

LIBOR TRANSITION COMPENDIUM





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OVERVIEW



IBORs are interest rates at which banks can borrow in the interbank market on an unsecured basis from overnight to 12-months. The most widely used IBOR and the one that is used widely in financial transaction globally is LIBOR, which is the IBOR for the London interbank market and is quoted in GBP, USD, EUR, CHF and JPY. The 3-month LIBOR maturity followed by the 6-month LIBOR maturity are the most widely referenced rates in all currencies by volume. In the past decade, global regulators have indicated the shift away from LIBOR and switch to Alternative Reference Rates (ARRs) due to various problems associated with the rate. This booklet provides a brief summary of LIBOR's background and the pending changes, as well as highlighting some key points to consider as part of the transition.



LIBOR

LIBOR is arguably the most important Inter-bank Offered Rate (IBOR) used in the global financial markets. It is used as a benchmark reference rate for floating rate transactions for bonds, derivatives, loans, securitisations, etc. since 1980s. LIBOR is calculated by submissions from various leading banks that estimate the rate that would be charged to borrow from other banks. It is used pervasively in various types of contracts, with the current outstanding contracts that reference LIBOR measuring in the trillions.



LIBOR USAGE AND SUBSTITUTES



LIBOR SERVES TWO PRIMARY PURPOSES IN MODERN MARKETS:

As a reference rate and as a benchmark rate. A reference rate is a rate that financial instruments can contract upon to establish the terms of agreement. A benchmark rate reflects a relative performance measure, oftentimes for investment returns or funding costs. LIBOR serves as the primary reference rate for short-term floating rate financial contracts like swaps and futures. At its peak, estimates placed the value of such contracts at upwards of \$300 trillion. Variable rate loans, primarily adjustable rate mortgages (ARMs) and private student loans, are also often tied to LIBOR. As a benchmark rate, it is also an indicator of the health of financial markets. The spreads between LIBOR and other benchmark rates can signal changing tides in the broad financial environment.

The rationale for the wide usage of LIBOR in contracts stems from its construction. Because LIBOR represents the terms at which the world's largest and most financially sound institutions can obtain funding on a short-term basis, it serves as the lower bound for the borrowing rate of other less creditworthy institutions and individuals. Rates are typically expressed as "LIBOR + x," where x is the premium charged in basis points for each borrower on top of the LIBOR rate of the corresponding maturity term. The financial contracts most commonly tied to LIBOR include interest rate swaps and other derivatives, fixed income securities, as well as ARMs. In this sense, banks extending variable rate loans can guarantee a positive net interest margin by ensuring that the interest rates they charge are tied to their cost of funds, with a positive premium built in.

LIBOR's growth to prominence as a reference rate is closely tied to the historical popularity of unsecured term interbank borrowing rates. A Bank for International Settlements (BIS) working group notes that these rates were the first to be introduced and have evolved over time into the industry standard because of early adoption by market participants (BIS 2013). More generally, however, reference rates allow for easier standardisation of financial contracts while reducing the complexity with which terms on floating rate legs are determined. Recent episodes have also underscored the potential weaknesses of a universally adopted reference rate. Adequate market liquidity and depth - a rare concern prior to the financial crisis - has emerged as a top criterion for regulators. Prudent oversight and robustness even under financial duress are now necessary components of any conversation about reference rates.





Though the USD LIBOR fixing is the most dominant and widely recognised benchmark rate in the world, many other reference rates exist that seek to capture funding conditions in global financial markets. EURIBOR is perhaps the second most widely used benchmark rate next to LIBOR and is calculated based on the funding abilities of a larger panel of European banks. Other financial centres like Tokyo, Mumbai, Singapore, and Hong Kong feature their own internally calculated rate fixings in TIBOR, MIBOR, SIBOR, and HIBOR, respectively. The various rates all employ similar methodologies, though they have on occasion arrived at different fixings. Another element of unsecured interbank borrowing rates relies on past transactions for quotes. The Euro Overnight Index Average (EONIA) is perhaps the most well-known in this set and serves as a complement to EURIBOR since the panel of banks was historically the same for the two rates.



It is worthwhile to examine the theoretical components of LIBOR to better understand its behaviour during the crisis. LIBOR can be thought of as a combination of term and risk spreads:

LIBOR = overnight risk-free rate over the term + term premium + bank term credit risk + term liquidity risk + term risk premium

- The first term is the traditional hypothetical overnight interest rate at which a riskless institution could expect to borrow over the LIBOR loan period.
- The term premium represents the intertemporal rate of substitution for the term of the loan.
- Because LIBOR banks are not inherently risk-free borrowers, we must add on the borrower's counterparty credit risk component, commensurate with loan maturity.
- The term liquidity risk compensates for maturity risk incurred by the lender by tying up funds for a longer period of time, which could include market illiquidity for interbank funds that may increase the lender's rollover refinancing costs.
- Finally, the term risk premium builds in compensation for the risk that any of these components may have realizations that differ from their expected amounts.

WHY IS REFORM REQUIRED



DECREASING TRANSACTION:

Post the financial crisis, changes to bank capital requirements resulted in a significant decrease in transaction volumes in the unsecured inter-bank lending market - upon which LIBOR is based. With insufficient transaction data, LIBOR submissions have increasingly relied on expert judgement from the panel banks. Regulators have therefore become increasingly concerned about the long-term sustainability of the benchmark and have decided to pre-empt any further possible deterioration by indicating their preference of an end to LIBOR. In addition to this, even panel banks have expressed discomfort about providing submissions based on judgements with little underlying borrowing to validate their judgements and as a result Financial Conduct Authority (FCA) had to persuade panel banks to continue submitting to LIBOR till the end of 2021.

LIBOR SCANDAL

The beginning of the end of LIBOR was started in 2012 when the LIBOR scandal rocked the financial markets across the world. The submissive nature of the rate instead of an actual transaction-based approach led many top banks to rig the rates for their gain. The scandal had a widespread implication on the financial services industry as the rate was used as a benchmark across various products totalling trillions. As a result, global regulators initiated the process to transition away from LIBOR and move towards a rate which does away with all the shortcomings associated with LIBOR.

ARRS AND RELATED MARKET DEVELOPMENT



Since 2014, global regulators have set up working groups to identify Alternative Reference Rates (ARRs) to LIBOR. The focus of the working groups was to identify rates that had markets of suitable size underpinning them and a robust governance framework for their calculation. Accordingly, ARRs for each of the LIBOR currencies have now been identified and the financial market is moving towards an orderly shift away from LIBOR. The ARRs are considered more robust and reliable interest rate benchmarks than LIBOR as their calculation is based on actual transactions in the underlying market. Being based on actual transactions, instead submissions using expert judgement, makes the ARRs more representative of the true cost of funding in the underlying markets.

HISTORICAL MILESTONES

KEY INDUSTRY MILESTONES



ARRs BY CURRENCY

CURRENCY	EXISTING RATE	ARRS	RATE TYPE	WORKING GROUP / COMMITTEE	DESCRIPTION OF THE RFR
USD	USD LIBOR	SOFR	Secured	Federal Reserve Alternative Reference Rates Committee	SOFR is secured, overnight and transaction-based encompassing multiple repo market segments
EUR	EUR LIBOR	€STR	Unsecured	European Central Bank working group	€STR is an unsecured overnight rate that reflects overnight unsecured fixed rate deposits of euro area banks
GBP	GBP LIBOR	Reformed- SONIA	Unsecured	Bank of England and FCA working group	SONIA is unsecured and overnight and is calculated based on daily sterling money market activity
CHF	CHFLIBOR	SARON	Secured	Swiss National Bank working group on Swiss franc reference rates	SARON is a secured overnight rate that reflects interest paid on interbank overnight repo transactions
JPY	JPY LIBOR / TIBOR	TONAR	Unsecured	Bank of Japan cross-industry committee on Japanese yen interest rate benchmarks	TONA is unsecured, overnight and transaction-based. It reflects the uncollateralised overnight call rate market

KEY DIFFERENCE BETWEEN LIBOR AND ARRs

PARAMETER	LIBOR	ARRs	ІМРАСТ
Calculation methodology	Submissions from panel banks	Based on actual transactions in liquid markets	ARRs are more robust benchmarks, given the strong volumes and use of actual transactions
Term structure	Term structure with seven different forward-looking tenors, from overnight to 12 months	Backward-looking overnight rates	RFRs require averaging or compounding to determine a cost of borrowing for any period greater than 1 day
Credit risk premium	LIBOR reflects the cost of borrowing by panel banks and, therefore, includes a credit premium component	Secured ARRs are proxies to risk-free and therefore have no credit premium	Spreads or margins are being determined and will potentially be added to the RFRs
Timing of rate publication	LIBOR is based on a consistent methodology across the five currencies and published at the same time	RFRs have different methodologies and publication timelines for each currency	There may be a change to operational activity to ensure appropriate implementation

ARRs: MARKET CONVENTIONS

As illustrated in the above table, the identified ARRs are different from LIBOR on various parameters which may result in existing LIBOR contracts to be economically different from the ARRs selected. Thus, contractual adjustments may need to be made to legacy contracts to make the cash flows (i.e. interest payments) economically equivalent after the transition. The contractual adjustments may need to be done in terms of interest calculation methodologies, interest payment methodologies and one-time spread adjustments to account for the difference in rates. It is pertinent to note here that the ARRs markets are continuously developing as the transaction volume increases, markets converge, and industry bodies and global regulators provide guidance. Therefore, the following list of market conventions are illustrative and not exhaustive.

INTEREST CALCULATION METHODOLOGIES (FOR O/N ARRs)

The need for various interest calculation methodologies arises from the fact that all identified ARRs are overnight rates unlike LIBOR wherein readymade term structure is available. The interest calculation methodologies can be applied to overnight ARRs to determine the total interest payment due on the contracts.

SIMPLE INTEREST IN ARREARS: The overnight rates during the period of the contract is simply averaged to arrive at the contract interest rate. In the short term, using simple interest conventions may be easier since many systems are already set up to accommodate it.

COMPOUNDING IN ARREARS: This is the most popular method among the interest calculation methodologies since compounding accurately reflects the time value of money. In this method, a daily interest rate is compounded over the interest rate period, for eg. three-month SOFR contract would compound each daily observation of SOFR over the three-month period to determine the interest rate applicable to the contract.

COMPOUNDING IN ADVANCE: An 'in advance' structure would reference an average of SOFR observed before the current interest period begins unlike an 'in arrears' structure which would reference an average of SOFR over the current interest period. Thus, the major difference between the two is that the rate to be used during the contract is already known in advance structure, whereas in arrears contract's rate is known only on the last day when the last day's interest rate is compounded.

INTEREST PAYMENT METHODOLOGIES (FOR O/N ARRs)

The delay in publication of the ARRs followed by the time taken to calculate the interest rate based on the above interest calculation methodologies poses operational challenges for both lenders and borrowers who do not know the exact interest payments until they are due. To address such challenges, industry and regulatory working groups have developed several modifications which can be applied to RFR-based contracts, to allow for additional time for the calculation and settlement of interest payments to provide borrowers with further notice of the amounts they will need to pay.

LOOKBACK OR LAG: In the lookback method, the calculation period for compounding begins and ends a certain number of days before the end of the interest period (typically five days). The length of time over which the ARRs is compounded aligns to the interest rate period.

LOOKBACK PERIOD EXPLAINED

DATE	WEEKDAY	ARR	RATE FOR INTEREST CALCULATION
01-June 2020	Monday	0.5000	
02-June 2020	Tuesday	0.5010	
03-June 2020	Wednesday	0.5005	
04-June 2020	Thursday	0.5011	
05-June 2020	Friday	0.5012	
08-June 2020	Monday	0.5014	0.5000
09-June 2020	Tuesday	0.5008	0.5010
10-June 2020	Wednesday	0.5006	0.5005
11-June 2020	Thursday	0.5010	0.5011
12-June 2020	Friday	0.5011	0.5012

LOCKOUT OR SUSPENSION PERIOD: The lockout method uses the averaged ARRs over the current interest period with the last rate set at the rate fixed certain days (typically 2-5 days) before the period ends. In other words, the rate is not updated for the final few days of the interest period and the final observed rate at the start of the lockout period is used in the daily compounding calculation.

		LOOK	OUT PERIOD EXPLAINED	
DATE	WEEKDAY	ARR	RATE FOR INTEREST CALCULATION	
01-June 2020	Monday	0.5000	▶ 0.5000	
02-June 2020	Tuesday	0.5010	▶ 0.5010	
03-June 2020	Wednesday	0.5005	▶ 0.5005	
04-June 2020	Thursday	0.5011	▶ 0.5011	
05-June 2020	Friday	0.5012	▶ 0.5012	
08-June 2020	Monday	0.5014	0.5012	
09-June 2020	Tuesday	0.5008	0.5012	
10-June 2020	Wednesday	0.5006	0.5012	
11-June 2020	Thursday	0.5010	0.5012	
12-June 2020	Friday	0.5011	0.5012	



PAYMENT DELAY: The payment is delayed several days following the end of the interest period. The aim is to facilitate the settlement of interest payments following the interest rate period. Here, the interest rate compounding period reflects the interest rate period. The advantage of this method is that it gives more time for payment while still reflecting the movements in interest rates over the full interest period.

		TAU	
DATE	WEEKDAY	ARR	RATE FOR INTEREST CALCULATION
01-June 2020	Monday	0.5000	0.5000
02-June 2020	Tuesday	0.5010	0.5010
03-June 2020	Wednesday	0.5005	0.5005
04-June 2020	Thursday	0.5011	0.5011
05-June 2020	Friday	0.5012	0.5012
08-June 2020	Monday	0.5014	0.5014
30-June 2020	Tuesday	0.5008	0.5008
02 July 2020 Thursday		Interest Payment Day (2 days after the contract end day)	

PAYMENT DELAY EXPLAINED

STATIC ONE-TIME SPREAD ADJUSTMENT

A spread adjustment is meant to minimise the difference between LIBOR and SOFR when LIBOR ceases. Using this premise, ISDA has prescribed spread calculation methodology for derivative products/instruments, whereas ARRC, the working group tasked with USD Libor Transition has released consultation/published spread adjustment methodology applicable for cash products referencing USD Libor.

Both ISDA and the ARRC will use "static" spread adjustments; in other words, this spread adjustment would be calculated once at LIBOR cessation. The spread adjustment will be one time and not dynamic in nature, i.e. does not capture differences between LIBOR and SOFR going forward.

Based on repeated consultation and market participants' feedback, ISDA has prescribed using 5-year historical median difference between LIBOR and SOFR compounded-in-arrears to arrive at the static spread adjustment and ARRC has also adopted the same approach.

The fallback spread is significant as trillions of dollars of notional value in cash and derivative instruments are tied to LIBOR and will be reset to the SOFR on the date the fallback is triggered. Therefore, billions of dollars may be transferred in mark-to-market and value transfer, etc.

BLOOMBERG: ISDA FALLBACK SPREAD CALCULATION

In July 2019, ISDA announced that Bloomberg has been selected to calculate and publish the fallback rates and spreads for the transition from LIBOR to alternate benchmark rates. Based on the ISDA-prescribed methodology as detailed above, Bloomberg has started calculating and publishing fallbacks on their terminals.

 $FR_{f,t} = ARR_{f,t} + SA_{f,t}$ Where:

 $FR_{f,t}$ means the fallback Rate for Tenor f on the rate Record Day t; ARR_{f,t} means the Adjusted Reference Rate for Tenor f on Rate Record Day t; and $SA_{f,t}$ means the Spread Adjustment for Tenor f on Rate Record Day t.

EXAMPLE OF LOAN PRICING WHILE SHIFTING FROM LIBOR TO FALLBACK RATE:

Suppose we need to price a fallback in terms of SOFR for USD loan linked to 3-month LIBOR and priced at 3m USD LIBOR +200 bps.

As per Bloomberg website, fallback and spread rates published as per ISDA prescribed calculation methodology are as under:

TICKER	CALCULATION DATE	TENOR	ТҮРЕ	VALUE
FUS0003M	3 rd September 2021	3M	Fallback Rate	0.3055%
SOFR3M	3 rd September 2021	3M	Adjusted Reference Rate	0.0439%
SUS0003M	3 rd September 2021	3M	Spread Adjustment	0.2616%

Therefore, SOFR-based pricing as on calculation/record date is as under: Adjusted Reference Rate + Spread Adjustment + Original Spread= Fallback Rate (3-month compounded in arrears) + 26 bps + 200 bps

ARRs MARKET DEVELOPMENT

TERM SONIA REFERENCE RATES: On January 11 2021, ICE Benchmark Administration and Refinitiv launched their respective Term Sonia benchmarks. Both benchmarks are administered by their regulated entities meaning they are regulatory compliant and are available in 1-month, 3-month, 6-month and 12-month tenors. The availability of these benchmarks is in line with the FCA's instruction that regulated institutions cease sterling LIBOR-referenced loan originations by the end of the first quarter of 2021. The development of a term reference rate is a significant development, especially in the loan market where market participants seek to know with certainty their interest expenses and other contractual payments in advance. It must be noted that ARRC, working group for USD LIBOR, has floated a RFP from vendors vying to administer the ARRC-recommended term SOFR benchmark. The 2020 ARRC Objectives target the availability of a recommended term SOFR benchmark by the end of June 2021.

SOFR DISCOUNTING TRANSITION: The major CCPs, such as the London Clearing House (LCH) and Chicago Mercantile Exchange (CME), have completed the switch from the Effective Federal Funds Rate (EFFR) to SOFR cleared USD interest rate derivatives. The change is considered important to further entrench SOFR, the recommended alternative to USD LIBOR, in the derivatives markets and drive liquidity in SOFR derivatives. Following the switch, institutions now must start managing their SOFR discounting risks by entering new SOFR swap contracts on an ongoing basis.

TERM SOFR REFERENCE RATES: On July 29, the ARRC formally recommended Term SOFR as published by CME for transition from USD LIBOR. This is a major milestone and most anticipated development in LIBOR transition providing market participants with an essential tool for transition away from LIBOR. ARRC has recommended Chicago Mercantile Exchange (CME) published Term SOFR for selective use in transition from USD LIBOR. CME Term SOFR Reference Rates provide an indicative, forward-looking measurement of SOFR rates, based on market expectations implied from leading derivatives markets. Term SOFR recommended for use in business loans, trade finance and end user derivative for hedging cash products. ARRC has recommended products, conventions, spread adjustment & business cases for use of Term SOFR in its announcement. The recommended spread adjustment for Term SOFR is also similar to that prescribed for Adjusted SOFR. For ex. 3m Term SOFR spread adjustment remains 26 bps.



FINANCIAL CONDUCT AUTHORITY(FCA) ANNOUNCEMENT ON LIBOR CESSATION:

The FCA has confirmed on 05th March 2021 that all LIBOR settings will either cease to be provided by any administrator or no longer be representative:

- Immediately after 31st December 2021, in the case of all sterling, euro, Swiss franc and Japanese yen settings, and the 1-week and 2-month US dollar settings; and
- Immediately after 30th June 2023, in the case of the remaining US dollar settings

ISDA has announced that the above announcement by FCA constitutes an index cessation event under the IBOR Fallbacks Supplement and the ISDA 2020 IBOR Fallbacks Protocol for all 35 LIBOR settings. As a result, the fallback spread adjustment published by Bloomberg will be fixed as on the date of the announcement for all euro, sterling, Swiss franc, US dollar and yen LIBOR settings.

The extension of USD LIBOR cessation would enable most of the contracts linked to USD LIBOR maturing before June 2023 to end by themselves rather than transition to SOFR or any other fallback rate, thereby reducing the possibility of any legal issues. For contracts maturing after that date, the possible extension provides market participants with additional time to amend fallback language or negotiate a direct switch to an alternative reference rate. It is, however, pertinent to note that USD LIBOR regulators have made it clear that institutions should benchmark all new contracts to SOFR from the original cessation date of December 2021.

LIBOR IMPACT AREAS







OVERVIEW OF KEY RISKS AND POTENTIAL MITIGANTS



Systemic Risk Financial exposures to LIBOR continue to grow and lead to systemic risk.

- Establish a strategy and time lines for reducing LIBOR exposures.
- Monitor and manage LIBOR exposures.
- Develop systems and procedures to move to ARRs.

Conduct Risk Information asymmetries, inadequate disclosures and conflicts of interest give rise to Conduct Risk.

- Establish a clear client communication strategy.
- Ensure disclosures are clear, fair and not misleading.
- Ensure customers understand the risks and outcomes they might face from transition.

Legal Risk Contractual continuity issues, as LIBOR and ARRs are economically different, give rise to legal risk.

- Examine contractual language and analyse the difference arising due to transition.
- Amend contracts to address permanent discontinuation scenario.
- Ensure compliance with the concerned regulators.

Liquidity Risk InsuGcient ARRs liquidity makes it diGcult to build a curve and price products.

- Assess whether a term rate is essential and the relevant guidelines issued by the concerned regulators.
- Incorporate adequate liquidity premium while pricing new contracts by analysing the historical difference in liquidity between LIBOR and ARRs.

Accounting & Valuation Risk

De-recognition of contracts and/or discontinuation of hedge relationships may result in accounting and valuation risk.

- Identify instruments that might get affected by accounting issues.
- Follow local regulatory guidelines related to changes in the valuation methodologies and analyse the impact of the same on the Bank's B/S.
- Consider whether repapering is needed and evaluate how existing hedges might be affected by it.

Taxation RiskAmendments in existing contracts may result in potential tax issues.

- Identify contracts that might get affected by taxation rules.
- Follow local tax regulator guidelines related to transition.
- Assess whether tax implications will have major impact on the Bank's B/S.

TRANSITION ROADMAP FOR ORGANISATIONS



IDENTIFYING FINANCIAL EXPOSURE:

The first step in the transition roadmap is identifying and understanding exposures to LIBOR and other IBORs in the portfolio including exposures to derivatives, loans, bonds and other financial contracts. This will enable Bank to have a better understanding of the impact of this transition and the scale of the risks and the transition tasks. The exposure can be analysed using various parameters like exposure across various products, exposure across various verticals of the Bank, exposure across different currencies and geographies and exposure with respect to contracts with top clients, etc. Since the development of ARRs in different currencies or regions are at different stages of development, the assessment of the exposure data would help in planning and executing the transition accordingly. Additionally, the exposure assessment exercise will form the base through which the Bank can evaluate the risk management and valuation methodologies, determine the products' replacement strategy, assess veracity of existing legal contracts, develop systems and processes required for the transition and finally have a timeline for each process in order to have a smooth transition.

IDENTIFICATION AND IMPLEMENTATION OF ESTABLISHED MARKET CONVENTION:

The functionality of financial contracts (for example, calculation of interest payments) that use ARRs as reference rate will need to be changed as ARRs are not like-for-like replacements to LIBOR rates. Analysis of various market conventions is an important step as ARRs are still developing with increasing transaction volumes, convergence of markets and guidance of various industry bodies and regulators. The major difference in the market convention from LIBOR to ARRs stems from the fact that all ARRs are transactional based backward-looking overnight rates in relation to LIBOR which is a forward-looking rate along with the requisite term structure. While there are number of approaches (for example, compounding in arrears, weighted average method) to bring ARRs in line with the LIBOR rate, it involves various operational challenges for stakeholders. To address these challenges, industry and regulatory working groups have developed a number of modifications to be applied to ARRs to allow for additional time for the calculation and settlement of interest payments in order to provide counterparties with further notice of the amounts they will need to pay. Since there is no "one-size-fits-all" approach to adopting different market conventions, Banks should understand and examine each of them, keeping in mind the interests of the clients.



FINALISATION OF INDUSTRY STANDARD FALLBACKS

Fallbacks are the contractual provisions that determine what rate counterparties should use if the initially agreed upon benchmark rate is not available. Proposed fallback language being developed across the market considers new concepts and terminology, such as permanent cessation triggers and pre-cessation triggers, as well as the methods for how an alternative rate should be determined.

In general, most existing fallback language was written to address a situation where the benchmark was temporarily unavailable, rather than its permanent cessation. This raises the question of how to maintain contractual continuity for those contracts that will be affected by LIBOR transition.

For legacy derivative contracts, the ISDA has released ISDA 2020 IBOR Fallbacks Protocol ("the ISDA Protocol") which provides fallback language in legacy derivative contracts. For derivatives, which do not use ISDA master agreements and definitions, counterparties may need to bilaterally negotiate new fallback language for their contracts.

In the cash space, amendments of existing LIBOR contracts may become more complicated if there are multiple parties to a transaction. Robust fallback language should be included in all new and refinanced LIBOR-referencing loan contracts. Remediation will otherwise be required to amend existing LIBOR-referencing contracts.

Another important aspect to consider is the spread adjustment methodologies captured by the fallback language. Hence, when transitioning to ARRs, a spread methodology will need to be applied to avoid value transfer.

TRANSITION ROADMAP:





INFRASTRUCTURE/SYSTEM CHANGES

Since the LIBOR and the corresponding ARRs are not economically equivalent, considerable changes to systems including technology and data infrastructure may be required to incorporate the characteristics of ARRs. The challenges of migration are required to be evaluated from system point of view to ensure modification in architecture is done to incorporate new rates and their calculation process. This involves identification of internal and external dependencies, adjustments for feasibility of accrual accounting in system and carrying out simulation for various approaches in dummy environment to assess the potential issues. The lead time for technology adaptation is likely to be very short due to the models/rates/term structure still evolving and consensus still in pipeline for spread models and ARR usage methods in some segments.

TREASURY PROCESS CONSIDERATION

Treasury Process Considerations involves issues related to tax and accounting including hedge accounting and valuation changes as a result of the transition from LIBOR to ARRs.

If the benchmark interest rate in a legacy contract is replaced with ARRs, it should be assessed whether this constitutes a substantial modification and therefore "de-recognition" for the purposes of International Financial Reporting Standards. The continuity of hedge relationships should also be examined once benchmark interest rates are replaced with the new ARRs and suitable changes should be done in the hedge contract to reflect the new economic consideration.

The suitability of the existing contract should be evaluated from the tax purpose before making any amendments to the contracts. If amendments are considered material, this may constitute a disposal of the existing contract and entering into a new contract for tax purposes in certain jurisdictions. Further the transition may lead to a profit and loss (P&L) impact arising in respect of the transition which may lead to tax impact.

LIBOR transition will affect pricing and risk management models. During the transition period, when Libor is co-existent with other RFRs, modelling will require curve of Libor, New RFR, OIS as well as the basis between them. Since the new rate does not have enough history in the initial years of transition, risk management and volatility models, which typically rely on historical data, will need to be overhauled.



HOW IS SBI PREPARING FOR THE TRANSITION?



SBI's preparation for LIBOR Transition started way back in May 2019 with the formation of Working Group to monitor the transition activities in the Bank in line with the market developments. Since then, a top-to-down 3-tier organisational structure has been formed representing verticals exposed by LIBOR transition to ensure proper ownership, management control and monitoring mechanism. The Bank has appointed an external consultant to guide the Bank in its transition journey. The initial task of exposure assessment and impact assessment on various risk and profitability parameters has been completed by the Bank. SBI has also put in place all enablers i.e appropriate legal agreement, accounting and tax considerations, various modifications with respect to systems and processes to ensure a smooth transition.

• SBI is spearheading the LIBOR transition process in India by working actively with industry body IBA and regulator to prepare for the challenges ahead in India. SBI participates regularly in the conferences and webinar organised by IBA on various topics related to LIBOR transition. The Bank is also a member of IBA workstreams and our officials are actively engaging with stakeholders during IBA meetings for common and proper roadmap for the Indian Banking Industry for this transition.

• Customer outreach and Contract Remediation are two of the most important activities related to the transition. It has been the endeavor of the Bank to communicate regularly and transparently with the customers regarding the transition process to ensure that both the Bank and customers are on the same page. The Bank has been conducting Customer Outreach Programme on LIBOR Transition on a regular basis with customers, counterparts from Banking industry and with other stakeholders.

• The Bank has adhered to IBOR 2020 ISDA Fallback Protocol and is in the process of continuously interacting and guiding the customers to adhere to the protocol at their end.

• The Bank has also aligned its various IT systems to support ARR-linked transactions. We have demonstrated our readiness in this regard by executing various deals /transactions linked to ARRs in a variety of products i.e Money Market, Customer loans, Investments, Derivatives, Trade etc through our Foreign offices and domestic treasury.



FAQS ON LIBOR TRANSITION



1. What is LIBOR and why is it important?

The London Interbank Offer Rate (LIBOR) is a benchmark reference rate for floating rate transactions for bonds, derivatives, loans, securitizations, etc and it is administered by Intercontinental Exchange (ICE) Benchmark Administration Limited. LIBOR is arguably the most important Inter-Bank Offered Rate (IBOR) used in the global financial markets underpinning more than \$400 trillion in transactions globally. LIBOR is calculated by submissions from various leading banks that estimate the rate that would be charged to borrow from other banks on an unsecured basis from overnight to 12 months. The rate is quoted in GBP, USD, EUR, Swiss Franc (CHF) and Japanese Yen (JPY) across 7 different types of maturities.

2. Why is reform required?

- a. Decreasing Transaction: Post the financial crisis, changes to bank capital requirements resulted in a significant decrease in transaction volumes in the unsecured inter-bank lending market upon which LIBOR is based. With insufficient transaction data, LIBOR submissions have increasingly relied on expert judgement from the panel banks. Regulators have therefore grown increasingly concerned about the long-term sustainability of the benchmark and have decided to pre-empt any further possible deterioration by indicating their preference of an end to LIBOR. In addition to this, even panel banks have expressed discomfort about providing submissions based on judgements with little underlying borrowing to validate their judgements and as a result Financial Conduct Authority (FCA) had to persuade panel banks to continue submitting to LIBOR till the end of 2021.
- b. LIBOR Scandal: The beginning of the end of LIBOR was started in 2012 when the LIBOR scandal rocked the financial markets across the world. The submissive nature of the rate instead of an actual transaction-based approach led many top banks to rig the rates for their personal gain. The scandal had a widespread implication on the financial services industry as the rate was used as a benchmark across various products totalling trillions. As a result, global regulators initiated the process to transition away from LIBOR and move towards a rate which does away with all the shortcomings associated with LIBOR.



3. Who and which products are affected by LIBOR transition?

All market participants, including State Bank of India, that have exposure to various financial products using LIBOR as a reference rate will be affected. The transition will have far reaching impact and wide complications as LIBOR is deeply embedded in the global financial markets.

4. When will LIBOR be phased out?

LIBOR is expected to cease as early as the end of 2021, when the panel banks obligation to submit references for LIBOR calculation ends. It is uncertain if, and for how long, the various LIBOR rates will be published after that time, but the regulators have already indicated that they do not expect LIBOR to continue lingering in the markets for so long. Even if LIBOR continues in the market for some period after the end of 2021, it will likely cease to be representative in the market.

5. Which rates are likely to replace LIBOR?

Risk-free rates or "RFRs" are likely to replace LIBOR. RFRs are overnight interest rate benchmarks which are perceived by the FCA and other regulators to be more representative and reliable than LIBOR. This is because these benchmarks are intended to be based on liquid markets and so they can be calculated by reference to actual transactions. Several RFR working groups were set up across a range of countries to identify alternative RFRs for the relevant currency. The RFR which has been chosen by those working groups for each currency is shown below.

LIBOR CURRENCIES	PROPOSED REPLACEMENT	TRANSACTION TYPES
USD	Secured Overnight Funding Rate (SOFR)	Secured
GBP	Sterling Overnight Index Average (SONIA)	Unsecured
Euro	Euro Short-term Rate (ESTR)	Unsecured
CHF	Swiss Average Rate Overnight (SARON)	Secured
JPY	Tokyo Overnight Average Rate (TONAR)	Unsecured

In addition to the RFRs mentioned above, some currencies have other IBORs, such as EURIBOR in the Eurozone and TIBOR in Japan. It is possible that, in some cases, market participants may choose to use these rates alongside the relevant RFR and in place of Euro LIBOR or Japanese Yen LIBOR respectively. However, as mentioned above, some of these IBORs are subject to reform because they suffer from similar issues to LIBOR and so market participants may prefer to use RFRs instead.

6. Will the proposed Alternative Reference Rates (ARRs) differ materially from LIBOR?

The ARRs differ from LIBOR in three main ways:

- a. ARRs are overnight rates which are published at the end of the overnight borrowing period. This means they are "backward-looking". In contrast, LIBOR is a term rate (i.e. it is a rate to borrow for a period of time such as 3 months or 6 months) and it is published at the beginning of the borrowing period. This means LIBOR is "forward-looking".
- b. LIBOR also includes a premium for interbank credit risk (i.e. an additional amount to account for the risk that the borrowing bank may not be able to repay the interbank borrowing).



ARRs, which are overnight rates and, in some cases, secured, do not include this premium or include a reduced premium.

c. LIBOR also measures the same market in all currencies (i.e. the unsecured interbank lending market). The ARRs measure different markets. For example, the ARRs for Sterling, Japanese Yen and Euro are based on unsecured markets whereas the ARRs for US Dollar and Swiss Franc are based on secured markets. This means that different ARRs are likely to behave slightly differently.

Some market participants have indicated that, for their interest rate products, they need to know the rate of interest at the start of the borrowing period. As a result, some public/private sector RFR working groups (which were responsible for choosing the ARRs) are now considering whether forward-looking term versions of the ARRs can be developed. The Working Group on Sterling Risk-Free Reference Rates anticipates that a term SONIA reference rate could be available in Q1 2020. The US Alternative Reference Rates Committee (ARRC) is attempting to develop term SOFR by the end of 2021. The Cross-Industry Committee on Japanese Yen Interest Rate Benchmarks and the Working Group on Euro Risk-Free Rates are considering the development of forward-looking term RFRs. The National Working Group in Switzerland has indicated that a robust forward-looking term version of SARON is not currently feasible but that, if the situation changes, this may be reassessed.

7. What impact will LIBOR Transition have?

Given that LIBOR is widely used, this transition may impact (amongst other things) existing products as well as any future contracts using LIBOR as a reference rate, systems and processes and tax and accounting treatment. Some of the impacts of LIBOR discontinuation are considered below.

a. Payments under a product may be affected: If payments under a product such as a loan, deposit, bond or a derivative are calculated by reference to LIBOR, the consequences of LIBOR discontinuation will depend on the terms of the contract. The contract may not specify what should happen if LIBOR is discontinued or, if it does, the so-called "fallbacks" or consequences may not be suitable. Alternatively, fallbacks may apply which result in the application of a new benchmark in place of LIBOR or the parties may agree to apply a new benchmark. Depending on how that new benchmark compares to LIBOR, this may mean that payments under that product may be more or may be less than they would otherwise have been.

- b. The value of the product may change: A change in benchmark may also affect the value of the product (i.e. the mark-to-market value of a derivative or the secondary market value of a certificated deposit, loan or bond) so that it is worth more than or less than it would otherwise have been. If the value of a product changes, this could also have other implications, for example, in relation to tax.
- c. Operations and systems may be impacted: If a backward-looking overnight rate is used in place of LIBOR, interest will be calculated at the end of the interest period. Operations and systems which currently rely on the interest rate being known at the start of the period may therefore need to be updated to deal with this change. LIBOR may also be embedded within systems and infrastructure more generally and so if LIBOR is discontinued, those systems and infrastructure may need to change.
- d. Impact on hedging arrangements: A loan with an interest payment obligation which is hedged by a derivative may be impacted due to this transition. Mismatches between the way in which the loan and the derivative operate upon LIBOR being discontinued may impact the application of the hedge accounting rules to your financial arrangements.

8. What are fallbacks and are existing fallback language sufficient?

Fallbacks are the contractual provisions that determine what rate counterparties should use if the initially agreed upon benchmark rate is not available. Proposed fallback language being developed across the market considers new concepts and terminology, such as permanent cessation triggers and pre-cessation triggers, as well as the methods for how an alternative rate should be determined.

In general, most existing fallback language was written to address a situation where the benchmark was temporarily unavailable, rather than its permanent cessation. Consequently, contracts may revert to rates which are not appropriate for their remaining duration, which could lead to contractual difficulties.

For legacy derivative contracts, the ISDA 2020 IBOR Fallbacks Protocol ("the ISDA Protocol") may be used to incorporate new fallback language. For derivatives, which do not use ISDA master agreements and definitions, counterparties may need to bilaterally negotiate new fallback language for their contracts.

In the cash space, amendments of existing LIBOR contracts may become more complicated if there are multiple parties to a transaction. Robust fallback language should be included in all new and refinanced LIBOR-referencing loan contracts. Remediation will otherwise be required to amend existing LIBOR-referencing contracts.

9. What is onetime adjustment when we move out to ARR? Spread keeps varying or is it onetime adjustment?

A spread adjustment is meant to minimise the difference between LIBOR and SOFR when LIBOR ceases. Using this premise, ISDAs prescribed spread calculation methodology for derivative products/ instruments whereas ARRC, the working group tasked with USD Libor Transition has released consultation/ published spread adjustment methodology applicable for cash products referencing USD Libor.

Both ISDA and the ARRC will use "static" spread adjustments; in other words, this spread adjustment would be calculated once at LIBOR cessation. The spread adjustment will be one time and not dynamic in nature, i.e. does not capture differences between LIBOR and SOFR going forward.

Based on repeated consultation and market participants feedback, ISDA has prescribed using 5-year historical median difference between LIBOR and SOFR compounded-in-arrears to arrive at the static spread adjustment. The spread adjustment will be fixed on the date of cessation announcement.

Accordingly, post FCA announcement on 05th March 2021 regarding cessation dates for all LIBOR settings, ISDA has constituted this event as an index cessation event and the fallback spread published by Bloomberg is fixed as on 05.03.2021. The following table shows the spread for USD LIBOR fixed as on 05.03.2021

Tenor	Spread Adjustments
O/N	0.00644
1W	0.03839
1M	0.11448
2M	0.18456
3M	0.26161
6M	0.42826
1Y	0.71513

10. What is the plan for migration of underlying documents like loans to SOFR as they are mostly bilateral?

The bilateral loan transition to ARRs should be done by incorporating appropriate fallback language in the contract to ensure contract continuity once LIBOR is discontinued. Further, IBA and other global industry bodies have prescribed fallback language templates and the same can be used in implementing fallbacks in the bilateral loan contracts. Moreover, we suggest you to connect with your Relationship Manager in SBI for further details on the same.



11. Are we allowed to trade in Libor-based hedge until it becomes mandatory to move to SOFR once we adhere to ISDA protocol?

There is no restriction on trading with LIBOR till the rate is officially discontinued by regulatory agency.

12. Is spread adjustment premium going to be volatile towards the last stages of transition? Which means is it worthwhile to lock such spread adjustment as early as possible?

The standalone SOFR and LIBOR and as such the spread are expected to be volatile as we approach the market expected date of the official announcement of LIBOR cessation. However, it is difficult to conclude whether the spread is going to widen or squeeze going ahead as this will depend not only on the liquidity of the two benchmarks but also on the overall direction of outstanding contracts. As such the decision and timing of transition to ARRs needs to be carefully planned.

13. Whether funding would be costlier in comparison to LIBOR after ARR? What is your expectation?

There is a conceptual difference between LIBOR and ARRs. The static spread adjustment announced by ISDA as well ARRC is to ensure the cash flows (interest rates) are economically equivalent to the extent possible. Therefore, difference between spread adjusted ARRs and LIBOR is going to be essentially formula-based and predictable.

14. When the Transition happens, would the new benchmark apply to Loan agreements as well as Swap transactions having similar maturity, if the Lenders as well as counterparties to swaps have signed ISDA protocols?

ISDA IBOR 2020 Fallback Protocol applies to derivatives contracts between parties who adhere to the protocol. The loan agreement, based on which the derivative contract is entered, needs to be separately transitioned to ARRs by incorporating prescribed fallback language in the contract through negotiation between both the parties. If the market conventions are different for cash and derivatives, the benchmark may differ slightly. There is a possibility that the rate on the underlying is slightly different from the rate on the derivatives leg of the two deals entered with the same counterparty. This may happen as the counterparty bank might have covered the derivative with some other bank and must follow the ISDA Fallback Protocol for the same.

15. What will happen to the existing LIBOR linked borrowings, which will fall due post 31.12.2021?

The existing LIBOR borrowing contracts needs to be incorporated with the appropriate fallback language which clearly states the interest rates that needs to be used in case LIBOR becomes unavailable due to temporary or permanent cessation. The fallbacks will ensure contract continuity once the LIBOR ceases. If the contracts are not remediated beforehand, we anticipate legal disputes as the transition may throw 'winners' and 'losers'.

16. When will the Spread over the SOFR applicable to Derivative contract be fixed (i.e. to existing USD IRS contracts only) once the USD LIBOR ceases to be published?

The static spread calculated by the proposed methodology of 5-year historical median difference between LIBOR and SOFR compounded-in-arrears will be fixed on the day the LIBOR cessation is announced by regulatory authorities. For eg. If on 30th June 2021, regulatory agencies announced the LIBOR cessation date on 31st Dec 2021, the spread will be freezed on 30th June 2021.

17. After signing the ISDA fall back protocol, can we still negotiate for the Spread (over SOFR) calculation or we must take the freezed spread?

The static spread adjustment is to minimise the difference between LIBOR and ARRs. Therefore, the calculated spread is necessary to make the contract as economically equivalent as possible after the transition. However, any further spread adjustment can be negotiated separately in a bilateral manner between counterparties, depending upon the terms of the trade.

18. If I will sign ISDA fall back protocol with SBI, is that will be applicable to all my ISDAs with other banks like DBS or Axis bank? Or I have to separately sign with them also?

The ISDA fallback protocol is to be signed with ISDA and not with any particular bank. The fallback protocol takes care of all the legacy derivatives contracts with all the counterparties who have adhered to the protocol. So, if you sign the ISDA protocol, it will be good for all banks who also have signed the protocol.

19. In case underlying loan (linked to LIBOR floating rate) is from a particular Bank and Derivative IRS is also from that bank (Bank pays floating and my company receives fix, can there be an agreement that the Spread (over the SOFR) will be same with regard to the Underlying loan and for Derivative IRS?

The spread calculation methodology proposed by ARRC for cash products and ISDA for derivative contracts is the same as on date. Therefore, the spread will be almost similar in both the underlying contract as well as the derivative contract undertaken to hedge the underlying. However, the same is subject to change if the industry bodies decide to change the methodology going ahead.

20. How are the underlying documents being planned to be migrated (like ECB/Syndicated Loans/MIFOR based loans) as they are bilateral documents?

The bilateral loan transition to ARRs should be done by incorporating appropriate fallback language in the contract to ensure contract continuity once LIBOR is discontinued. Further, IBA and other global industry bodies have prescribed fallback language templates and the same can be used in implementing fallbacks in the bilateral loan contracts.

21. Is RBI coming up with any guidelines/timelines for adherence of underlying and hedges for migration

As of now there are no official guidelines from RBI about guidelines / timelines for adherence of underlying and hedges for migration.

22. Can a corporate still enter Libor-based trades even after adherence to ISDA protocol before 25th January?

There is no restriction on trading with LIBOR till the rate is officially discontinued by regulatory agency.

23. Why did the ARRC publish recommendations related to the scope of use of the SOFR Term Rate?

The ARRC published principles related to scope of use before finalizing a recommended scope of use. One particular principle articulated why limits to scope of use were important as follows: "The rate should...have a limited scope of use, to avoid (i) use that is not in proportion to the depth and transactions in the underlying derivatives market or (ii) use that materially detracts from volumes in the underlying SOFR-linked derivatives transactions that are relied upon to construct a term rate, making the term rate itself unstable over time."

The ARRC's recommendations related to scope of use of the SOFR Term rate are intended to promote that objective.

Consistent with that objective, the ARRC continues to recommend SOFR for all products, and as a general principle, recommends that market participants use overnight SOFR and SOFR averages given their robustness, particularly in markets where we have seen that there can be successful adoption of these rates. But the ARRC also recognizes that there could be certain conditions where adapting to an overnight rate could be more difficult and it thus developed its recommendations for the use of the SOFR Term Rate.

In its recommended best practices, the ARRC highlighted particular areas where use of the SOFR Term Rate will be helpful to support a smooth transition away from USD LIBOR, taking into account feedback from a broad set of stakeholders. The ARRC noted that SOFR Term Rate will be especially helpful for the business loans market—particularly multi-lender facilities, middle market loans, and trade finance loans—where transitioning from LIBOR to an overnight rate has been difficult.

In addition, the ARRC recommended that "any use of SOFR Term Rate derivatives be limited to end-user facing derivatives intended to hedge cash products that reference the SOFR Term Rate. This limitation is intended to avoid use that is not in proportion to, or materially detracts from, the depth of transactions in the underlying derivatives markets that are essential to the construction of the SOFR Term Rate over time."

24. The ARRC stated that it supported the use of SOFR Term Rate derivatives for end-user facing derivatives intended to hedge cash products that reference the SOFR Term Rate. For these purposes, what constitutes an end-user facing derivative hedging a SOFR Term Rate cash product?

The ARRC recognizes that some end users may wish to hedge cash products that reference the SOFR Term Rate with a SOFR Term Rate derivative to simplify their operations and supports such use of SOFR Term Rate derivatives.

The ARRC, however, does not support the use of the SOFR Term Rate for the vast majority of the derivatives markets. The ARRC does not recommend the trading of SOFR Term Rate derivatives in the interdealer market because such activity could undermine trading activity in the underlying overnight SOFR derivatives that are needed to construct the SOFR term rate itself and could, thereby, compromise the robustness of the rate and its corresponding utility to market participants. In general, the ARRC understands that dealers offering SOFR Term Rate derivatives to end users can effectively warehouse the risk associated with such offerings, including through the use of overnight SOFR derivatives. The ARRC understands that most dealers regularly manage basis risks and the ARRC believes that the basis risk between the use of derivatives based on overnight SOFR and the SOFR Term Rate will typically be small and well within their capacity to manage effectively.

- For the purposes of the ARRC's derivatives recommendations, the ARRC considers an end user to be a direct party or guarantor to a new SOFR Term Rate business loan or securitization linked to SOFR Term Rate assets, or to a legacy LIBOR product that has converted to the SOFR Term Rate through contractual fallback language or legislation.
- Under the ARRC's recommended use of SOFR Term Rate derivatives, an end user (for example, either a lender or borrower who have entered in to a SOFR Term Rate business loan), could enter in to a SOFR Term Rate swap, cap, swaption, or similar derivatives contract to hedge that SOFR Term Rate cash product exposure, or a portfolio of such exposures, and could adjust or unwind that hedge over time, including through novations. A dealer counterparty to these hedges would not be considered an end user under these recommendations, and the ARRC does not recommend that the dealer seek to hedge its own resulting SOFR Term Rate exposure with an additional SOFR Term Rate derivative.
- The ARRC recognizes that some lending institutions are not structured to make markets or warehouse the risk of offering derivatives products to end users but may wish to enter in to a SOFR Term Rate swap, cap, swaption, or similar derivative as part of their services to help a borrower hedge a SOFR Term Rate business loan. In this instance, provided that the institution does not make two-way prices in interest rate derivatives and is not a market maker in the interdealer market for such derivatives in the regular course of its business, the ARRC considers that the use of offsetting derivatives matching the derivatives exposure that the institution has offered to its borrowers would fall under the ARRC's recommended use of a SOFR Term Rate derivative. However, the dealer counterparty to these hedges could hedge its own exposure using derivatives linked to forms of overnight SOFR, consistent with the ARRC's recommendation that overnight SOFR and SOFR averages be used in cases where a party wishes to hedge in an efficient and transparent manner.

25. Does the ARRC's recommendation of the SOFR Term Rate mean that it now only recommends use of SOFR Term Rates in fallback language and does not recommend that other forms of SOFR be referenced as fallbacks in new or renegotiated contracts referencing LIBOR?

As noted in the ARRC Best Practice Recommendations Related to Scope of Use of the Term Rate, the ARRC continues to recommend use of overnight SOFR and SOFR averages for all products. While the SOFR Term Rate is the first step of the waterfall in the ARRC's recommended hardwired fallback language for business loans, FRNs, and securitizations, the ARRC believes it is appropriate to use of a daily SOFR rate as a bilaterally-negotiated fallback where counterparties see this as feasible, have hedging requirements, and wish to better align with ISDA fallbacks and current SOFR swap market conventions.

26. What relation do these ARRC recommendations have to supervisory expectations or CME licensing agreements for the SOFR Term Rate?

Like all of the ARRC's recommendations, whether and to what extent any market participant decides to implement or adopt any benchmark rate, including the SOFR Term rate, overnight SOFR, or SOFR averages is voluntary. The ARRC is not a supervisory body, and any supervisory expectations regarding SOFR Term Rates will determined by the relevant regulatory agencies. Whether and to what extent the CME elects to license the use of its SOFR Term Rate consistent with the objective of ensuring a robust rate, or consistent with the ARRC's recommendations as to scope of use, will be determined solely by the CME itself. The ARRC's selection of the CME Group as the administrator of the ARRC-recommended SOFR Term Rates was not conditioned on the CME adapting any of its restrictions on their licensing of the SOFR Term rate for derivatives or otherwise. The ARRC identified CME Group's submission as the strongest proposal after a thorough evaluation of responses to a public Request For Proposal (link). The ARRC evaluated proposals based on four specific criteria: technical criteria, firm criteria, public policy criteria, and calculation methodology criteria. Most important to the ARRC was that the CME SOFR Term rate would be robust, well-grounded in actual underlying transactions, and available at reasonable commercial cost to all market participants to facilitate the transition away from USD LIBOR.



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ABBREVIATIONS

ALM	Asset Liability Management	LIBOR	London Interbank Offered Rate
CGM	Chief General Manager	MIFOR	Mumbai Interbank Forward Offer Rate
DGM	Deputy General Manager	ARRs	Alternate Reference Rates
DMD	Deputy Managing Director	RFR	Risk-free Rate
ESTER	Euro Short-term Rate	SARON	Swiss Average Rate Overnight
FCA	Financial Conduct Authority	SOFR	Secured Overnight Financing Rate
IBA	Indian Banking Association	SONIA	Sterling Overnight Index Average
IBG	International Banking Group	TMG	Treasury Management Group
IBOR	Interbank Offered Rate	TONAR	Tokyo Overnight Average Rate
ISDA	International Swaps and Derivatives Association	WOS	Wholly Owned Subsidiary







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