Q&A section to LIBOR Transition

Frequently Asked Questions

1. **Why and when is the London Interbank Offered Rate (LIBOR) being replaced?**

LIBOR provides an indication of the average rate at which a panel of banks could obtain wholesale unsecured funding. It has been used by the British Bankers Association since 1986 with a governance that involves asking traders from a panel of banks to estimate at which level they consider they could borrow funds. There are 5 active LIBOR currencies (CHF, EUR, GBP, JPY and USD) for 7 maturities. The underlying market that LIBOR seeks to reflect has become increasingly less active. Therefore, given the decrease in transactions, the Financial Stability Board (FSB) has observed that submissions used to determine LIBOR are increasingly based upon expert judgment. In 2017, FCA announced that they would no longer persuade or compel member panel banks to make LIBOR quote submissions after 2021.

The ICE Benchmark Administration (IBA) announced that it will consult on its intentions to cease the publication of one week and two month USD LIBOR following the LIBOR publication on December 31, 2021, and to cease the publication of overnight, one, three, six, and 12 month USD LIBOR following the LIBOR publication on June 30, 2023. The IBA previously released a consultation on its intent to cease the publication of GBP, EUR, CHF, and JPY LIBOR following their publication on December 31, 2021.

The Federal Reserve Board (FRB) issued supervisory guidance encouraging banks to cease entering into new contracts that use USD LIBOR as a reference rate as soon as practicable and in any event by December 31, 2021. New contracts entered into before December 31, 2021 should either utilize a reference rate other than LIBOR or have robust fallback language that includes a clearly defined alternative reference rate after LIBOR's discontinuation.

On Mar 5, 2021, the FCA has announced the dates that panel bank submissions for all LIBOR settings will cease, after which representative LIBOR rates will no longer be available.

- Immediately after 31 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 30 June 2023, in the case of the remaining US dollar settings

This is an important step towards the end of LIBOR, and the Bank of England and FCA urge market participants to continue to take the necessary action to ensure they are ready. The FCA may consult in Q2 on requiring ICE Benchmark Administration ("IBA") to continue the publication on a "synthetic" basis of the 1 Month, 3 Month and 6 Month GBP and JPY LIBOR settings after Dec 31, 2021, and will continue to consider the case for "synthetic" USD LIBOR settings of 1 Month, 3 Month and 6 Month after Jun 30, 2023. Any "synthetic" LIBOR will no longer be representative for the purposes of benchmark regulation and is not for use in new contracts. It is intended for use in tough legacy contracts only.

2. <u>**What are Risk Free Rates ("RFRs") and how are they different from LIBOR?**</u>

Risk Free Rates ("RFRs") are alternative reference rates that have been developed for use instead of LIBOR. Regulators for the 5 LIBOR currency jurisdictions have published their preferred alternative reference rates as shown in the table below:

IBORs	RFRs	Secured/ Unsecured	Rate Administrator	Working Group	Description
USD LIBOR	Secured Overnight Financing Rate (SOFR)	Secured	Federal Reserve Bank of New York (FRBNY)	Alternative Reference Rate Committee (ARRC)	Cost of borrowing cash overnight collateralized by U.S. Treasury securities.
GBP LIBOR	Reformed Sterling Overnight Index Average (SONIA)	Unsecured	Bank of England	Working Group on Sterling Risk-Free Reference Rates	Overnight unsecured sterling deposit transaction.
EURIBOR, EUR LIBOR	Euro Short-Term Rate (€STR)	Unsecured	European Central Bank	The Working Group on Euro Risk-Free Rates	Overnight unsecured fixed rate deposition transactions over €1mn.
CHF LIBOR	Swiss Average Rate Overnight (SARON)	Secured	SIX Swiss Exchange	National Working Group on Swiss Franc Reference Rates (NWG)	Secured rate that reflects interest paid on interbank overnight repo.
JPY LIBOR	Tokyo Overnight Average Rate (TONA)	Unsecured	Bank of Japan	Cross-Industry Committee on Japanese Yen Interest Rates Benchmarks	Unsecured overnight call rate market.

While RFRs and LIBOR are both benchmarks, there are distinct differences between them which include:

- Reference Period: LIBOR is a forward-looking term rate whereas RFRs are backward-looking overnight rates;

- Methodology: LIBOR is derived from quotes provided by panel banks' submissions that are meant to be estimates of where they could borrow funds whereas RFRs are benchmarks generally based upon actual transactions;

- Credit Risk: LIBOR and RFR rates reflect different elements of credit risk. LIBOR is an unsecured borrowing rate and includes the implied credit risk of the panel banks and a liquidity premium related to the length of the interest period. RFRs do not include the panel bank credit risk element nor a liquidity premium related to the length of the interest period as they are overnight rates. Some RFRs are unsecured and others are secured.

3. What is SOFR?

On June 22, 2017, the ARRC identified the Secured Overnight Financing Rate (SOFR), as its recommended alternative to USD LIBOR. SOFR is a fully-transaction based, nearly risk-free reference rate. It is a broad measure of the cost of borrowing cash overnight collateralized by U.S. Treasury securities.

SOFR covers the most volume of transactions of any rate based on the U.S. Treasury repurchase agreement (repo) market. It is based on transaction data from three segments of the Treasury repo market: (i) tri-party repo, (ii) General Collateral Finance (GCF) repo, and (iii) bilateral repo transactions cleared through the Fixed Income Clearing Corporation (FICC). As a good representation of conditions in the overnight Treasury repo market, SOFR reflects an economic cost of lending and borrowing by the wide array of market participants active in the market.

The New York Fed is the administrator of SOFR and produces the rate in cooperation with the Treasury Department's Office of Financial Research (OFR). The New York Fed publishes SOFR on a daily basis on its website at approximately 8:00 a.m. eastern time. Additionally, the New York Fed publishes 30-, 90-, and 180-day SOFR Averages and a SOFR Index to support a successful transition away from USD LIBOR.

4. <u>How to calculate a compounded in arrears rate?</u>

Compounding in arrears is a methodology that compounds daily values of the overnight rate, throughout the relevant term period. Compounding in arrears differs from a typical term rate by calculating interest looking backwards and therefore such a methodology is usually accompanied by a brief period in advance of payment to set the interest rate and calculate payment.

The ARRC's "A User's Guide to SOFR" provides a comprehensive overview of the compatibility of compounded in arrears with SOFR.

5. <u>What is "fallback language"?</u>

In this context, "fallback language" refers to the legal provisions in a contract that apply if the underlying reference rate in the product (e.g. LIBOR) is discontinued or unavailable. The FSB's Official Sector Steering Group (OSSG) has recommended that market participants both understand their contractual fallback arrangements and ensure that those arrangements are robust enough to prevent potentially serious market disruptions in a LIBOR cessation event. The ARRC supported this recommendation in its Second Report, and in July 2018, the ARRC released its guiding principles for the development of fallback language in new financial contracts for cash products. Because LIBOR is a heavily-used reference rate, its permanent cessation without viable fallback language in contracts would cause considerable disruption to financial markets and uncertainties around the large gross flows of USD LIBOR–related payments and receipts between many financial participants. It would also impair the normal functioning of a variety of markets, including business and consumer lending.

6. What will happen if contracts do not contain fallback language when LIBOR ceases?

Market participants should review their contracts to identify whether adequate and robust fallback language has been implemented to address the cessation of LIBOR. In some instances, and these may differ on a case-by-case basis, the lack of adequate fallback language may result in the contract referencing the last published LIBOR rate on a continued basis (i.e. the reference rate will become fixed), or, in the case of US dollars, a prime based rate.

7. Why does loan document need to be changed?

If the loan document has been identified as having fallback language that may not allow for a smooth transition of the interest rate on the loan onto a Risk Free Rate should LIBOR cease, it may be preferable or necessary to amend the language of the loan document to facilitate such a transition in the event LIBOR ceases.

It is encouraged that borrowers review their loan documents to identify how they would address the anticipated cessation of LIBOR. Some documents may reference the last published LIBOR rate on a continued basis (i.e. the interest rate will become fixed) while others may reference a prime based rate or the “cost of funds” of each lender in the loan facility. In order to promote a consistent approach to address a cessation of LIBOR, it is encouraged the use of recommended fallback language and approaches developed by the various National Working Groups (e.g. ARRC and SRFRWG) to ensure impacted documents are smoothly transitioned to an endorsed alternative reference rate.

8. What is the credit spread adjustment and why is it needed?

LIBOR and RFRs are calculated using separate methodologies and therefore there may be differences between the published rates of the two benchmarks. In order to accommodate the differences observed and minimize value transfer to the extent possible, industry working groups recommend the usage of a credit spread adjustment.

The established market approach for the credit spread adjustment will be based on the historical median with 5-year lookback period that calculates the difference between LIBOR and the alternative reference rate over five years' worth of daily data points. It is proposed that the median of those differences be added to the alternative reference rate when fallback language is activated.

The results for consultations raised on this topic by ISDA, Sterling RFR WG, and the ARRC can be found below:

ISDA:

https://www.isda.org/2019/11/15/isda-publishes-results-of-consultation-on-final-parameters-forbenchmark-fallback-adjustments/

Sterling RFR WG:

https://www.bankofengland.co.uk/-/media/boe/files/markets/benchmarks/summary-of-responseson-consultation-credit-adjustment.pdf

ARRC:

https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2020/ARRC_Recommendation_Spread_Adjustments_Cash_Products_Press_Release.pdf

9. When will the credit spread adjustment be calculated and become active?

The spread adjustment calculation as recommended by ISDA, the SRFRWG for cash products and the ARRC for cash products will be based on a historical median with 5-year lookback approach and will be calculated on the date of a public statement by the regulator or administrator of LIBOR that triggers either the permanent or pre-cessation triggers (whichever occurs first) even if the statement is forward-looking.

Following FCA's LIBOR announcement on cessation dates, ISDA has made the statement that FCA's announcement constitutes a cessation event under the IBOR Fallbacks Supplement and the ISDA 2020 IBOR Fallbacks Protocol ("the Protocol") for all 35 LIBOR settings. As a result, the fallback spread adjustment published by Bloomberg is fixed as of the date Mar 5, 2021 for all euro, sterling, Swiss franc, US dollar and yen LIBOR settings. The fallbacks will automatically occur for outstanding derivatives contracts subject to adherence of the Protocol on the following dates.

- After Dec 31, 2021: For outstanding derivatives referenced to all euro, sterling, Swiss franc and yen LIBOR settings.
- After Jun 30, 2023: For outstanding derivatives referenced to all US dollar LIBOR settings.

10. What are the transition timelines for non-LIBOR benchmark loans?

For multi-currency loan documents that reference a LIBOR rate and one or more non-LIBOR benchmark rates where the relevant regulatory bodies and/or central banks of these currencies have indicated that the non-LIBOR benchmark will cease, NDB will work with its borrowers to try to ensure a smooth transition in line with published cessation timelines.

For loan documents that have non-LIBOR benchmark rates, borrowers should refer to the relevant regulatory body and central bank websites to stay up to date with ongoing developments and timelines surrounding planned cessation. As and when the non-LIBOR benchmark rate cessation timelines are published, NDB will engage with borrowers whose underlying loan documentation needs amending to discuss and agree moving onto a new benchmark rate.