple overnight repo market segments
	Working Group on Euro Risk-Free Rates (Euro RFRWG)	€STR	Euro Short-Term Rate	European Central Bank	Unsecured	02/10/2019	Unsecured rate that captures overnight wholesale deposit transactions
	The National Working Group on CHF Reference Rates (NWG)	SARON	Swiss Average Rate Overnight	SIX exchange	Secured	22/09/2009	Secured rate that reflects paid on interbank overnight repo
	Cross-Industry Committee on Japanese Yen Interest Rates Benchmark (CIC)	TONAR	Tokyo Overnight Average Rate	Bank of Japan	Unsecured	30/12/1992	Unsecured rate that captures overnight call rate market

3.2. Key differences between SONIA and LIBOR

Sterling Overnight Index Average (SONIA) is an unsecured overnight rate based on eligible transactions reported to the BoE via sterling money market data which they collect. It is based on actual transactions and reflects the average of the interest rates that banks pay to borrow sterling overnight from other institutions.

SONIA was introduced in March 1997. The BoE took responsibility for it in 2016 and, after consultation, reformed it in 2018. The BoE runs SONIA in compliance with international best practice for financial benchmarks.

To support the RFR transition in the sterling markets, the BoE began to publish the SONIA Compounded Index in August 2020. It simplifies the calculation of compounded interest rates and provides a standardised basis through its publication as an official source.

The key difference between LIBOR and SONIA include:

	LIBOR	SONIA
Forward looking vs. backward looking	Forward looking. Quoted for 7 different lengths, set at the start of the period.	Backward looking, overnight rate.
Methodology	Depends primarily on panel bank submissions.	SONIA is based on actual transactions and reflects the average of the interest rates that banks pay to borrow sterling overnight from other financial institutions and other institutional investors. On each London business day, SONIA is measured as the trimmed mean, rounded to four decimal places, of interest rates paid on eligible sterling denominated deposit transactions. The trimmed mean is calculated as the volume-weighted mean rate, based on the central 50% of the volume-weighted distribution of rates.
'Risk-free' vs. unsecured	LIBOR has perceived credit risk as it relates to interbank borrowing. LIBOR includes an element of credit risk tied to the strength of banks.	SONIA is considered near 'risk-free' as it does not look at future periods of time.

3.3. Term adjustments

IBORs are term rates, providing borrowers a known interest rate for the time period of borrowing and the up-front certainty of the amount of interest due. RFRs are overnight rates, based on actual market rates and reset daily in arrears.

As SONIA is an overnight rate, interest is calculated daily. If SONIA is used for a term longer than overnight (e.g. three months) the 'compounded SONIA' calculation method looks at the daily overnight SONIA interest rate on each day during the relevant period and compounds this over the period. As each day's SONIA fixing must be known before the interest calculation can be completed, compounded SONIA interest calculations are backward looking. This means that the results of the calculation are only known at the end of the given interest period (rather than at the beginning as for LIBOR).

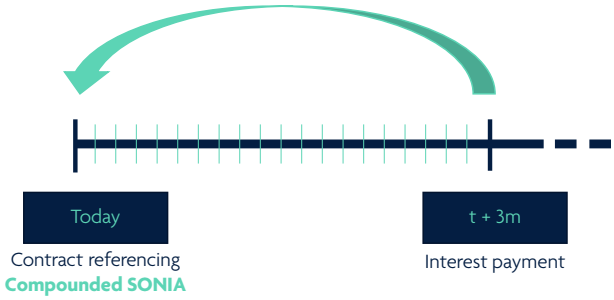
Using compounded daily rate fixings will smooth day-to-day fluctuations seen over the period the interest is being calculated. As such it is expected that any volatility will be reduced in compounded SONIA relative to LIBOR over an equivalent term.

Overnight SONIA, compounded in arrears is a calculation method favoured by many derivatives, bonds, and bilateral and syndicated loan markets. In loan markets, some borrowers may prefer to know their cash flows in advance or simply may not be technologically equipped to accommodate the intricacies of compounding. In such cases, lenders may offer alternative rates, for example BoE base rate with greater simplicity and payment certainty.

LIBOR:

Next interest payment in three months already known

SONIA:



Next interest payment in 3 months unknown

3.4. Forward looking terms rates

In some limited cases, a forward-looking term SONIA rate or other alternative rate may be better suited. This may be due to a need for greater simplicity than compounded in arrears, use discounted cashflows and/or require payment certainty.

The UK authorities have made clear their preference for the market is to adopt a broad-based transition to a more robust SONIA compounded in arrears, with use of a forward-looking term rate being limited. SONIA compounded in arrears can be used consistently across multiple product markets, allowing users to have consistent and reliable costs of borrowing. While compound in arrears rates will be available in all currencies where an RFR rate is available, term rates may not be made available in all currencies. Using compounding in arrears therefore supports multi-currency borrowers to apply a consistent approach where possible. If use of forward-looking term rates becomes widespread, there is a risk of reintroducing structural vulnerabilities similar to those associated with LIBOR. These risks can be avoided by limiting the use of term rates to certain product use cases and certain borrowers, as these vulnerabilities do not apply in the much more liquid overnight markets.

The UK RFRWG has noted that alternative rates, including a forward-looking term SONIA rate, may be required for areas such as smaller business lending, trade and working capital, export finance, Islamic Finance, and a range of legacy contracts.[4] 'Live' term SONIA rates have been available since January 2021. They operate similarly to a term LIBOR in its fixing mechanics. This includes being set and known at the beginning of the term.

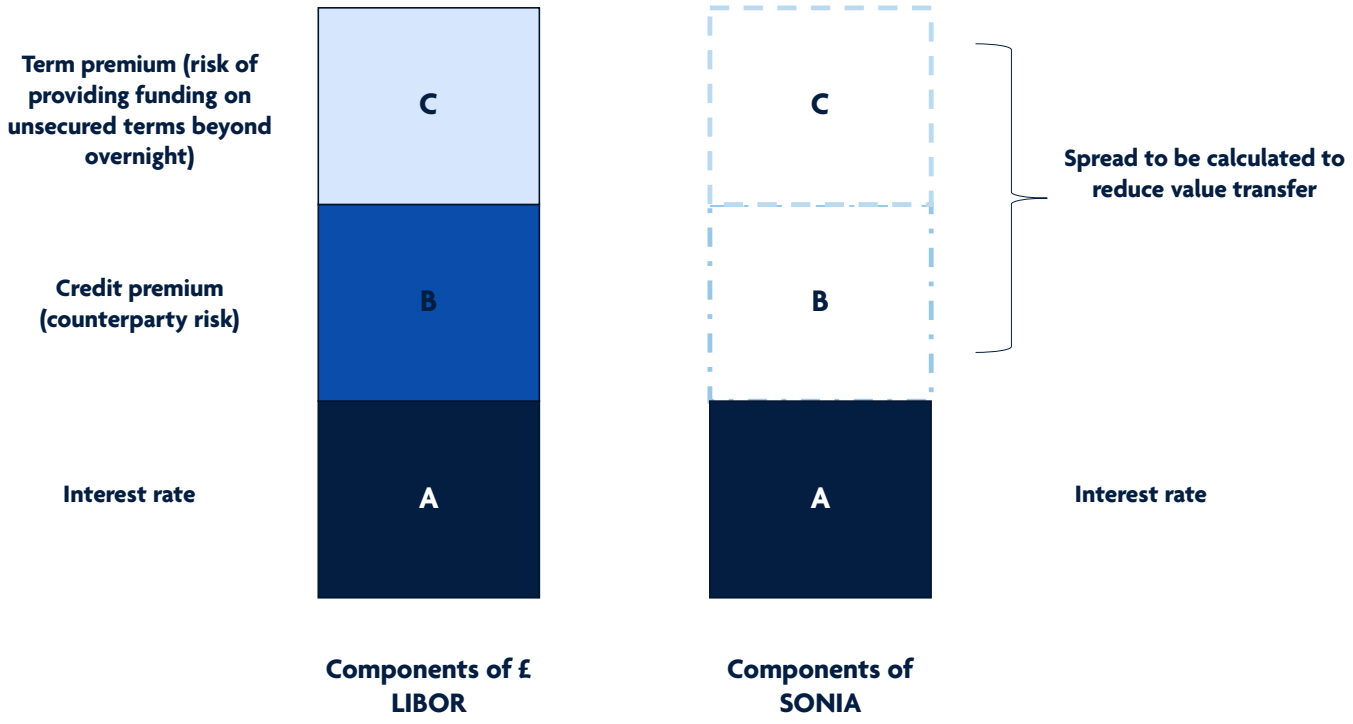
In the US, the ARRC plans to publish term SOFR rates in H1 2021, subject to sufficient liquidity developing in the SOFR market. In the euro market, Euro Overnight Index Average-linked (EONIA) contracts will not need a term rate as it will be replaced by €STR, which are both overnight rates. Euro Interbank Offered Rate (EURIBOR) may continue to be used in new and legacy contracts, given that the European Money Markets Institute (EMMI) was granted authorisation for the hybrid EURIBOR methodology under the European Union Benchmark Regulation (EU BMR). However, the Euro RFRWG recommends the inclusion of adequate fallback language given the risk of an EURIBOR cessation in the future.

4 https://www.bankofengland.co.uk/-/media/boe/files/markets/benchmarks/rfr/use-cases-of-benchmark-rates-compounded-in-arrears-term-rate-and-further-alternatives.pdf

3.5. Credit adjustment spreads

SONIA is not economically equivalent to LIBOR as SONIA is an overnight rate rather than a term rate. Some elements included within LIBOR (i.e. a term liquidity premium and a bank credit risk element) are not found in the alternative rates. For legacy contracts transferred onto replacement rates, a credit adjustment spread may be applied to the replacement rate to minimise the economic impact of transitioning away from LIBOR. The application of this credit adjustment spread is a way to minimise the risk of value transfers for both banks and their customers.

Key differences between £ LIBOR and SONIA



Different calculation methodologies have been considered to calculate this spread. Some seek to reflect the historical differences between LIBOR and alternative rates. To date, the attention of market participants has been focused on the calculation of a credit adjustment spread that could apply upon cessation of sterling LIBOR or the publication of a statement by the regulator that LIBOR is no longer representative.

In September 2020 the UK RFRWG recommended the use of the historical five-year median spread adjustment methodology when calculating the credit adjustment spread following a permanent cessation or pre-cessation trigger in relation to GBP LIBOR.[5] This recommendation is solely intended for GBP LIBOR contracts that contain contractual fallbacks and replacement of screen rate provisions which result in the selection of a spread-adjusted SONIA rate as a fallback.

The UK RFRWG has not recommended a specific method to be applied when actively transitioning LIBOR referencing loans, though in December 2020 a paper was published setting out different approaches, to assist the market in assessing the potential options available.[6]

Banks and other lenders need to be able to demonstrate how their credit spread adjustment approach is fair to the customer. The FCA has reminded banks and lenders that LIBOR transition should not be used to move customers with continuing contracts to replacement rates that are expected to be higher than LIBOR would have been.[7]

Banks receiving LIBOR-linked interest are also not expected to give up the difference between LIBOR and SONIA (or other alternative rates), which results from the term credit risk premium built into the LIBOR rate but not built into other rates such as SONIA. According to the FCA, it is up to market participants and their customers to determine when and how to transition. They should factor the costs, risks and benefits of any options.[8]

The LMA publishes periodically a list of syndicated and bilateral loans executed to date, referencing RFRs.[9] The document sets out different types of transactions which have been seen in the loan market to date. The list is compiled from publicly available information and is therefore not a comprehensive list of all market transactions referencing RFRs, but nevertheless provides a useful comparison of current market and types and terms of loans executed.

5 https://www.bankofengland.co.uk/-/media/boe/files/markets/benchmarks/rfr/recommendation-of-credit-adjustment-spread.pdf?la=en&hash=3F7198EBBE9866DC362B6F6BAF6BEE91F7C2AA58

6 https://www.bankofengland.co.uk/-/media/boe/files/markets/benchmarks/rfr/credit-adjustment-spread-methods-for-active-transition-of-gbp-libor-referencing-loans.pdf?la=en&hash=4C41CC67E9C81DC835644603D05ACE3120F66999

7 https://www.fca.org.uk/news/statements/conduct-risk-during-libor-transition-questions-and-answers

8 https://www.fca.org.uk/news/statements/conduct-risk-during-libor-transition-questions-and-answers

9 https://www.lma.eu.com/application/files/6016/1114/4014/List_of_RFR_referencing_bilateral_and_syndicated_loans_January_2021.pdf

Topic	Link	Source
SONIA key features and policies guidance page	Guidance	BoE
Use cases of benchmark rates. Outlines why the use of forward-looking term rates must be limited. Considers use cases within cash markets where a term rate would be beneficial and where overnight SONIA compounding in arrears is likely appropriate.	Report	UK RFRWG
Transition in Sterling Non-Linear Derivatives. Describes how a non-linear derivatives market based on a risk-free rate could be structured using compounded in arrears SONIA for certain product sets.	Guidance	UK RFRWG
Recommendations for SONIA loan markets conventions	Statement / supporting slides / examples	UK RFRWG
A summary of the freely available independent RFR calculators in the market	Calculator list	UK RFRWG
What is a credit adjustment spread?	Webinar and supporting slides	UK RFRWG
The recommended credit adjustment spread methodology	Statement	UK RFRWG
Term SONIA reference rate publication summary. A summary of the key attributes of Beta versions of term SONIA reference rates published by independent benchmark administrators.	Summary	UK RFRWG
List of RFR referencing syndicated and bilateral loans (January 2021) to raise awareness of the transactions referencing RFRs taking place in the loan market, as per publicly available information.	List	LMA
Conduct risk during LIBOR transition. A FAQ providing answers to the most common questions on conduct risk and LIBOR transition.	FAQ	FCA
Building momentum on alternative reference rates. What alternative rates are available, how widely used are they and what needs to happen to bolster liquidity?	Podcast	ISDA

4. ROLE OF THE OFFICIAL SECTOR AND INDUSTRY

4.1. Selected key working groups and regulators

Many global regulators, currency working groups and trade associations are raising awareness, shaping the direction and supporting market participants in the LIBOR transition through continuous engagement, recommendations and guidance. Some of the key bodies are outlined in this section.

Market participants should, where possible, frequently engage with relevant regulators, official RFR working groups and respond to public consultations to ensure the decisions are informed and all views heard. For some, this may be achieved through engaging with their trade bodies instead.

Bank of England's Working Group on Sterling Risk-Free Rates

The UK RFRWG was convened in 2015 by the BoE with the main objective of supporting market-led LIBOR transition and reducing the financial stability risks arising from the widespread reliance on LIBOR. In 2018 the UK RFRWG was expanded to include a wider range of participants and its mandate broadened to catalysing transition to SONIA. Its membership includes buy side, sell side, corporates, trade associations, consultancies and law firms. The UK RFRWG includes several subgroups and task forces which change based on the latest key issues and hot topics. Many market participants are members in these steering committees.

While the FCA regulates the administrator of all LIBORs, the UK RFRWG only provides guidance across the sterling bond, loan and derivative markets. It liaises with other working groups and bodies to support the global alignment in LIBOR transition.

The UK RFRWG's webpage contains a vast amount of information supporting market participants in LIBOR transition. Links to specific publications are included under relevant sections in this document.

UK RFRWG	Link
Webpage	Webpage
LinkedIn page (for most up to date information)	LinkedIn

Financial Conduct Authority

Alongside BoE, the FCA works closely with market participants to drive LIBOR transition in the sterling markets. It issues regular information and Dear CEO letters to organisations as well as actively participates in global discussions. The FCA will have a key role in the transition through its proposed new legislative powers regarding tough legacy contracts and formally announcing the end date for the LIBOR publications on a representative basis.

The FCA and regulators globally have LIBOR transition as a top priority and are putting increasing and visible pressure on banks and other market participants to act. Particularly conduct risk, and how banks identify and mitigate the risks during LIBOR transition, remains the key focus for the FCA.

FCA	Link
LIBOR specific webpage	Webpage
Conduct risk during LIBOR transition	FAQ

4.2. Other selected working groups and regulators

Selected working groups for other currencies	Link
US Alternative Reference Rates Committee	IBOR transition website
Working Group on Euro Risk-Free Rates	IBOR transition webpage
The National Working Group on Swiss Franc Reference Rates	IBOR transition guidance
Cross-Industry Committee on JPY Interest Rate Benchmarks	IBOR transition guidance
International Swaps and Derivatives Association	LIBOR transition guidance
International Capital Market Association	LIBOR transition guidance
Loan Market Association	LIBOR transition guidance
Financial Stability Board	LIBOR transition guidance

5. KEY HOT TOPICS

5.1. Fallbacks

Fallbacks are a contractual language which answers the question "If LIBOR ceases or is unusable, to what rate would my product fall back?" Fallbacks allow firms to guarantee they have a rate to rely on when LIBOR ceases.

The language has two key parts. The first is the trigger event that initiates a transition from LIBOR to a successor rate. The second component is the benchmark replacement rate, or the new rate that replaces LIBOR.

ISDA Fallbacks Supplement and Protocol

In October 2020, ISDA published its official Fallback Supplement and Protocol for the derivatives market.[10] The Protocol applies to derivative trades that reference LIBOR or certain other IBOR benchmarks. The Protocol will optionally replace legacy trades where both parties adhere. These became effective on 25 January 2021.

After the ISDA Supplement's effective date, all new contracts entered into by adhering parties will contain the new fallbacks. This is also the case for all existing contracts, entered into prior to the effective date, entered into by parties adhering to the ISDA Protocol. This means, in the case of a permanent cessation of a benchmark or, in the case of LIBOR, if a LIBOR rate becomes 'unrepresentative', the rates will "fall back" to a new benchmark.

The FCA and other authorities have consistently and repeatedly urged market participants from all sectors to ensure they are ready for the end of LIBOR by adhering early to the protocol that ISDA is producing, where this appropriate.[11] By adhering to the protocol, firms create a backstop for non-cleared derivatives at once and any new instruments will automatically include these revised terms.

Where firms determine the protocol is not the right approach, they will need to make clear alternative plans to mitigate the risks.

10 https://www.isda.org/a/a64TE/ISDA-Launches-IBOR-Fallbacks-Supplement-and-Protocol.pdf

11 https://www.fca.org.uk/news/speeches/libor-transition-critical-tasks-ahead-us-second-half-2020

Topic	Link	Source
Fallbacks Supplement and Protocol	Webinar and supporting slides	ISDA
Methodology and publication	Webinar and supporting slides	ISDA
Bilateral templates and supporting technology	Webinar and supporting slides	ISDA
Understanding IBOR benchmark fallbacks	User guide	ISDA
User guide to IBOR Fallbacks and RFRs	User guide	ISDA
Bilateral agreements for IBOR fallbacks	Bilateral agreements	ISDA
Outline of template agreements	Outline of template agreements	ISDA
RFR conventions and fallback product table	RFR conventions and fallback product table	ISDA
ISDA Fallbacks Supplement	Supplement	ISDA
ISDA Fallbacks Protocol	Protocol	ISDA
Firms adhered to the Fallbacks Protocol	Live list of firms	ISDA
What does the ISDA Fallbacks Supplement and Protocol mean for IBOR transition?	Hot Topic	PwC
Understanding IBOR Fallbacks Protocol	Publication	PwC

Replacement rates for other product markets

ISDA has led the industry's thinking about the implications of the transition for derivatives. Outside the derivatives market, the transition is more challenging due to the lack of standard legal documentation across products, geographic regions and institutions. Counterparties are also often less sophisticated, the market is more diverse and there are overall more clients to consider.

The UK RFRWG recommended the use of the historical five-year median spread adjustment methodology when calculating the credit adjustment spread following a permanent cessation or pre-cessation trigger in relation to GBP LIBOR.[12] It is also only one method of several options available that could be considered for use in the calculation of a spread adjustment to be applied during the active transition of legacy contracts. This is the same historical median approach used by ISDA, allowing market participants to be consistent with hedging derivatives and minimising basis risks between the two product types.

LMA is leading efforts to produce RFR replacement language for syndicated loan products that becomes effective at an agreed point in the future through its "Rate Switch Agreement" construct. While template contracts exist for syndicated loans, with optional wording to reflect the commercial agreement reached on specific points, legal documentation is often more diverse – especially for bilateral facilities - compared to derivatives. Firms with exposure to LIBOR in their loan portfolios will need to be mindful of the timing of transitioning their loan contracts if they hedge their exposure through derivatives.

12 https://www.bankofengland.co.uk/-/media/boe/files/markets/benchmarks/rfr/recommendation-of-credit-adjustment-spread.pdf?la=en&hash=3F7198EBBE9866DC362B6F6BAF6BEE91F7C2AA58

Replacement rate provisions will allow banks and their customers to guarantee they have a rate to rely on when LIBOR ceases, and are likely to be preferable to relying on existing market standard fallbacks (such as cost of funds), but regulators have continuously repeated that they expect all market participants to work on actively removing or at least reducing their exposure to LIBOR before it ceases.

The UK RFRWG has also published two papers providing practical steps and considerations in the active transition of legacy cash products. The aim of the papers is to increase certainty over contractual terms and help avoid the 'cliff edge' risks of waiting until closer to the end of 2021.

Topic	Link	Source
Guidance on credit adjustment spread methods for active transition of GBP LIBOR referencing loans	Guidance	UK RFRWG
Recommendation of credit adjustment spread methodology for fallbacks in cash market products referencing GBP LIBOR	Recommendation	UK RFRWG
Commentary to the exposure drafts of the multicurrency term and revolving facilities agreements incorporating rate switch provisions (lookback without and with observation shift)	Commentary (members only)	LMA
Commentary to the exposure drafts of the multicurrency compounded rate/term rate facilities agreements (lookback without and with observation shift)	Commentary	LMA
Exposure draft of multicurrency term and revolving facilities agreement incorporating rate switch provisions (lookback without observation shift)	Exposure draft (members only)	LMA
Exposure draft of multicurrency term and revolving facilities agreement incorporating rate switch provisions (lookback with observation shift)	Exposure draft (members only)	LMA
Exposure draft of multicurrency compounded rate/term rate facilities agreement (lookback without observation shift)	Exposure draft	LMA
Exposure draft of multicurrency compounded rate/term rate facilities agreement (lookback with observation shift)	Exposure draft	LMA
LMA term sheet for multicurrency term and revolving facilities agreements incorporating rate switch provisions (lookback [without[/[with] observation shift)	Term sheet	LMA
LMA term sheet for multicurrency compounded rate/term rate facilities agreements (lookback without and with observation shift)	Term sheet	LMA
Active transition of GBP referencing loans	Guidance	UK RFRWG
Active transition of GBP referencing bonds	Guidance	UK RFRWG

5.2. UK Benchmark Regulation (tough legacy)

The draft Financial Services Bill proposes new FCA powers under UK Benchmark Regulation (UK BMR) to deal with legacy LIBOR-referencing contracts that cannot be transitioned prior to LIBOR's cessation.[13] These are so-called 'tough legacy' contracts. Parliament is offering the FCA a toolkit to deal with tough legacy issues, but the proposed legislation will not define the term 'tough legacy' or detail how the tools should be used on individual cases.

The Bill proposes that, following a formal assessment, if the FCA considers that representativeness of a critical benchmark cannot reasonably be restored and maintained, the FCA will have the power to "designate" the benchmark. Once the benchmark has been designated the FCA will have the power to require that the administrator changes the benchmark's methodology. This power enables the possibility of what is commonly referred to as a 'synthetic LIBOR' rate, being produced for a set period of time beyond the end of 2021.

The reasons to potentially exercise this power include supporting the orderly wind-down of a benchmark and preventing market disruption. The FCA has stated that to use this power, the LIBOR currency-tenor settings must be widely used in outstanding contracts (including by those outside of the UK) and those contracts cannot be transitioned, renegotiated or amended. The use of powers will also need to contribute to protecting consumers and preserving market integrity.

The FCA expects to exercise the powers in the most heavily used GBP currency-tenor settings and will continue to assess the case for the yen and some US dollar LIBOR settings. It does not expect that the 'tough legacy' conditions are met for the euro and Swiss franc settings.

The FCA has issued the first consultations on the use of the powers and will issue further consultations later in 2021.[14] It will also publish policy papers on how it intends to operationalise its new powers. The use of synthetic LIBOR is expected to be restricted to a narrow set of contracts, for a maximum of ten years, reassessed annually. The FCA is likely to closely monitor the use of synthetic LIBOR.

13 https://publications.parliament.uk/pa/bills/cbill/58-01/0200/200200.pdf

14 https://www.fca.org.uk/markets/transition-libor/benchmarks-regulation-our-proposed-new-powers-policy-and-decision-making

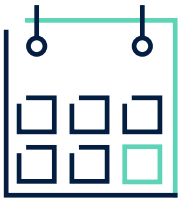
The message from the FCA and HM Treasury has been steadfast and clear: firms should not treat the prospect of tough legacy contracts as an excuse to limit active transition efforts.[15] Firms should continue their efforts to proactively transition legacy LIBOR exposures. Only that will allow firms to retain control over the terms in which they transfer their products away from LIBOR. Furthermore, many unknowns remain around tough legacy and synthetic LIBOR, including the definitions, scope, operational and practical use from a product specific perspective, timelines, interaction on cross-border transactions with other legislative/regulatory regimes, and the currency-tenor pairs included.

Most importantly, relying on synthetic LIBOR as a solution for contracts that have not been remediated prior to LIBOR becoming non-representative is unlikely to offer any economic benefits. Synthetic LIBOR is an IBOR in name only. The calculation methodology is subject to further consultations from the FCA, but it is expected to be based on a specific LIBOR's RFR replacement, plus any recommended spread adjustment. In other words, there will not be a material economic difference between synthetic LIBOR and the recommended fallback. Repapering a contract to directly reference an RFR, may also allow banks to stay clear of the various uncertainties and eventualities associated with relying on synthetic LIBOR.

Globally, other regulators are developing similar approaches. Under the amended EU BMR, the European Commission (EC) can replace any reference to LIBOR with a reference to a suitable replacement rate. The New York Fed has proposed a similar approach. Other jurisdictions may follow in due course.

Topic	Link	Source
FCA's first consultation on the new powers	Consultation invitation and Guidance	FCA
Amendments to the Benchmarks Regulation to support LIBOR transition, explanatory notes	Policy statement	HM Treasury
UK RFRWG: The identification of tough legacy issues	Report	UK RFRWG
FCA consults on tough legacy powers	At a glance	PwC
FS Bill sets out FCA's new powers	At a glance	PwC

15 https://www.fca.org.uk/news/statements/fca-statement-planned-amendments-benchmarks-regulation



5.3. LIBOR currency timeline

The FCA-regulated and authorised administrator of LIBOR, IBA, has provided information on the timing of LIBOR's cessation, supporting the orderly wind-down regulators and working groups are working towards with market participants. In late 2020, it opened a consultation period on its intention to:[16]

- Cease the publication of all tenors of GBP, EUR, CHF and JPY LIBOR after 31 December 2021
- Cease the publication of 1 week and 2 month tenors of USD LIBOR after 31 December 2021
- Continue to publish all the remaining USD LIBOR tenors until 30 June 2023

According to the US banking regulators, this would allow most legacy USD LIBOR contracts to mature before the benchmark experiences disruption. The US agencies also encourage banks to cease entering new contracts that use USD LIBOR as a reference rate as soon as practicable, and in any event by the end of 2021.[17] New contracts entered before the end of 2021 should either utilise a reference rate other than LIBOR or have robust fallback language that includes a clearly defined alternative reference rate after LIBOR's discontinuation.

The FCA's Market and Wholesale Policy Director Edwin Schooling Latter recently confirmed that the potential extension to some USD LIBOR settings will not impact the phase-out of other LIBOR settings.[18]

Following IBA's consultation, which closed on 25 January 2021, there could soon be an announcement that LIBOR will cease or become unrepresentative on a certain future date. Such an announcement would 'trigger' the fixing of the spread adjustment under the ISDA fallbacks for all currencies and tenors. These will apply once LIBOR from the date the LIBOR currency/tenor becomes unrepresentative. As the contract terms vary, particularly in cash contracts, banks should ensure that they understand the contractual triggers in place prior to the announcement.

Subject to further consultation on the use of new powers provided under UK BMR, the FCA may restrict new use of a benchmark known to be ceasing. The FCA will work in coordination with US and other authorities as they develop the FCA's policy in respect to USD LIBOR. Any restrictions applied by the FCA would apply to regulated financial instruments entered by FCA-supervised firms.

16 https://www.theice.com/publicdocs/ICE_LIBOR_Consultation_on_Potential_Cessation.pdf

17 https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20201130a1.pdf

18 https://www.isda.org/2020/12/04/isda-webinar-the-path-forward-for-libor/

The FCA and other regulators globally have underlined that market participants should continue to work, where possible, on converting all LIBOR-referencing legacy contracts or adopting robust fallbacks. This includes removing reliance on all USD LIBOR tenors. According to the FCA, active transition is the only way for parties to have certainty and control over their contractual terms when LIBOR ceases or is no longer representative.

We encourage readers of this document to familiarise themselves with the information below as well as future announcements made later in 2021. The links below provide a detailed official view and informal analysis on the recent developments and how they are likely to impact market participants globally.

Topic	Link	Source
IBA consultation on intention to cease publication of LIBOR currencies and tenors	Consultation statement	IBA
FCA response to IBA's proposed consultation on intention to cease USD LIBOR	Statement	FCA
The path forward for LIBOR	Webinar and transcript	ISDA
LIBOR transition market update (16-30 November)	Market Update	PwC
LIBOR transition market update (1-15 December)	Market Update	PwC

5.4. Moving new business off LIBOR

As per the UK RFRWG's recently published 2021 priorities and roadmap, market participants in the sterling markets are expected to cease initiation of new GBP LIBOR-linked loans, bonds, securitisations and linear derivatives that expire after the end of 2021 (except for risk management of existing positions).

This was supported by Andrew Hauser, Executive Director for Markets at the BoE, in a recent speech.[19] Hauser stated that the key priority for market participants is to phase out LIBOR on new lending and other business as soon as possible, before the end of 2021. The actions include:

- All sterling swaps should be ceasing all new use by March 2021. This development is supported by the adoption of a 'SONIA first' trading convention in interdealer markets in October 2020.

- All new lending linked to sterling LIBOR should be phased out by the end of March 2021. Since the end of September, all UK banks and lenders should have already offered non-LIBOR loan alternatives to their customers. Any new loans for those unable to avoid using LIBOR in the near-term should include a clear mechanism to ensure those loans are converted to an alternative rate before the end of 2021.

19 https://www.bankofengland.co.uk/speech/2020/andrew-hauser-risk-net-libor-telethon

Regulators have reminded banks and lenders that they must be ready to transact new or refinanced lending on a non-LIBOR basis this year. This could mean completing governance processes or adapting systems.

They must also be prepared to spend a significant amount of time with those customers who are not ready to move away from LIBOR. Many customers will expect their lenders to provide guidance on the transition. Lenders must ensure that they support their customers throughout the transition process, and clearly articulate the options, whilst ensuring that they do not provide advice or a recommendation where this is not appropriate.

Topic	Link	Source
Priorities and transition roadmap 2021	Priorities and roadmap	UK RFRWG
LIBOR's retirement draws near	Speech by Andrew Hauser	BoE
Path to discontinuation of new GBP LIBOR lending by end-Q1 2021. Provides an indicative path toward the Q1 2021 milestone, which is intended to act as a guide for lenders, borrowers and infrastructure providers in determining intermediate steps within their firms to meet that timeline.	Guidance	UK RFRWG
Best practice guidance-Transition from LIBOR for SME customers	Guidance	UK Finance
The end of LIBOR in the UK loans market	Webinar	UK Finance
Supporting markets to cease the issuance of LIBOR linked loan products: an open letter to loan system vendors and treasury management system providers, asking them to support their clients and the market in their transition away from LIBOR.	Guidance	UK RFRWG
The path forward for LIBOR	Webinar and transcript	ISDA
LIBOR contractual triggers	Guidance page	FCA

6. COMMERCIAL & OPERATIONAL

LIBOR transition is not a simple regulatory change. It is important for banks to acknowledge the organisation-wide impact the transition will have on them, their clients, counterparties and vendors. These include the changes on business strategies, client management, operational processes and technology infrastructure across the board. To avoid disruption, all market participants will need to work together to meet their LIBOR transition deadlines. However, in many cases, the rest of the industry sector is looking at banks to drive the transition.

Regulators expect LIBOR programmes to be set up and run effectively. This includes establishing appropriate governance structures with a Board-level oversight and accountability, as well as Senior Management driving the day-to-day activities of the transition. Regulators expect defined programme roadmaps and plans, including milestones and key decision points, and are increasingly likely to request evidence of these in 2021.

As regulatory expectations intensify during the final months of LIBOR, banks need to ensure that they have the right level of understanding of the regulatory landscape and the implications of the regulatory statements. Navigating LIBOR transition requirements requires ability to respond to regulators' information and data requests in a timely manner.

Banks should view LIBOR transition as an end-to-end organisation-wide programme. The key components are set out in the table below and expanded further in the following sections. Applicability, complexity and sequencing of the components will depend on the individual organisation.

Programme components	Activities completed by banks as part of LIBOR Transition
6.1 Programme governance and impact assessment	Set up a LIBOR transition programme with a programme sponsor at Executive level and a day-to-day programme lead. LIBOR programmes should have clear accountability and engagement from the business. Draft overall transition roadmap and budgets. Define transition scenarios and develop risk mitigation strategies. Conduct qualitative and quantitative impact assessments across all business areas and functions. Develop process to monitor LIBOR exposures on an ongoing basis.
6.2 Front-office and new product strategy	Define business strategy for transitioning legacy products and developing new RFR products, including evaluation of economic impacts and new product approval processes.
6.3 Contract management	Identify, inventory and digitise affected contracts. Develop contract remediation strategy for different types of contracts & re-negotiate as appropriate. Update contract language for new deals. Key terms include: fallback terms and triggers, LIBOR reference rates, maturity and operational extension clauses, consent requirements and governing law.
6.4 Client and customer outreach	Develop client outreach and communication strategy, including client segmentation, to take advantage of client and relationship opportunities. Manage internal and external outreach, education, and communications. Ensure that you are able to deal with client queries in a systematic way to support a good client journey.
6.5 Models and risk management	Update and re-validate pricing and risk management models, including curve construction, discounting, and valuation. Understand your risks, including conduct risk, operational risk, legal risk and market/credit risk. Assess, document and take action to mitigate the risks in a systematic way.
6.6 Systems and process changes	Ensure that systems can deal with an overnight rate, credit adjustment spreads and be ready for the fallbacks and identification of triggers. Define requirements for and implement changes to systems and processes, including vended solutions, market data feeds, and business processes to enable alternative RFR processing.
6.7 Financial accounting, reporting and tax	Perform impact assessments for treasury, finance and tax. Update financial reporting and accounting processes in accordance with industry guidance. Evaluate tax impacts and update strategy to mitigate impacts.
6.8 Programme assurance	Provides an independent view of whether the LIBOR transition project is set up and operating effectively, and whether key risks that could impact successful delivery are identified and being managed.

6.1. Programme mobilisation and impact assessment

January 2022 may seem far away, leaving plenty of time to prepare and implement. However, the FCA expects that all market participants have set up their LIBOR transition programmes with a programme sponsor at an Executive level and Senior Management responsible for the day-to-day running of the programme. LIBOR programmes should have clear accountability and engagement from the business and, where relevant, run globally with strong regional structures.

For sterling, the UK RFRWG has strongly encouraged all market participants to complete a full assessment of their LIBOR contracts extending beyond the end of 2021, by March 2021. The aim is to identify those that can be actively converted and have plans in place to complete all viable conversions by the end of September 2021. This advice is also echoed more broadly by the Financial Stability Board (FSB) in its global transition roadmap.

Setting up a programme on this scale can be a complex assignment, as it impacts most bank functions. The impact of transitioning from LIBOR to RFRs will also be different for each organisation. Separating initial and detailed impact assessments can help banks to understand their LIBOR exposures. This should be undertaken quantitatively (trade count, notional, risk) and by product, maturity, counterparty and (un)/drawn facilities, linking existing contracts to those exposures.

Initial impact assessment considerations:

An initial assessment can provide a comprehensive view of the impact of LIBOR replacement. The length of the assessment varies between the bank's size, LIBOR exposures and the product offering. Based on the results, banks will need to formally mobilise their LIBOR transition programme with a dedicated programme management responsible for the transition roadmap and formal governance structures overseeing the progress. Small and agile LIBOR task forces may help to drive the initial impact assessment and form the basis of further mobilisation steps.

Detailed formal assessment considerations:

A detailed impact assessment should follow to define comprehensive goals and requirements for each impacted workstream. The detailed impact assessment should be conducted at stream level and according to the timelines applicable to the respective workstreams. Each stream should be encouraged to define its own scope and deliverables and take ownership and responsibility within the boundaries set by programme management. Results of the detailed assessment will feed back into the programme plan and roadmap.

6.2. Front-office and new business strategy

Transitioning away from existing LIBOR rates into new RFR markets will have an impact across a firm's banking product range and strategy. It is a dual challenge of bringing new RFR products to the market and reducing the exposure to LIBOR-referencing back-book products.

To support a smooth transition from LIBOR to RFRs, certain global bodies, regulators and and industry working groups (e.g.RFRWG, ARRC) have set specific dates on the overall LIBOR cessation timelines for many new LIBOR-referencing products as well as significant reduction targets of the LIBOR referencing back-books products.

An RFR business strategy is multifaceted, requiring decisions and assumptions across several key lenses. The new RFR product strategy is a business-driven, high-level plan for strategically managing the end-to-end product lifecycle for new RFR products.
As firms start to address the impact of LIBOR transition across their organisation, new opportunities may also become apparent, including:

- Creating new and differentiated products at the back of developing non-LIBOR referencing product offerings
- Further improving customer experience and better managing legal risk through digitising new RFR contracts
- Standardising and improving operational processes to increase agility and efficiency, including internal improvements on collaboration and decision making
- Managing the transition across multiple RFRs to increase competitiveness globally
- Tackling new and existing "while you are at it" projects

New RFR product strategy considerations:

1. Understand client needs, timings and operational strategic considerations that drive the development of new RFR products.
2. Agree on the replacement rates you plan to use in new RFR products.
3. Agree the market conventions you plan to use in the pricing methodology and contracts of new RFR products. RFR products will have more variations than LIBOR referenced products, for example with choices around types of averaging methodologies for overnight RFR rates (simple v compounding), use of term rates, treatment of floors, use of observation shifts.
4. Identify and update impacted pricing engines, models, systems / processes and develop strategic and/or tactical plans to achieve operational readiness.
5. Design and implement the appropriate new product approval process for RFR products.
6. Support the launch of new RFR products with training of relationship managers, a marketing/client communications strategy and mechanisms for monitoring new product performance.

Back-book LIBOR transition strategy:

1. Use IBOR exposure analysis to identify existing LIBOR referencing products by LIBOR currency, business segment and risk/notional.
2. Perform contract analysis over potential LIBOR referenced contracts (linked to exposures above) to identify key terms requiring amendment/restatement.
3. Ensure you have a clear client communication strategy on transition of legacy LIBOR contracts maturing after LIBOR cessation timelines.
4. Develop a detailed business (whether you plan to actively transition into an RFR, rely on a fallback, identify as tough legacy and/or rely on a legislative solution) and legal remediation strategy seeking support from legal vendors as required.
5. Determine a fair replacement rate, including a spread adjustment calculated in line with regulatory conduct expectations.
6. Consider and manage any basis risk arising out of transition of hedged items and hedging contracts resulting from differing transition methodologies and timelines both for your firm and for your clients.
7. All back-book transition should be performed alongside the firms LIBOR conduct risk framework and mitigation controls/actions.
8. Consider the accounting and tax implications of all back-book transition.
9. Consider operational readiness for back-book transition, namely fallback tracking and operationalisation.
10. Regulators strongly encourage firms to consider the adoption, where appropriate, of the ISDA protocol for transition of legacy derivative products, especially where firms choose not to adhere, consider the operational implications of relying on fallbacks and demonstrate alternative risk mitigation.
11. Identify any tough legacy contracts and/or contracts you expect to transition based on legislative solutions.
12. Set-up reporting on the reduction of your legacy LIBOR exposures against targets.
13. Align remediation timelines to those shared by global regulators.

6.3. Contract management

Most banks are currently assessing legacy contracts which run beyond the end of 2021 (or in some cases, for USD LIBOR contracts only, June 2023) and reference LIBOR. Some have 'fallback clauses' which provide for an event such as the end of LIBOR, but these fallbacks need to be assessed on a case-by-case and product-by-product basis to determine if they are sufficiently robust.

Of all the aspects of the transition from LIBOR to RFRs, the remediation of existing contracts is often the largest, most costly and time-consuming task. The contract remediation process involves transitioning potentially hundreds of thousands of back-book LIBOR-based contracts to RFRs or other alternative rates. This will bring significant implications and impacts to front, middle and back offices, and for all products and asset classes.

As a result of engagement with buy-side and corporates in LIBOR transition by the official sector and industry working groups, many of them are now engaging with their banks and lenders to agree an amendment to ensure the contract remains operational beyond the end of 2021. This is particularly important where no fallback language is in place or if existing fallback language is not appropriate or sufficiently robust to set out what would happen when LIBOR becomes unavailable.

At a high level, the end-to-end process for LIBOR contract remediation can be broken down into four steps. For every financial instrument, product, contract, and customer type each step raises several challenges and potential exposure to contractual, litigation and conduct risk. Failing to address them at any stage can lead to inefficiencies and delays and will risk critically undermining the entire programme and significantly increasing cost.

Key steps for contract management:	
1.	**Identifying the in-scope contract population.** Contracts are often scattered across systems in different business units, and where relevant, geographies with formats and records often incomplete or out of date. This can make it difficult to identify how many contracts are impacted, what type they are, how they interact with other products (such as a loan with a linked hedge), and where they are located. To search efficiently and accurately for LIBOR references, it is likely that contract digitisation is required.
2.	**Collating the relevant contracts for remediation.** Differing data regulations, customer specific sensitivities, or organisational set-up can make it difficult to bring LIBOR contracts from different jurisdictions together in one place for remediation. A further source of complexity may be that some contracts, especially within the loans portfolio, still exist only in hard copy form and need to be scanned and uploaded to systems as part of the remediation. Also, in many cases cloud solutions offer the best basis for tackling contract remediation, but IT policies may not allow the use of cloud platforms to hold their own data and/or that of clients.
3.	**Remediating the contracts to effect the change.** This requires significant input of legal expertise, and often language skills. Since it is difficult to free up inhouse legal resources to work on contract remediation on a dedicated basis, this is often treated as a "side-of the desk" task alongside the legal team's regular workload. Dealing with amended contracts can be especially complex, since the related documentation and supporting data is often hard to find and timing and volumes are unpredictable, given the dependency on client responsiveness. With a key dependency on legal, the in-house teams may need appropriate support to maintain the pace of the programme, particularly if the timetable for remediation becomes compressed.
4.	**Reaching out to counterparties to negotiate their agreement to the remediated contracts.** Again, this can demand significant legal resources and language skills. Getting up-to-date contact details for counterparties can be a challenge. Once they are contacted, counterparties are understandably eager to have the changes, options and resulting implications explained in detail. While less experienced resources engaged in the initial outreach can use a "playbook" to handle much of the negotiation, a proportion of contracts will inevitably need to be escalated to more expert lawyers or other stakeholders, increasing the demands on legal teams.

Key considerations when setting up your contracts programme of work:

1. **LIBOR subject matter experts:** familiar with the bank's commercial strategy for remediation by product and customer type, understand the technical nature of LIBOR and other interest rate mechanisms and are available to provide guidance and advice on any issues/industry approaches by product throughout.
2. **Technical legal/product specific expertise** that is equipped to deal with client queries and contract amendments in relation to IBOR transition.
3. **End-to-end technology solution** to LIBOR contract remediation.
4. **Agree commercial terms and negotiate the remediated contracts.** Having a team of specially trained outreach specialists that can support the RMs and sales teams to manage simple and complex queries. As well as having the necessary legal and language skills, using "playbook" and "FAQs" for the negotiation and escalations with any counterparties who require more specialised legal attention.

6.4. Client and customer outreach

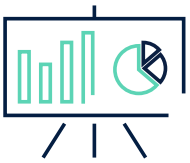
A comprehensive approach to client outreach is critical when navigating the complexity and uncertainty of LIBOR transition both for the bank and clients. Conduct risk features high on the FCA's agenda and regulators have repeatedly reminded banks to start the customer communication activities as early in the transition as possible.

Clients will also expect this. LIBOR is a complex topic and many clients may need additional time to internalise the concepts and issues, and potentially to update their own systems and processes accordingly. Timely discussions and updates will reduce the inevitable uncertainty of the transition. Early dialogues allow banks to better understand the customer issues, the potential knock-on effects on the transition and take a quick action.

Finally, the litigation risks related to LIBOR transition should not be underestimated. The likelihood may be reduced where banks have taken prudent, reasonable and transparent steps to educate customers and manage the transition.

Key considerations when executing client outreach:

1. **Avoid commercial impacts** associated with degradation of service through engaging your customers, educating them about industry LIBOR transition efforts and supporting the implementation of robust fallback language.
2. **Manage reputational, financial, operational, and conduct risks** through exiting all LIBOR exposures where possible, limiting exposures to positions without LIBOR cessation contingencies or where contingencies are poorly defined, adopting industry recommended fallback language and mitigating potential conduct risks.
3. **Capitalise on opportunities** to enhance and expand relationships through identifying opportunities to engage clients on unique product offerings and guiding clients through transition and helping them to navigate their own transition.



6.5. Models and risk management

Models

Models affect a wide range of business-critical areas, from trading to risk management to capital adequacy calculations. The extensive impact of LIBOR transition to a bank's model landscape can create significant pressure on model development, model validation and model governance across the models' ecosystem, covering multiple parts of a bank including trading book, banking book, risk management and capital governance and oversight.

The urgency of focusing on other aspects in 2020, such as COVID-19, Brexit, and even contract remediation for LIBOR transition, have increased the market stresses on models, while also disrupting operations and personnel. Therefore, it is clear why some model validation teams are challenged and why the implications of LIBOR transition for models may have only become a major focus recently.

Some banks have set up dedicated workstreams for LIBOR models, but others are treating it as a side-of-the-desk task for other areas of their LIBOR programmes. This will add on top of existing 'business as usual' tasks and workload, potentially stretching resource capacity.

Any bank that is failing to pay enough attention to models in its LIBOR transition will face increasing risks. As the importance and regulation of banks' models have grown in recent years, the various teams responsible for validating them have been under increasing pressure to test and validate ever more models. Many model validation teams use largely manual-based processes and may have a shortage of resources and/or backlogs of models requiring validation. Any model requirements due to LIBOR transition will be added on top of these existing 'business as usual' requirements and challenges.

Publications from the PRA may be a useful starting point for considerations of risk management and the impact on resolution-related rules.[20]

20 https://www.bankofengland.co.uk/prudential-regulation/publication/2020/statement-on-libor-and-resolution

Trading book considerations:

1. **Cash products:** Compounding and new conventions may trigger coupon settlement disputes, while uncertainties in fallbacks will make marking fair value more complex.
2. **Derivatives:** Backwards-looking fallbacks may be incompatible with existing trade types like forward rate agreements (FRAs), LIBOR-in-Arrears swaps and range accruals. Also, previously vanilla trades like cap/floors will turn into more exotic payoffs including averaging characteristics.
3. **Valuation adjustments (XVAs):** Illiquidity in non-linear RFR calibration instruments may create problems for exposure engines. Funding valuation adjustment (FVA) will now use the RFR curve as its base.
4. **Central counterparty clearing house (CCP) discounting:** centrally cleared swaps at CME and LCH have changed to ESTR and SOFR discounting in the respective currencies.

Banking book considerations:

1. **Basis risk:** Discrepancies in the transition timelines within customer products, and their underlying funding will arise as liquidity shifts to risk-free rates, leading to heightened basis risk. This will have to be monitored and managed in funding, hedging and liquidity plans.

   Timing issues will crystallise in FTP processes, e.g. banks will need to consider when and how to update the base FTP curve. If different books of assets move at different times, and funding moves differently on top of that, this is likely to leave residual basis risk with the businesses, which will have to be understood and managed.
2. **Asset Liability Management (ALM) and Interest Rate Risk in the Banking Book (IRRBB):** Work is required to update reference rates and discounting in earnings and value models. Also, it is unlikely that customers will be willing to accept any sort of dynamic bank credit spread above the risk-free lending rates, which means the underlying modelling to determine fixed spreads will need to carefully consider a range of forward-looking economic scenarios and build in some contingency for widening bank funding costs within the loan margin priced at inception. Margin compression scenarios will also need to be considered and factored into modelling.
3. **Credit models:** Econometric models using LIBOR variables will need to be recalibrated to alternate rates, analysing and considering one off impacts on provisions and capital. Discounting and interest accrual rates will also need to be updated.

Risk management and capital considerations:

1. **Internal models approach (IMA):** Insufficient time series history with RFR may lead to increases in RNIV or non-modellable risk factors (NMRF). There is also a lack of observability through sufficiently long stress periods for sVaR.
2. **Internal model methods (IMM):** The margin period of risk (MPOR) may increase due to limited liquidity in new – and potentially legacy – instruments.
3. **Prudent valuation (PruVal):** The increased complexity in modelling from fallback products such as caps will increase AVA model risk.
4. **Capital adequacy (CCAR, ICAAP):** Models/forecasts need to be updated with the new reference rates, including the more complex scenario expansion models which would have previously been based on economic relationships to LIBOR. Operational risk events surrounding the transition, i.e. repapering of contracts/systems updates, also needs to be factored into capital adequacy plans pre-transition.

Governance and oversight considerations:

1. **Regulatory:** Updates to regulatory capital models incur a requirement to notify regulators, who are also pressing financial institutions to prepare and execute robust model update plans.
2. **External dependencies:** Dynamic management of external dependencies is required to reflect changes in markets, vendors and timelines.
3. **Timing:** Given additional factors such as COVID-19 and remote working, it is vital to have clear prioritisation and execution timelines for model remediation and validation.

Risk management

LIBOR transition impacts all risk functions. Banks should set up a committee comprising stakeholders from each impacted risk function to oversee the transition. The committee should be accountable for assessing, documenting and mitigating risks in a systemic way.

Risk management considerations:

1. **ALM risk.** New contracts and products, using the new reference rates, will not be economically identical to the old ones based on LIBOR.
2. **Operational risk.** There may be a limited awareness among financial institutions on the new reference rate to be adopted and the potential effort required to upgrade the systems, data, models and existing processes.
3. **Liquidity risk.** Without market depth and liquidity for derivatives, market adoption of RFRs is difficult. Impairment concerns remain regarding recoverability of cash instrument.
4. **Conduct risk.** Long-dated contracts that extend beyond LIBOR transition may expose banks to conduct risk due to information asymmetry between counterparty and banks regarding LIBOR fallback. LIBOR transition committees should also consider whether their approval and control framework are adequate during transition.
5. **Credit and market risks.** Derived term structure modelling is susceptible to model risk and creates computational challenges. Derived and implied term-structure for new reference rates will affect interest payments creating valuation differences for existing financial products.
6. **Systemic risk.** Lack of certainty in the levels of liquidity across the various IBOR rates.
7. **Basis risk.** Divergence in application of fallback methodology across CCPs will cause basis risk in a counterparty's cleared trading book.
8. **Litigation risk.** Incorporation of an RFR fundamentally different from a cost-of-funding based rate like LIBOR into the contract runs into risk of legal implications

6.6. Business process and systems changes

During the transition, all impacted business processes and systems will need to be enhanced. An integrated timeline and resource requirements need to be developed to ensure an orderly transition across the different asset classes, functions, processes and systems.

Business process changes

LIBOR transition creates complex business change considerations. Remediating processes will be critical to eliminate operational risks which may lead to potentially unlimited financial risk and losses. The operational readiness activities will include re-defining the target operating model that underpins the processes impacted. These include the operating procedures, Business Requirement Documents (BRDs) as well as risk and controls that align to these processes. It is important to ensure employees are trained on the new risk-free benchmark rates regime and the operational changes made. These business changes are full front to back and require significant stakeholder engagement and planning.

In the first instance, it is difficult to identify all processes related to IBORs. These include products journeys across currencies, tenors, clients, counterparties, vendors and geographic locations. Some of the key changes in operations are likely to require adjustment to collateral management and all back-office processes as a result of the transition. Other impacted processes are likely to include management of investment portfolios and valuations, P&L and balance sheet, solvency and reporting.

Business process considerations:

1. **Remediate prioritised processes** to eliminate potential operational risks which may lead to unlimited financial exposures.
2. **Review front to back processes** impacted and rework and remediate changes.
3. **Define target operating model** for processes impacted, including policies, operational procedures, BRDs and other documents i.e. trader mandates that are potentially impacted by process changes.
4. **Review and remediate operational risk and controls** and review potential conduct risk conflicts.
5. **Deliver trainings** as required across all impacted staff.

Systems changes

The transition to new RFRs has a significant technology architecture and systems impact. Many banks use older application versions and may face significant release management challenges as part of LIBOR transition, including dependencies on third party vendors. In addition, LIBOR is embedded within systems and infrastructure more generally. With LIBOR discontinued, those systems and infrastructure may need to change. Some of the key LIBOR transition related technology and system changes are:

Some of the key technology and systems changes:	
1.	**Data & Analytics:** Adjustment of interfaces such as market data feeds, vendor data sources for RFRs, including maintaining historical curves data for legacy book is required in the data management systems.
2.	**Trading and Other Systems:** Identification and update of internal and vendor systems for trade capture and booking to support booking of trades with new RFRs, post-trade processing, settlement, accounting, reporting & controls, and tools with IBOR references will require changes.
3.	**Pricing Tools:** Re-configure pricing tools to handle basis risk as per new RFRs and incorporate the new pricing analytics into pricing and risk management systems.
4.	**Product Management:** Setup replacement products in the system based on new reference rates while maintaining and mapping the original LIBOR based offering.
5.	**Risk Management Systems:** Integration of new and replacement products into Risk and Treasury related systems (Liquidity Risk Management, Asset Liability Management, P&L attribution systems etc.) to analyse hedge effectiveness.

Systems change considerations:

1. **Work with all IT functions** organisation-wide (front office technology, operations IT, risk management IT, other IT functions, e.g. data management & infrastructure) to identify the required systems changes and technology readiness timelines by also engaging with vendors for third party systems upgrade.
2. **Review and plan** enhancements to existing tools and systems used for market data management, trade and booking management, product management, front office risk and pricing and business operations followed by tools and systems used by finance & reporting and treasury & risk management.
3. **Increase compute and storage capacity** required to compute and store multicurve environment pricing.
4. Review specific changes to **client counterparty data and CSA, instruments and market data** used in many systems.
5. **Execute test cases** across the trade lifecycle and impacted functions.
6. Where **tactical manual workaround solutions** are being adopted to ensure operational readiness by the end of 2021, ensure that the solutions withstand any operational risk concerns and have adequate controls in place.

6.7. Financial accounting, reporting and tax

Determining the impact of new tax, accounting and reporting standards will facilitate targeted change and allow banks to take full advantage of the reliefs provided where they apply. Accounting for LIBOR linked financial instruments, including associated hedge accounting relationships, will be impacted, and may be complex depending on the nature of the instruments and the extent and timing of changes that will be made.

There may also be tax implications resulting from changes in existing arrangements which will need to be assessed and managed. In addition, as noted in the sections above, assessment and updating of systems to incorporate required changes will also be necessary.

Sources of impact considerations:

1. **Identify contracts/transactions with exposure to LIBOR** using accelerators and technology
   - Provide education sessions with stakeholders throughout the organisation to level understanding of market developments, areas of potential impact and strategy for change.
   - Leverage experience and technology in identifying all sources of exposure thoroughly and efficiently.
2. **Identify the potential financial reporting impacts** both before and after contracts are amended. This will include impacts to operating income, financial position, cash flows and disclosures (MD&A and footnotes). Utilise expertise to maximise efforts in understanding immediate impacts (e.g. hedge accounting impacts) and the "dos and don'ts" going forward by product.
3. **Analyse impact on liquidity** (Day 1 and ongoing) funding and interest/FX management
   - Develop organisational strategy for disruptions in a disorderly market and stop-gap levers to manage through volatility and risk.
   - Share best practices in understanding: margining, collateral value, customer financing, funding strategy.

Strategy for transition plan considerations:

1. **Evaluate options for contractual modifications**
   - Advise on mitigation strategy by explaining current market trends and strategic considerations with peers.
   - Identify and explain financial reporting impacts for each product or relationship with IBOR exposure.
2. **Consider the applicability of FASB or IASB relief and guidance from relevant tax authorities e.g. HRMC**
   - Educate teams on the availability of relief for certain financial reporting consequences for each product or strategy with IBOR exposure.
   - Share knowledge around the use of judgement in applying the reliefs (e.g., what others are doing in determining what is required by IBOR reform).
3. **Develop a standard framework**
   - Create and implement accounting policy for adoption of applicable reliefs, identifying where accounting choices are available. Create a governance framework for execution of changes and financial reporting operations.
4. **Develop scenario analyses** and select customised implementation strategy for impacted business units.
5. **Assist** the client in documenting and communicating potential consequences for different mitigation responses.

6.8. Programme assurance

As outlined above, firms across financial services have established large scale change programmes to manage the transition from LIBOR to RFR rates. Given the vast scope of this change, many are challenged to monitor and manage risks to delivery, both at organisational level and by impacted business. Programme milestones must align with pre-LIBOR cessation targets set by the industry working groups and approved by the regulators, including the deadline to cease issuance of sterling LIBOR linked cash products and complete an assessment on legacy books by end-Q1 2021.

The aim of programme assurance is to provide an independent view of whether a project is set up and operating effectively. This includes ensuring that the key risks are identified, and appropriately managed so that they will not impact successful transition away from LIBOR. Programme assurance can involve auditing different stages of project delivery, including how the project is managed and governed and assessing the design and development of key outputs. It provides confidence that the LIBOR transition programme will stand up to the regulatory scrutiny.

Programme assurance considerations:

1. **Programmes fail** due to four key thematic reasons: poor control, lack of alignment to target outcomes, sub-optimal resource usage and poor decision-support and management oversight. Programme assurance mitigates common delivery risks and helps to limit the risk of programme delays or failure.
2. Programme assurance allows **a fresh and clear perspective** on key risks and issues, helping to articulate and consolidate risks and the root causes.
3. It provides **an independent view** on what needs to be prioritised and whether there are any other areas that should be considered.
4. Programme assurance **provides comfort to key project stakeholders** (e.g. shareholders, regulators) on whether management time and focus is on the right areas.
5. When performing programme assurance reviews, it is important to utilise specialists who understand the risks associated with LIBOR, including model and system risks, contract remediation, tax implications, conduct risks, and finance & liquidity risks. To challenge a programme's effectiveness, you will need to be able to challenge how management and the project are managing these risks effectively. This can be performed through deep dive reviews on specific risks, supplementing a programme health check.

7. GLOSSARY OF TERMS

ARRC	Alternative Reference Rates Committee
BoE	Bank of England
CIC	Study Group on Risk-Free Reference Rates
EC	European Commission
EMMI	European Money Markets Institute
EONIA	Euro Over-Night Index Average
€STR	Euro Short-Term Rate
EU BMR	EU Benchmark Regulation
EURIBOR	Euro Interbank Offered Rate
Euro RFRWG	Working Group on Euro Risk-Free Rates
FCA	Financial Conduct Authority
FPC	Financial Policy Committee
FSB	Financial Stability Board
IBA	ICE Benchmark Administration
IBOR	Interbank Offered Rates
ISDA	International Swaps and Derivatives Association
LIBOR	London Inter-bank Offered Rate
LMA	Loan Market Association
New York Fed	Federal Reserve Bank of New York
NWG	National Working Group on CHF Reference Rates
RFR	Risk-free Rate
PRA	Prudential Regulation Authority
SARON	Swiss Average Rate Overnight
SOFR	Secured Overnight Financing Rate
SONIA	Sterling Overnight Index Average
TONAR	Tokyo Overnight Average Rate
UK BMR	UK Benchmark Regulation
UK RFRWG	Working Group on Sterling Risk-free Reference Rates

8. CONTACTS

UK Finance

To find about more about UK Finance's work on LIBOR transition, please contact: liborcoreteam@ukfinance.org.uk. Access to UK Finance's LIBOR transition project is open to all members, information on activity to date can be found on the UK Finance LIBOR transition microsite.

PWC

Andrew Gray
Partner,
LIBOR Transition
Tel: +44 (0) 7753 928494
Email | Linked In | Twitter

Nassim Daneshzadeh
Partner, UK LIBOR Transition
proposition Client & Markets Lead
Tel: +44 (0) 7850 515679
Email | Linked In | Twitter

Karyn Daud
Partner, UK LIBOR Transition
proposition Solutions Lead
Tel: +44 (0) 7795 617469
Email | Linked In

Laura Talvitie
Manager, Financial Services
Regulatory Insights
Tel: +44 (0) 7850 908244
Email | Linked In

Disclaimer