LIBOR Transition

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Key Highlights

Strategic Direction on KLIBOR for the Malaysian Financial Markets

While the LIBOR for most major currencies will cease to exist after end-2021, some other jurisdictions have maintained their existing IBORs while developing an ARR. It is envisioned that market participants will make wider use of ARR in order to reduce reliance on IBORs in the foreseeable future.

In line with global financial benchmark reforms, Bank Negara Malaysia (BNM) has appointed the Financial Markets Committee (FMC) which comprises representatives from BNM, Securities Commission Malaysia, financial institutions, insurers, fund managers and corporate treasurers, to oversee the development of a transaction-based ARR and deliberate on the strategic direction for KLIBOR and KLIRR in Malaysia.

It is proposed for the Malaysian ARR to be based on overnight transactions in the interbank market and will run in parallel to the existing KLIBOR. The availability of both rates provides the market with the flexibility to choose either ARR or KLIBOR as the reference rate for pricing of financial instruments.

Differences between Alternate Risk-Free Rates (ARRs) and Interbank Offered Rates (IBORs)

Alternate Risk-Free Rates	Interbank Offered Rates
Nearly Risk-free	Reflect the perceived credit risk of large banks
Overnight rates	Tenors can span from overnight to 12 months
Derived solely from transaction data	Submissions by several selected contributing banks. While reform measures have bene implemented to anchor IBOR submissions to transaction data, contributing banks are allowed to exercise expert judgment in providing rate submissions when there is a lack of transactions.

BNM currently compiles and publishes the Average Overnight Interbank Rate (AOIR) which is a near risk-free weighted average overnight interbank funding rate taking into account the Banks' monetary operations and interbank transactions based solely on transaction data, consistent with the development of major currencies' ARR globally.

The refined AOIR is proposed to be renamed as the Malaysia Overnight Rate (MYOR) with the proposed features set out in the section below and summarized in Appendix 1.

Key features of ARR

The FMC has deliberated on various approaches for the framework and design of ARR for Malaysia including calculation methodology and data collection and has proposed the following technical refinements to MYOR as outlined below:

a. **Calculation methodology**: MYOR will be calculated as the volume-weighted average rate of unsecured overnight MYR interbank transactions comprising the following eligible transactions:

- Wholesale unsecured deposits between interbank institutions2 (either brokered or direct/bilateral); and
- The Bank's overnight monetary operations, excluding Standing Facilities (SF).

This aims to remove susceptibility to rate volatility driven by high numbers of small transactions and eliminate the need for a minimum threshold for transactions. MYOR will be rounded to 2 decimal places.

b. **Data source**: MYOR will capture all eligible transactions sourced from the Real-time Electronic Transfer of Funds and Securities System (RENTAS). This ensures the robustness of MYOR and reduces the risk of misreporting.

c. **Data collection window**: All eligible transactions settled via RENTAS throughout the entire business day will be included in the MYOR calculation.

d. **Publication time:** To capture all eligible transactions settled on the same day, the FMC proposes for the publication time of MYOR to be at 10.00 am Kuala Lumpur time on the next business day. This proposed change is in line with international practices for publication of rates such as the Secured Overnight Financing Rate (SOFR) and Sterling Overnight Index Average (SONIA) which are published on the following business day.

e. **Erroneous data:** A republication shall be made if the error is more than 2 basis points away from the correct rate and is identified or reported by 2.00pm on publication day. The republication will be made by 4.00pm on the same day. If findings or reports of erroneous calculations are made after the cut-off time, no republication will be made.

f. **Contingency arrangements:** As a backstop in the event of disruption to the normal production of MYOR (e.g. disruption to trade settlement, interbank trading or data collection), the Bank shall at its discretion publish MYOR using a simple average of MYOR over the previous three publication days. For exceptional circumstances (e.g. a prolonged disruption), the Bank reserves the right to determine the appropriate contingency rate.

Refinements to KLIBOR (Removal of least referenced tenors)

- The 1 and 3-month KLIBOR tenors are the most frequently used benchmark tenors, with 97.7% of total KLIBOR exposure referenced to these two tenors. In comparison, the 2, 6 and 12-month tenors are less referenced by market participants.
- The Bank, as administrator of KLIBOR, undertakes periodic reviews to ensure that KLIBOR continues to remain reliable as a financial benchmark. Notwithstanding these reviews, KLIBOR will remain available for reference until end-2022 at least.
- The FMC proposes to adopt a phased approach to potentially discontinue rate submissions for the least referenced tenors to ensure the integrity of KLIBOR rates and facilitate transition. In this regard, the 2 and 12-month tenor will be discontinued first, followed by the 6-month tenor.
- The FMC proposes that market participants are given 12 months' advance notice in the event that certain KLIBOR tenors are discontinued upon review.

Regional Developments (Hong Kong & Singapore)

Singapore Leads LIBOR Transition in Asia

To boost the transition to Sora, several notable Sora initiatives will be expanded to facilitate price discovery across longer tenors and support further growth of Sora markets. Among them, the central clearing of Sora derivatives for transactions will be extended up to the 21-year tenor, from the 5-year tenor currently.

The MAS Sora derivatives auction parameters will also be widened to cover more key industry participants, while transaction tenors will be extended to 20 years from the current five years.

Finally, the MAS Sora floating-rate notes (FRN) programme will be expanded to include 1-year and 2-year tenors, from the current 6-month tenor.

Hong Kong banking sector's preparedness for LIBOR transition

The Hong Kong Monetary Authority (HKMA) has, in consultation with the Treasury Markets Association (TMA), developed the following milestones (the "Milestones") which authorised institutions ("AIs") in Hong Kong are expected to achieve:-

1. From 1 January 2021, AIs should be in a position to offer products referencing the alternative reference rates ("ARRs") to LIBOR;
2. From 1 January 2021, adequate fall-back provisions should be included in all newly issued LIBOR-linked contracts that will mature after 2021; and
3. By 30 June 2021, AIs should cease to issue new LIBOR-linked products that will mature after 2021.

Fallback language for KLIBOR-linked derivatives

While the ISDA Supplement contains robust fallback language for the major IBORs (e.g. USD, GBP LIBOR), it has yet to include KLIBOR. FMC proposes to engage ISDA to incorporate KLIBOR fallback language, with the fallback rate based on the calculation methodologies and parameters from the results of ISDA's public consultations, summarized as follows:

- Compounded setting in arrears rate
- Backward shift adjustment (i.e. lookback with observation shift)
- Spread adjustment based on historical median over a five-year lookback period, without exclusion of outliers or negative spreads
- No transitional period
- Inclusion of pre-cessation trigger

A brief history: Manipulation and Cessations

Following the global financial crisis in 2007–2008, several banks manipulated LIBOR downward by mis-interpreting that money could be borrowed at relatively inexpensive rates. The artificially low rates submitted by these banks came during an "unprecedented period of disruption". It provided the banks with a "degree of stability in an unstable time". In 2012, these banks admitted to "misconduct" in the manipulation of rates. as part of a settlement with US and UK authorities.

Did you know?

KLIBOR futures contract work in such a way that the borrowing or lending starts on the day the contract matures. For instance, when an investor long a KLIBOR futures contract, it means that the investor invests RM1 million for a period of 3 months starting from the maturity day of the contract at the futures yield rate. On the other hand, when an investor short a KLIBOR futures contract, it means that the investor borrows RM1 million for a period of 3 months starting from the maturity day of the contract at the futures yield rate.

Regulator’s Activities

Regulators around the world have been working together with an overriding aim to mitigate the risk of potential financial market discruption as a result of LIBOR cessation. Regulators in respective countries are also tasked to identify an alternative risk-free rate.

US: the ARRC has published wording for both soft-wired and hard-wired approaches.

Europe: the LMA Replacement of Screen Rate rider follows the ‘European-style amendment’ approach and is now commonly used on new financings in the European market.

Various industry working groups comprising of legal firms, corporates, financial institutions, professional consultancy firms were also formed to discuss and deliberate issues surrounding transition.

Origin	LIBOR Currency	IBOR	Administrator	Administrator	Alternative RFR	Public/Private Sector Working Group
	Australian Dollar	Bank will Swap Rate (BBSW)	Australian Securities Exchange	Reserve Bank of Australia Interbank Overnight Cash Rate (AONIA)	Reserve Bank of Australia	The IBOR Transformation Australia Working Group
		AUD-BBR-AUBBSW; AUD-BBR-BBSW; AUD-BBR-BBSW-Bloomberg				
	Canadian Dollar	Canadian Dollar Offered Rate (CDOR)	Refinitive	Canadian Overnight Repo Rate Average (CORRA)	Bank of Canada	Canadian Alternative Reference Rate Working Group
		CAD-BA-CDOR; CAD-BA-CDOR-Bloomberg				
	Swiss Franc	LIBOR	ICE Benchmark Admistratlon (IBA)	Swiss Average Rate Overnlght (SARON)	SIX Swiss Exchange	National Working Group on Swiss Franc Reference Rates
		CHF-LIBOR-BBA; CHF-LIBOR-BBA-Bloomberg				
	Euro	LIBOR	IBA	Euro Short-term Rate (€STR)	European Central Bank	Working Group on Euro Risk-free Rates
		Euro Interbank Offered Rate (EURIBOR)	European Money Markets Institute			
		EUR-LIBOR-BBA; EUR-LIBOR-BBA-Bloomberg; EUR-EURIBOR-Reuters				
	Sterling	LIBOR	IBA	Sterling Overnight Index Average (SONIA)	Bank of England	Working Group on Sterling Risk-free Reference Rates
		GBP-LIBOR-BBA; GBP-LIBOR-BBA-Bloomberg				
	Hong Kong Dollar	Hong Kong Interbank Offered Rate {HIBOR)	Treasury Markets Association (TMA)	Hong Kong Dollar Overnlght Index Average (HONIA)	TMA	Working Group on Alternative Reference Rates under the TMA
		HKD-HIBOR-HKAB; HKD-HIBOR-HKAB-Bloomberg				
	Yen	JPY LIBOR, Yen TIBOR and Euroyen TIBOR	IBA	Tokyo Overnight Average Rate (TONA)	Bank of Japan	Cross-induslry Committee on Japanese Yen Interest Rate Benchmarks
		Tokyo Interbank Offered Rate (TIBOR)	Japanese Bankers Association TIBOR AdmInlstrator (JBATA)			
		JPY-LIBOR-FRASETT; JPY-LIBOR-BBA; JPY-LIBOR-BBA-Bloomberg; JPY-TIBOR-17097; JPY-TIBOR-TIBM (All Banks)-Bloomberg; JPY-TIBOR-ZTIBOR	JBATA			
	US Dollar	LIBOR	IBA	Secured Overnight Financing Rate (SOFR)	Federal Reserve Bank of New York	Alternative Reference Rates Committee
		USD-LIBOR-BBA; USD-LIBOR-BBA-Bloomberg				

Besides identifying an appropriate alternative risk-free rate by regulator(s) in each respective country, regulators also work with related authorities and industry working groups to discuss and deliberate issues surrounding transition while consultations were conducted to seek feedback from market participants and market practitioner. Cross-border cooperations aim to provide a more standardized transition approach to minimize financial market disruption.

LIBOR Reform and Business Implication

Impacts span from Libor Exposure & Product to System, Model, Process, Accounting and Strategy

Does your organisation have any of the following?

- LIBOR-linked investment, saving/deposit or loan
- LIBOR-Indexed Floating Rate Notes (FRNs)
- Securitization of LIBOR Adjustable Rate Mortgages (LIBOR ARMs ABS)
- Residential Mortgage-Backed Securities with Floating Rate Tranches: REMICs, CMOs, PAC Floaters, TAC Floaters, Inverse Floaters, Super Floaters.
- Collateralized Debt Obligations and Collateralized Mortgage Obligations
- Asset Backed Securities with Floating Tranches
- Trade Finance and Derivatives
- Commercial & Sale Contracts
- Non Financial agreements and contracts such as Leases, inter-company agreement, Operating Agreement, Procurement Contract

Did you know?

"Tough legacy" in the context of transition away from LIBOR refers to existing LIBOR referencing contracts that are unable, before the end of 2021, to either convert to a non-LIBOR rate or be amended to add fallbacks.

On a scale of difficulty, derivatives have been considered as easier to transition than bonds and loans. This is primarily because of ISDA's forthcoming IBOR Fallbacks Protocol which will facilitate large scale amendments of legacy contracts by adhering parties.

- Situations where a derivative is used to hedge a "tough legacy" exposure or it forms part of a more complex structure;
- Non-linear derivatives where the effect of adopting the ISDA fallbacks may change the economic substance of the transaction; and
- Where one or more parties to an uncleared derivative does not adhere to the ISDA protocol.

Potential Disruption to Financial Market and Corporate Enterprisewide Risk

The potential cessation of LIBOR will likely result in sweeping effects on a large variety of financial products using LIBOR as the benchmark interest rate, including but not limited to bilateral loans, syndicated loans, derivatives, adjustable rate mortgages, floating rate notes.

The LIBOR reform may necessitate changes in product valuations, payment obligations, internal contract documentation and other operational processes/technology systems of parties to financial product transactions.

The extent of such changes will essentially depend on a number of factors, including but not limited to the following: (1) the nature of products, (2) the cessation date of LIBOR, (3) the terms of products, (4) the availability/unavailability of fall-back provisions covering the unavailability of LIBOR; (5) the duration of LIBOR referenced (Overnight, 1 week, and 1, 2, 3, 6 and 12 months); and (6) the relevant LIBOR referencing currencies (GBP, USD, EUR, JPY and CHF).

ALM Risk	New contracts and products, using the new reference rates, will not be economically indentical to the old ones based on LIBOR.
Operational Risk	Financial institutions will need to upgrade their systems, data, models and existing processes.
Liquidity Risk	Impairment concerns regarding recoverability of cash instrument.
Conduct Risk	Lack of adegaute approval and control framwork during transition.
Credit & Market Risk	Derived and implied term-structure for new reference rates will affect interest paymenrs creating valuation differences for existing financial products.
Reputational Risk	Legal and reputational risk due to variance in long-term benchmark rates.
Systemic Risk	Lack of clarity around the durability and robustness of the alternaive LIBOR rates due to liquidity concerns.
Basis Risk	Divergence in application of fallback methodology across CCPs will cause basis risk in a counterparty's cleared trading book.
Litigation Risk	Incorporation of an ARR fundamentally different from a cost-of-funding based rate like LIBOR into the contract runs into risk of legal implications.

Case Study: Implication of Data Management

- Disparate nature of data – LIBOR rate-related data is scattered across a number of different risks, finance and accounting systems, spreadsheets and physical artifacts/documentation (including scanned copies)
- Physical documents contain many potential pieces of information but with no fixed structure or patterns of language, and in some cases the quality of the document can make it difficult to extract appropriately and consistently
- Lack of contract linking – data gaps as changes to the contracts in the form of amendments may not be transparently linked to the original document
- Finding and tracing LIBOR data can be an equally complex activity due to inconsistencies in how data is organized at the logical and physical level and transformed across systems within an IT infrastructure, which can encompass thousands of applications

Ensuring completeness and accuracy of analysis - the ability to find LIBOR data and trace its flow and impact across many systems and Business Intelligence (BI) environments is complex and time consuming. Yet the exercise is imperative to a) find the rates and b) analyze impact to assess change before adjusting the data with the new rates.

For new exposure loans should be linked to new rates. As for internal due diligence and risk analysis, the first crucial step is to review existing deals to determine which are scheduled to mature after the end of 2021.

For deals which mature one or two calculation periods after LIBOR is expected to cease, parties might decide it is simpler to use existing fallback provisions rather than embarking on an amendment exercise. For deals with a longer remaining tenor, it will be necessary to review the transaction documentation to determine, among other things:

- ✔ What fallback provisions (if any) have been agreed in the finance documents and associated hedging documents in relation to the unavailability of the relevant reference rate
- ✔ Whether a change of the current reference rate impacts wider project documentation and if so, whether there is scope to amend current contractual terms (for instance whether there is scope to re-open tariffs in offtake agreements)
- ✔ Any interconnected products in the capital structure, for example, derivative transactions and the underlying debt
- ✔ What consents are required for a change to the finance documents and, if applicable, the project documentation

Impact Assessment Approach

Refer to **appendix** for a transition framework

Risk Management and Valuation	Products	Legal Documents	Client and Counterparties	Processes and Systems	Strategy and Roadmap
How are funding and capital requirement affected Which risk models, capital and valuation that needs to be updated Which term structures are impacted by the new RFRs	Which products require renewal or migration Which under-lying products and hedging are influenced by which timeline and magnitude	Determine which legal documents, policies, contracts and templates are implicated by LIBOR and are currently still in use	Which clients and counterparties are implicit and to what extent How can these documents be clustered for remediation (duration, product, type of impact) Which contracts have direct/ indirect provisions	How are key processes and their underlying systems impacted: • Risk management • Financial and tax accounting • Treasury • Product management	What is the way forward? (Account renewal of products, migration of underlying products and hedging instruments, contract remediation) What are the scenarios and fallback strategies

What organisations need to do – an overview of the general approach

1. Inventorise LIBOR exposure in across all financial instruments, products, system, process and model
2. Conduct impact assessments
3. Project planning and remediation roadmap and plan
4. Implementation and post implementation activities

Accounting impacts

1. Hedge Accounting
2. IFRS9, IFRS39, IFRS4, IFRS7, IFRS16 are impacted. Amendments and reliefs are available. Refer to appendix for more details.

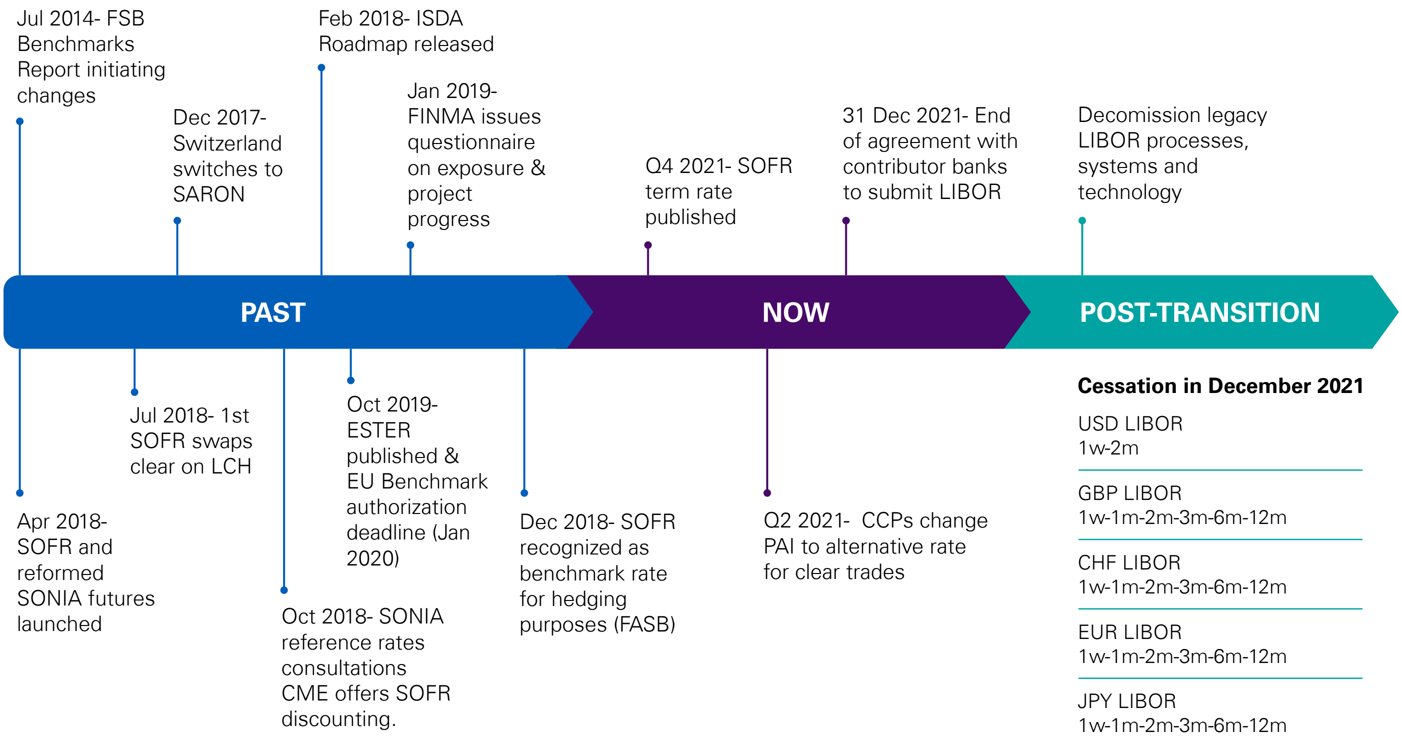
Contract Management

1. Contract cohort by duration, counterparty or product
2. Reach out to customer/ counterparties
3. Negotiate to achieve economic equivalence
4. Iron out details of Replacement Rate, credit adjustment, Interest in advance versus interest in arrears, daily simple versus compounded rate
5. Contract amendment including amendment to fallback language
6. Contract renegotiation
7. Legal advice

Develop Client Communication Plan

1. Identify clients that will be impacted by LIBOR transition
2. Develop education materials for clients
3. Initiate client outreach and education

LIBOR Reform Timeline



Did you know?

Amongst the toughest category of contracts to transition away from LIBOR are legacy loans, both syndicated and bilateral. Throughout the years, **syndicated and bilateral loans tend to have fallen back on individual lender cost of funds** which is problematic for a variety of reasons, including the difficulty of calculating the relevant cost to the lender of a particular loan. Conversely, **borrowers in the bilateral loan market may be less sophisticated and less attuned to LIBOR transition** which may make seeking borrower consent to amendments more challenging. **Individual renegotiations of these contracts will become realistically strenuous** due to the large volumes of bilateral and syndicated loan contracts, diverse nature of borrowers, cost, scarcity of resources available.

As Q3 of 2021 approaches, fallback provisions in legacy bonds **has not contemplated on the permanent discontinuation of LIBOR and is still dependent** on the application of the last available LIBOR fix for the remaining life of the bond. Hence, effectively **transforming floating rate instruments into fixed rate instruments**. Other legacy bonds involve the exercise of discretion which may not be as straightforward and **do not contain any fallback provisions at all**. In certain cases, it may not even be possible to obtain the necessary consent from bondholders, while a **long and expensive process** is involved in consent solicitations. Nevertheless, there is **insufficient time available to transition** the number of outstanding LIBOR bonds, especially within more complex arrangements (securitizations and repackaging) where the **originator or sponsor no longer exists** or is insolvent or where the economic interest in the transaction has been sold to a third party, there may no longer be a decision maker nor a party willing to assume the costs of amendment.

Although there is only a **minuscule number of IBOR mortgage contracts**, the Taskforce recognized that these should be addressed as part of any "tough legacy" legislative solution. Many of these contracts would need customer consent to vary, resulting in a new mortgage contract which not all providers have the regulatory permissions required to enter into. Further, **customers could be disadvantaged if mortgage contracts are not transitioned to an appropriate rate.**

What Is Next?

Prior to Transition

Most companies have put forward a finalised Transition Plan.

Transition

Transition is expected to complete by 31 December 2021.

Post-Transition

Post implementation review, switching off system, contract fallback flowchart.

Latest Development

Following the announcement on 18 November 2020, IBA conducted and completed its market wide consultation. On 5 March 2021, IBA confirmed to stop publishing all LIBOR rates on a representative basis by 31 Dec 2021, except for USD LIBOR - Overnight and 1, 3, 6 and 12 Months which will continue until June 2023.

In response to this, ISDA announced that these statements constitute an "Index Cessation Event", which in turn triggers a 'Spread Adjustment Fixing Date'. That means, spread adjustment is to be fixed.

For market participants, the expectation is to stop all new issuance linked to LIBOR by end 2021 but are given more time to wind down legacy contracts.

Appendix 1

Malaysia Overnight Rate (MYOR) Vs Kuala Lumpur Interbank Offered Rate (KLIBOR)

	Malaysia Overnight Rate (MYOR)	Kuala Lumpur Interbank Offered Rate (KLIBOR)
Description	MYOR is the transaction-based alternative reference rate based on unsecured overnight MYR interbank transactions in the Malaysian interbank market	KLIBOR, is the average interest rate at which term deposits are offered between prime banks in the Malaysian wholesale money market or interbank market. Rates are contributed by 12 banks designated by Bank Negara Malaysia (BNM)
Benchmark Owner and Administrator	BNM	Designated KLIBOR Distributor
Calculation Agent	BNM	Designated KLIBOR Distributor Where the Bank appoints any entity to be a designated KLIBOR distributor for compiling, calculating and disseminating the KLIBOR rates, such designated KLIBOR distributor shall – a. Make all reasonable efforts to promote consistent, accurate and timely dissemination of KLIBOR rates b. Have in place procedures to safeguard confidential information and have controls to prevent any unauthorized disclosure of information c. Make the calculation methodology available in its homepage and accessible to all its clients d. Store historical data and make available the data on KLIBOR as and when requested by the Bank e. Immediately inform the Bank where the number of submissions by KLIBOR submitters at any time falls below twelve (12) f. Inform the Bank if they identify any potential manipulation of the rates g. Institute contingency procedures to address any potential operational disruptions affecting the discharge of its obligations under the KLIBOR rate setting process h. Transmit the official KLIBOR rates to other information providers as timely as possible

	Malaysia Overnight Rate (MYOR)	Kuala Lumpur Interbank Offered Rate (KLIBOR)
Eligible Transactions	Overnight MYR interbank transactions comprising the following eligible transactions: i. Wholesale unsecured deposits between interbank institutions (either brokered or direct/bilateral) ii. BNM's overnight monetary operations, excluding Standing Facilities	KLIBOR submitters shall establish a clear hierarchical structure of the basis for determining the rates to be submitted in the following order of preference – i. KLIBOR submitter's own concluded arm's-length transactions in the underlying or related markets ii. KLIBOR submitter's own firm (executable) bids and offers iii. Expert judgment
Calculation Methodology	Volume-weighted average	Implied Forward Rate (IFR) technique is use to calculated the fair value of the KLIBOR futures price. To determine the KLIBOR futures price, this IFR technique is incorporated with KLIBOR from different tenors. This is because the futures price does not reflect the current KLIBOR but the rate is expected to prevail when the contract matures.
Publication	The computed MYOR shall be published on BNM's website at 10:00 a.m. Kuala Lumpur time on the next business day	KLIBOR rate announced and published by the central bank (BNM), every market day at 11:00 am after obtaining quotes from locally incorporated banks. KLIBOR rate is published daily in major local newspapers.
No. of Decimal Points	Rounded to two decimal places	The 5 highest and 5 lowest quotes are eliminated to arrive at the arithmetic mean, rounded off to two decimal places, and hence the settlement rate.
Contingency Arrangements	In the event of disruption to the normal production of MYOR, the Bank shall at its discretion publish MYOR using a simple average of MYOR over the previous three publication days. For exceptional circumstances (e.g. prolonged disruption), the Bank reserves the right to determine the appropriate contingency rate.	In the event of a suspected anomaly in a quotation by a KLIBOR submitter, the designated KLIBOR distributor may contact the relevant KLIBOR submitter to verify the quotation submitted. In case of a suspected calculation error by the designated KLIBOR distributor – a. KLIBOR submitters or the designated KLIBOR distributor, as the case may be, must lodge a report to the Bank (i.e. Jabatan Operasi Pelaburan dan Pasaran Kewangan) informing of such suspected error through phone (03 2698 2116) within 10 minutes of publication of the KLIBOR rates, followed immediately by an email (irmu@bnm.gov.my) with any supporting documentation. b. the Bank will assess whether a recalculation is warranted. If a recalculation is deemed necessary, the Bank shall notify the designated KLIBOR distributor. c. upon notification from the Bank, the designated KLIBOR distributor will publish the revised rate by 12.00 p.m. on the same day through the KLIBOR distributor's platform.

LIBOR Transition Framework

Governance and Oversight

Strategy

Scope / Impact Inventory

Robust Change Management

Contract Change Management

Modeling Remediation

Ops & Tech Remediation

Client and Regulatory Communication

Accounting, Tax and Internal Audit

Post Transition Activities

Immediate Priorities

1. Define Near-Term Strategy

- Review funding and hedging strategy to consider a possible SOFR issuance
- Review existing products to consider incorporating SOFR transition language

2. Mobilize Governance Structure

- Create a firm-wide Steering Committee across different areas, business lines and geographic locations
- Develop the LIBOR transition project plan and communicate with all impacted stakeholders

3. Perform Scope Assessment

- Create inventory of products and models impacted by LIBOR
- Review documentation and valuation information to identify all products directly and indirectly impacted

4. Execute Contract Change Management

- Review proposed market rate changes, based on product and jurisdiction
- Identify targeted areas of priority, evaluate potential transition actions, and apply preferred transition actions

Secondary Priorities: Model, Operations and Tech Remediation

- Assess the need to maintain MRM process for legacy LIBOR linked models and those linked with new rates
- Assess the MRM review & challenge process for required changes covering products, model overlays, and cross currency impact at a number of sub-stages within a model risk life cycle
- Report on implications to applications, process and controls
- Perform Go-Live readiness testing and remediate as needed

Spread Adjustment Fixing across LIBOR Tenor

Given the announcement by the FCA and as confirmed by ISDA, March 5th 2021 is the Spread Adjustment Fixing Date across all LIBOR tenors and currencies. Fallback rates will use the fixed spread adjustment as outlined in the table below.

Currency	Alternative RFR	Spot/ Next	Overnight	1 Week	1 Month	2 Months	3 Months	6 Months	12 Months
GBP	Reformed Sterling Overnight Index Average (SONIA)	-	-0.0024	0.0168	0.0326	0.00633	0.1193	0.2766	0.4644
EUR	Euro Short Term Rate (ESTER)	-	0.0017	0.0243	0.0456	0.0753	0.0962	0.15737	0.2993
CHF	Swiss Average Rate Overnight (SARON)	-0.0551	-	-0.0705	-0.0571	-0.0231	0.0031	0.0741	0.2048
JPY	Tokyo Overnight Average Rate (TONAR)	-0.01839	-	-0.01981	-0.02923	-0.00449	0.00835	0.05809	0.166
USD	Secured Overnight Financing Rate (SOFR)	-	0.00644	0.03839	0.11448	0.18456	0.26161	0.42826	0.71513

Appendix 2

Regulatory Alert for Financial Services (March 2021)

The Federal Reserve Board has issued **guidance** relevant to all of its supervised institutions instructing examiners to consider issuing supervisory findings and other supervisory actions if a firm is not ready to stop issuing LIBOR-based contracts by December 31, 2021. Failure to adequately progress toward a transition away from LIBOR could create safety and soundness risks for the firm and the financial system more generally.

Examiners will look for supervised firms to demonstrate progress towards a move away from referencing LIBOR by considering six key areas:

1. transition planning
2. financial exposure measurement and risk assessment
3. operational preparedness and controls
4. legal contract preparedness
5. communication
6. oversight

The Federal Reserve encourages supervised firms to cease entering into such contracts as soon as practicable. New LIBOR-based contracts entered into before December 31, 2021 should have robust fallback language that includes a clearly defined alternative reference rate after LIBOR is no longer available.

Separate examiner guidance is provided for institutions with less than $100 billion in total consolidated assets and those with $100 billion or more in total consolidated assets, which generally will have more significant and complex LIBOR exposures and should develop more detailed transition plans.

On March 5, 2021, the United Kingdom's **Financial Conduct Authority**, the regulator of LIBOR, confirmed that all LIBOR settings will either cease to be provided by any administrator or no longer be representative:

- Immediately after December 31, 2021, in the case of all sterling, euro, Swiss franc and Japanese yen settings, and the 1-week and 2-month USD settings.
- Immediately after June 30, 2023, in the case of USD overnight and 1, 3, 6, and 12-month settings.

The Federal Reserve noted that the extension of certain LIBOR tenors until June 30, 2023 will allow some existing LIBOR exposures to mature naturally. Firms should have the ability to identify the proportion of their LIBOR exposure that will run off before the relevant tenor ceases (either December 31, 2021 or June 30, 2023) and should be able to highlight valuation and hedging challenges resulting from switching from LIBOR to an alternative rate.

Impact Assessment of FCA Announcement

The FCA has announced the dates that panel bank submissions for all LIBOR settings will cease which is noted as the cessation event by the Market.

Announcement

FCA announced the dates that panel bank submissions for all LIBOR settings will cease, after which representative LIBOR rates will no longer be available. The dates for different currencies and tenors are noted in the next page & below:

- **December 31st, 2021**, in the case of all Sterling, Euro, Swiss franc & Japanese yen settings, and the 1-week & 2-month US dollar settings and
- **June 30th, 2023**, in the case of the remaining US dollar settings

According to ISDA, if a LIBOR tenor is discontinued or declared Non-Representative (i.e. 1-week and 2-month USD), linear interpolation applies. This will allow for the rate to be set comparing the nearest short rate and nearest long rate, until such time that those rates no longer exist for comparison. At that time an Index Cessation Event shall be deemed to have occurred. On 3/8/21 ARRC confirmed the same.

FCA will consult further in Q2 2021 on requiring ICE Benchmark Administration (IBA), the administrator of **LIBOR, to continue publishing GBP and JPY LIBOR** (1-month, 3-month and 6-month tenors) on a non-representative, synthetic basis for a further period after end-2021 for **GBP** and for an additional year after year end-2021 for **JPY**. There is also potential for synthetic publication for the key (1 month, 3 month and 6 month) **USD** tenors. The consultation will be by using the proposed new powers the government is legislating to grant FCA under the BMR.

Use of synthetic LIBOR will not be permitted for new trades as it is intended for use in tough legacy contracts. This will be subject to permission from the FCA under its proposed new powers.

Impact

The announcement is an important step towards the end of LIBOR Transition as it is treated as a cessation event and locks the benchmark's fallback spread adjustments.

The fallbacks (i.e. to the adjusted risk-free rate plus spread) will automatically occur for outstanding loan or derivative contracts that incorporate IBOR Fallback language or are subject to adherence of the ISDA 2020 IBOR Fallbacks Protocol. Fallback language will apply when each LIBOR setting ceases or becomes non-representative. Index cessation dates are noted on the next page.

As the deadlines and spread adjustments for the fallback rates are fixed, firms are expected to push forward and continue to take the necessary action to ensure operational readiness in the coming months.

The fallback rate to be used to support ISDA 2020 IBOR Fallbacks Protocol as published by Bloomberg will be observed 2 days prior to payment date. Details are provided in the **Rule Book** and fixed spread adjustments are presented in the following pages.

The FCA announcement triggers activities, including promptly notifying counterparties of the cessation event. Market preference looks to proactively communicate changes to impacted clients on a similar timetable and provide a notice to all counterparties, irrespective of contractual obligation.

Industry & Market Update: 1/6

Announcements on the end of LIBOR

March 5, 2021

- U.K. Financial Conduct Authority (FCA) announced the dates that panel bank submissions for all LIBOR settings will cease, after which representative LIBOR rates will no longer be available, marking the final chapter in the transition:
- **December 31, 2021** for all sterling, euro, Swiss franc and Japanese yen settings, and the 1-week and 2-month US dollar settings
- **June 30, 2023** for the remaining US dollar settings

ISDA Statement on FCA Announcement

March 5, 2021

- ISDA statement noted that FCA announcement constitutes an index cessation event under the IBOR Fallbacks Supplement and the ISDA 2020 IBOR Fallbacks Protocol for all 35 LIBOR settings.
- ISDA issued Future Cessation and Non-Representativeness **Guidance**. The purpose of this Guidance is to describe how the terms of the ISDA 2020 IBOR Fallbacks Protocol and Supplement number 70 to the 2006 ISDA Definitions as well as the 2018 ISDA Benchmarks Supplement apply to the FCA LIBOR Announcement. The guide includes a Summary Table of relevant dates and information.

IBOR Fallbacks Technical Notice: Spread Fixing Event for LIBOR

March 5, 2021

- Following the FCA and ISDA announcements, Bloomberg noted that 5 March is the 'Spread Adjustment Fixing Date' for all LIBOR Tenors across all LIBOR currencies and published 'every LIBOR Tenor, Ticker and associated fixed Spread Adjustment' for the five key LIBOR currencies.

ARRC Confirms a "Benchmark Transition Event" has occurred under ARRC Fallback Language

March 8, 2021

- The ARRC confirmed that the March 5, 2021 announcements by ICE Benchmarks Administration and the FCA on future cessation and loss of representativeness of the LIBOR benchmarks constituted a 'Benchmark Transition Event' with respect to all USD LIBOR settings pursuant to the ARRC recommendations regarding more robust fallback language for new issuances or originations of LIBOR floating rate notes, securitizations, syndicated business loans, and bilateral business loans.
- ARRC released **FAQs Regarding the Occurrence of a Benchmark Transition Event**.

Libor Cessation Updated: The ARRC and Supervisors Speak

March 9, 2021

- The LSTA published a notice on the FCA announcement and subsequent statements and updates from the IBA, Fed, ISDA, Bloomberg, and the ARRC.

Opens external link

Industry & Market Update: 2/6

Assessing Supervised Institutions' Plans to Transition Away from the Use of the LIBOR

March 9, 2021

- Federal Reserve released a guidance to "assist examiners in assessing supervised firms' progress in preparing for the transition".
- Examiners are directed to review firms' planning for LIBOR cessation in six key areas: (1) transition planning; (2) financial exposure measurement and risk assessment; (3) operational preparedness and controls; (4) legal contract preparedness; (5) communication; and (6) oversight.

Virtual Hearing – Monetary Policy and the State of the Economy (Video)

February 24, 2021

- In the hearing within the House Committee on Financial Services US FRB Chair Jerome Powell noted support for Federal LIBOR Transition Assistance Legislation.
- Powell responded to questions regarding LIBOR transition. He responded positive to the question whether it is necessary to have federal legislation to have a smooth transition after June 2023 when LIBOR is no longer published. He added "As you know, many Libor contracts are going to run off before 2023, but there'll be a hard tail, as we say, and we do think federal legislation is the best answer."

LSTA credit sensitive rate implementation considerations

February 18, 2021

- LSTA presented to the Federal Reserve Bank of New York ("FRBNY") Credit Sensitivity Group indicating that issues associated with implementation of a credit-sensitive rate are very similar to SOFR implementation. Challenges are noted as vendors readiness timelines, multi-reference rate environment and regulatory support.

ARRC Chairman presentation at CFTC Market Risk Advisory Committee (MRAC)

February 23, 2021

- ARRC chairman Tom Wipf presented activities of the subcommittee on interest rate benchmark reform to MRAC. He noted that subcommittee focus will be on the CCPs in the coming weeks.
- Due to the way the fallbacks in the ISDA protocol and supplement are constructed, an IBOR swap under these fallback terms will fall back to an RFR swap that has slightly different conventions than a standard RFR swap. The overarching goal from the CCPs is to standardize these fallen-back IBOR swaps as much as practicable. Subcommittee will work with the market and CCPs while they complete their independent consultation process prior to finalizing any plans.

LSTA published form of notice of the IBA and FCA announcements

March 10, 2021

- LSTA suggested form of notice that is designed to satisfy general notice requirements typically found in a loan package and noted as a tool to use on a voluntary basis.

LIBOR Transition: Self-Assessment Tool for Banks

February 10, 2021

- The Office of the Comptroller of Currency (OCC) published a self-assessment checklist for banks to assess their preparedness for LIBOR's cessation.
- Checklist has 30 questions highlighting expiry date by Q2 and highlights the due diligence that that needs to be applied in selecting a rate. The tool is aimed at community banks but will have wider applicability.

Industry & Market Update: 3/6

Sterling RFR Working Group Priorities And Roadmap Update

February 2021

- The Working Group on Sterling Risk-Free Reference Rates updated its roadmap to include a more specific end Q2 deadline for the ceasing of issuing of new GBP LIBOR non-linear derivatives.
- It also added a specific end Q3 target for completing active conversion of all legacy GBP LIBOR contracts where viable, and, if not viable, ensure robust fallbacks are adopted where possible.

Transition in Sterling Non-Linear Derivatives Referencing GBP LIBOR ICE Swap Rate (ISR)

February 2021

- To support market participants' use of non-linear derivatives, the Working Group developed a potential methodology considering the use of SONIA swap rates for a replacement for GBP LIBOR ISR.

Path To Ending New Use Of GBP Libor-linked Derivatives

February 24, 2021

- The Working Group published a paper which outlines the limited circumstances where it may be appropriate to enter into GBP LIBOR linked derivatives after the deadlines, for risk management of existing positions and to support transition flows for active conversion.
- The WG plans to work with the FCA to explore the potential to change market standard trading conventions to a SONIA basis at an appropriate point during Q2 2021.

Consultation on Successor Rate to GBP LIBOR in Legacy Bonds Referencing GBP LIBOR

February 8, 2021

- Published a consultation seeking feedback from market participants on whether it would be helpful for the Working Group to make a recommendation for SONIA as successor rate to GBP LIBOR in bonds upon the occurrence of a permanent cessation event or a pre-cessation event, and on the particular successor rate which ought to be recommended. The different successor rates proposed are overnight SONIA, compounded in arrears, and term SONIA.

Supporting the Wind-Down of Critical Benchmarks

February 15, 2021

- The UK HM Treasury published a consultation seeking views from market participants on the appropriate scope of potential legal protections or safe havens for users of a synthetic LIBOR rate. The legal safe harbor would reduce the action, liability or grounds for litigation between parties to LIBOR contracts. Consultation will close on March 15.

Summary of LCH's Consultation on its Solution for Outstanding Cleared LIBOR® Contracts

February 16, 2021

- LCH published a summary to its consultation regarding the treatment of outstanding cleared LIBOR contracts at or around the cessation date and their potential conversion into corresponding RFR-based contracts.
- Based on the responses, LCH intends to move forward with a consensus approach of converting outstanding LIBOR contracts into corresponding RFR-based contracts.

Industry & Market Update: 4/6

ICE Benchmark Administration Launches New US Dollar Reference Rates Webpage

February 2, 2021

- ICE Benchmark Administration Limited (IBA) launched new daily USD reference rates for one, three, six- and 12-month tenor periods:
- ICE Bank Yield Index rates (in indicative, beta form) - a credit-sensitive interest rate index designed to serve as a potential reference rate for US Dollar commercial lending, which is based entirely on executed transaction data;
- IBA's forward-looking Term SOFR (ICE Term SOFR) rates (in indicative, beta form) - designed to provide term risk-free rate settings in US Dollars,
- Tradeweb ICE CMT rates (in indicative, beta form) - designed to provide a daily overview of US Treasury yields for standard maturities, based on transactions or quotes for US Treasury securities on the Tradeweb institutional global platform;
- ICE Bank Yield Index Spreads to ICE Term SOFR; and
- ICE Bank Yield Index Spreads to Tradeweb ICE CMT rates.

Financial Benchmarks: Council Adopts New Rules Addressing LIBOR Cessation

February 2, 2021

- The EU adopted the proposed amendments to the EU Benchmarks Regulation (BMR) which allows the Commission to designate a statutory replacement for LIBOR in legacy contracts upon LIBOR's cessation.

Perspectives Paper: IBOR Reform - A Valuation Guide

February 2021

- The IVSC published a paper outlining the key challenges that could arise from the valuation impacts from the cessation of IBOR, including impacts of terms in existing IBOR inventories, evolving market liquidity, and new risks.

Campaign to Kill Off Libor Is Boosted by Landmark Bond Sale

February 17, 2021

- Canadian energy firm Enbridge issued a two-year SOFR-linked FRN, becoming the world's first non-financial issuer to sell debt linked to the RFR.

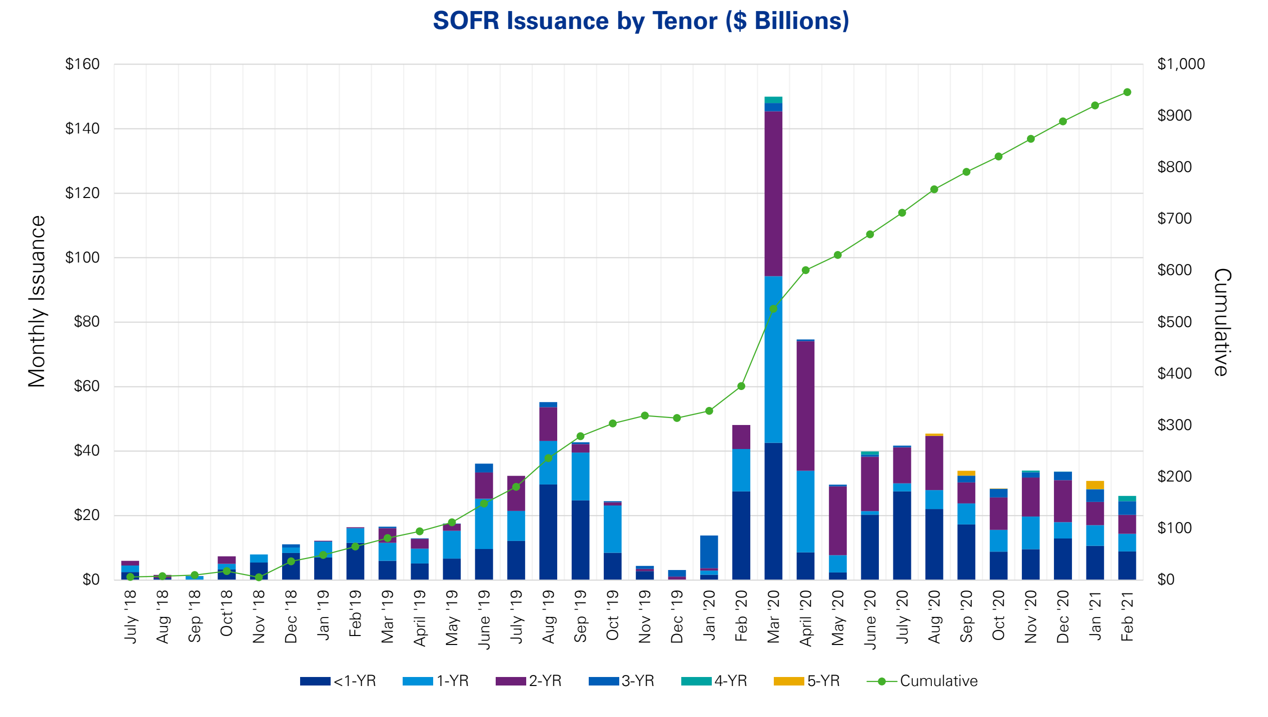
Industry & Market Update: 5/6

Market Statistics

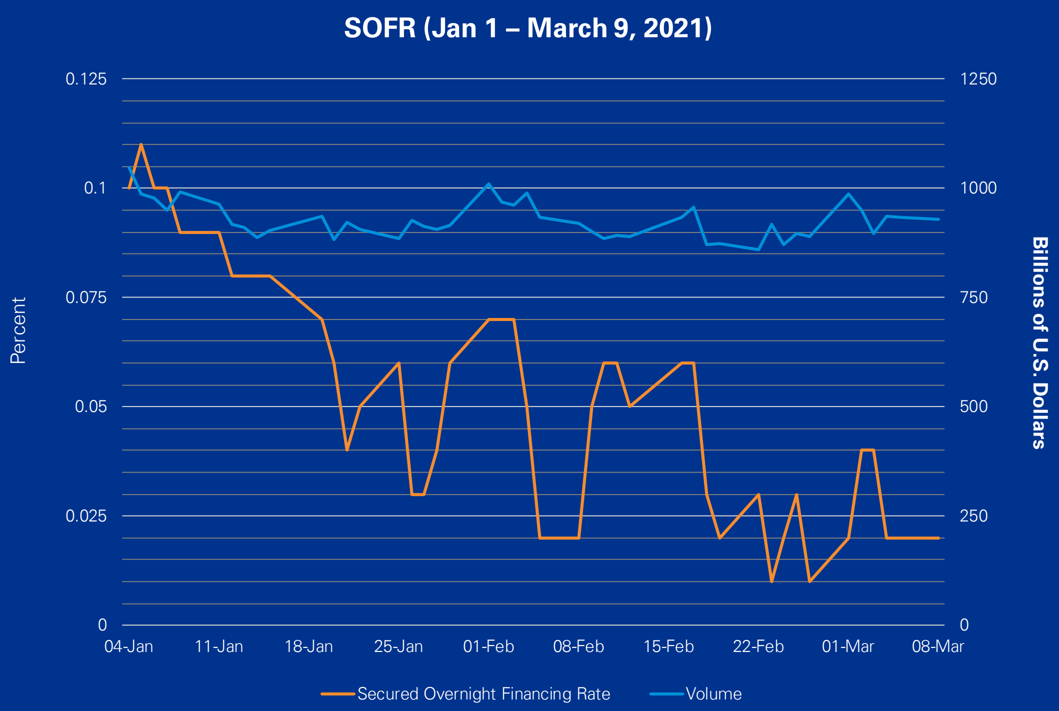
SOFR Issuances, rate and credit spread

SOFR Cumulative issuance reached $946 billion in February 2021. Recent notable issuances are:

- $600 million bond from World Bank, first non financial Corporate (Enbridge) sale of $500 million FRN linked to SOFR and IDB first USD 1 billion SOFR Index-Linked Global Bond.



Source: CME SOFR Futures (February 28, 2021)



- During February, the **SOFR rate** remained between 0.07% to 0.01%.
- With the FCA announcement on March 5 it dropped to 0.02% and remains same since then.

Source: New York FED SOFR chart

Industry & Market Update: 6/6

SOFR derivatives market

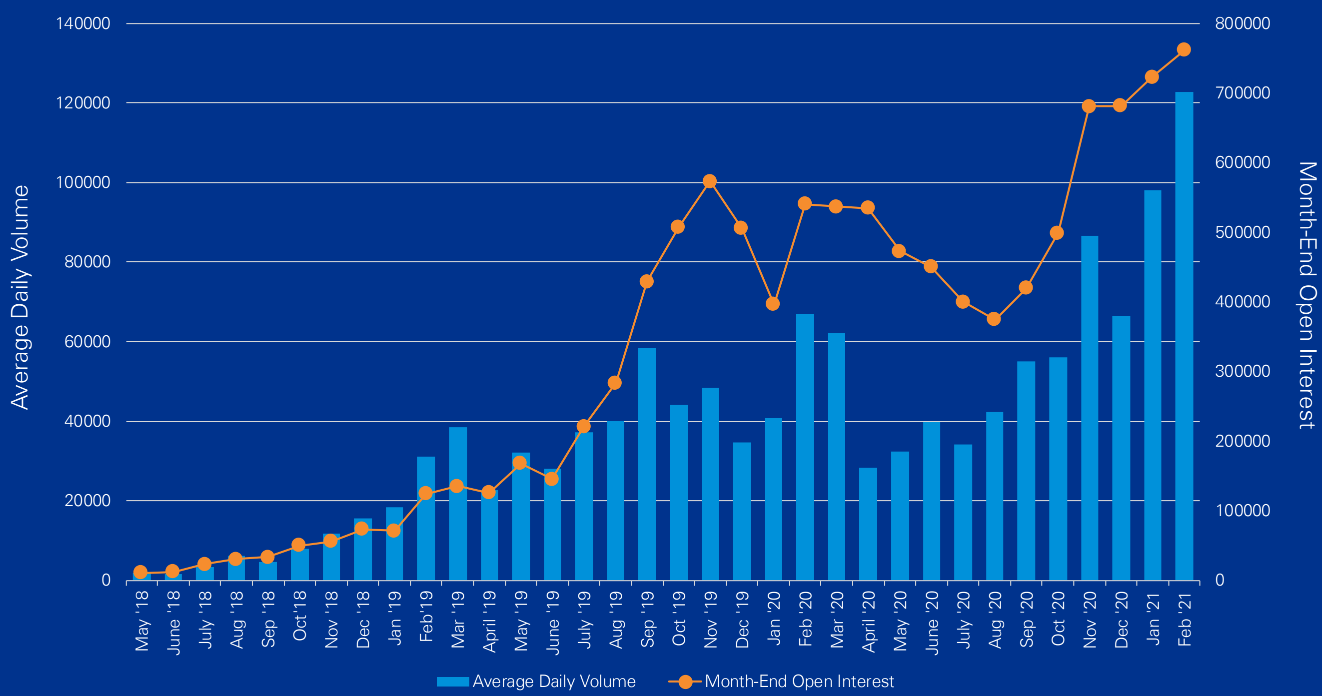
ARR Volumes are increasing but there is long way to replace LIBOR for USD

	Week Ending March 5, 2021		YTD Ending March 5, 2021	
	Notional (USD bn)	**Trade Count**	**Notional (USD bn)**	**Trade Count**
USD LIBOR	1,991	18,079	22,830	144,894
SOFR	38.2	327	511	3,496
GBP LIBOR	379	2,981	4,448	29,026
SONIA	387	1,740	3,832	11,177

Source: ISDA Weekly Trading Volumes (March 5, 2021)

- YTD **swaps** traded notional measures show that SOFR to USD LIBOR is much lower in fraction than SONIA to GBP
- SOFR weekly notional reached highest on the final week of February since October of last year but was not able to show sustain this on the first week of March.
- Weekly trade count for SONIA is on upward trend and SONIA weekly traded notional overtook over GB LIBOR last three consecutive weeks including week ending March 5.
- SOFR **futures** trading volumes have steadily been increasing from 2 H 2020.CME reached a daily volume record of 265,511 contracts on February 25, surpassing the previous record of 240,288 contracts on November 19, 2020. Open interest also set a new record of 757,943 contracts on the same day.

CME SOFR Futures

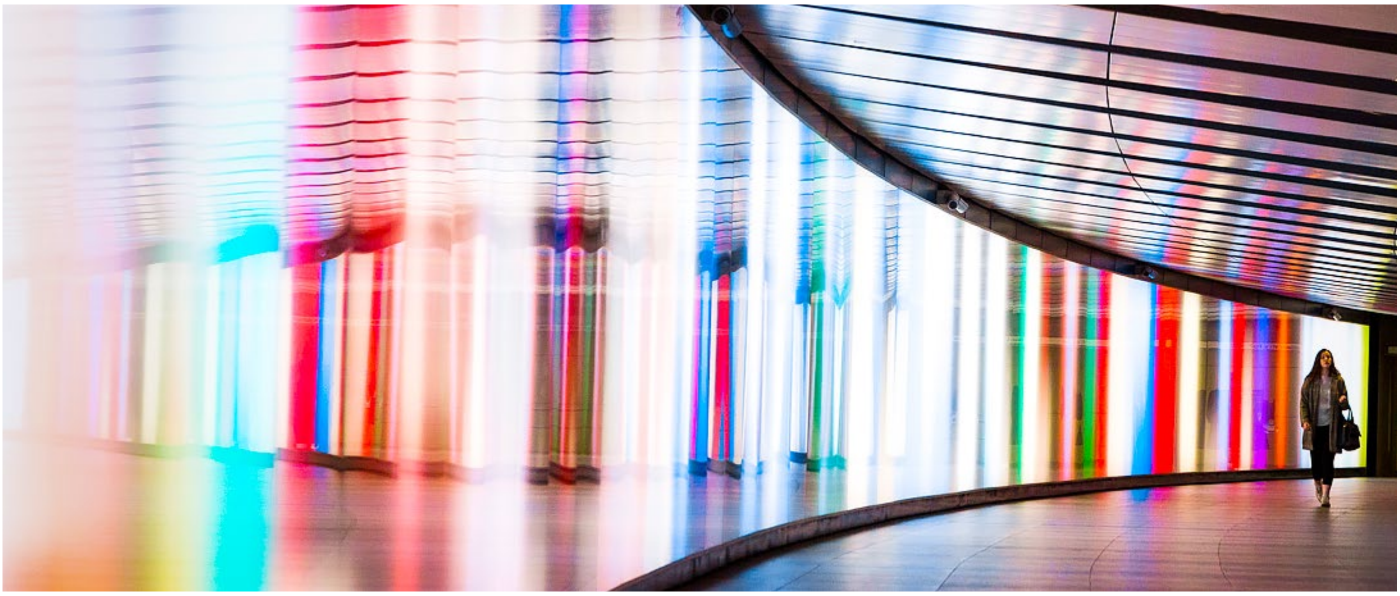


Source: CME SOFR Futures , CME March Rates Recap and CME press release

The FCA has announced the dates that panel bank submissions for all LIBOR settings will cease which is noted as the cessation event by the Market.

Appendix 3

Latest LIBOR Transition Newsletter



Press watch

1. LIBOR transition addressed in a draft New York budget

   New York State incorporated a new article in its draft budget to address the discontinuance of LIBOR, which is in line with the ARRC's updated proposed legislation. It recommends SOFR as a benchmark replacement rate for LIBOR.
   Lexology, 25 February 2021

2. OCC publishes LIBOR self-assessment tool for banks

   The Office of the Comptroller of the Currency (OCC) published a bulletin that offers a self-assessment tool for banks to help them in identifying and mitigating risks associated with preparation required with the cessation of LIBOR. It offers a checklist styled questionnaire with 37 questions across four major themes.
   OCC, 10 February 2021

3. LIBOR transition may cost global banks US$100 each million this year

   It is expected that major global banks will be spending over US$100 million each to prepare for the cessation of LIBOR. Banks are spending money to renegotiate contracts with individual counterparties and overhaul IT systems and payment settlements.
   BNN Bloomberg, 5 February 2021

4. EU adopts new rules for addressing benchmark cessation

   The Council of the European Union amended the benchmark regulation (2016/1011) by publishing regulation 2021/168, which focuses on the exemption of certain third-country spot foreign exchange benchmarks and reduce legal uncertainty to put a replacement benchmark systemically.
   Moody's Analytics, 2 February 2021

Regulatory roundup

1. BoE publishes a consultation paper on successor rate to GBP LIBOR

   The Working Group on Sterling Risk-Free Reference Rates, which operates under Bank of England (BoE), has published a consultation paper to seek feedback regarding the successor rate to GBP LIBOR for bonds after the permanent termination of LIBOR. The paper will be open till 16 March 2021 to receive feedback from the market participants.
   Moody's Analytics, 12 February 2021

2. BoE publishes a paper supporting transition in sterling non-linear derivatives referencing GBP LIBOR ICE Swap Rate (ISR)

   The Working Group on Sterling Risk-Free Reference Rates published a paper which lists down a potential methodology using SONIA-based rates which could form a replacement for GBP LIBOR ISR. The aim of the paper is to help market participants transition to non-linear derivatives, structured products and cash market instruments referencing the GBP LIBOR ISR.
   Bank of England, 12 February 2021

3. The Federal Reserve puts pressure on banks to ditch LIBOR

   The Federal Reserve is dialing up the pressure on banks to increase their efforts towards ending the reliance on LIBOR. It has started asking banks for detailed accounts on their plans to amend LIBOR linked contracts and the fallback provisions in place to facilitate movement towards alternative benchmark rates.

   Yahoo Finance, 2 February 2021

Industry news

1. CME Group records a new daily high in SOFR contracts trading
   US derivatives exchange CME Group witnessed a new daily record of 265,511 Secured Overnight Financing Rate (SOFR) contracts on 25 February 2021. This indicates the continued migration of the market away from the LIBOR benchmark.
   The Trade, 1 March 2021

2. BoE published best practices guide for GBP loans
   The BoE notified that the Working Group on Sterling Risk-Free Reference Rates has published a best practices guide for new loans referencing GBP SONIA (including refinancing and renewals) and for the transition of legacy GBP LIBOR referencing loans which includes bilateral loans, syndicated loans and other loans based on GBP LIBOR.
   Bank of England, 25 February 2021

3. Landmark bond sale by a non-financial issuer boosts LIBOR transition
   Enbridge Inc, a Canadian energy firm has become the first non-financial issuer to sell debt linked to SOFR, the main Libor alternative. This is expected to strengthen market confidence and encourage adoption of the new alternative benchmark rate by more number of companies.
   Yahoo Finance, 18 February 2021

4. IBA launches new webpage to assist the market with US$ LIBOR Transition
   ICE Benchmark Administration Limited (IBA) has launched a new US$ reference rate webpage offering a detailed overview of IBA's solutions to support the LIBOR transition for market participants. This webpage provides an option to compare and view different reference rates including ICE Bank Yield Index, ICE term SOFR and Tradeweb ICE CMT rates.
   ICE, 2 February 2021

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