Frequently Asked Questions

LIBOR Transition

S&P Dow Jones Indices (S&P DJI) continues to monitor the future of the London Interbank Offered Rate (LIBOR) and other relevant InterBank Offered Rates (IBORs). This document includes background information and answers to pertinent questions to keep clients and market participants informed about S&P DJI's preparations for the LIBOR transition.

BACKGROUND

LIBOR represents wholesale interbank funding rates and has long been a benchmark interest rate for global capital markets. It is published in five currencies (British pound sterling, U.S. dollar, euro, Japanese yen, and Swiss franc) with seven tenors (overnight/spot next, 1-week, 1-month, 2-month, 3-month, 6-month, and 12-month). LIBOR has been widely adopted by market participants to determine interest rates and payments in derivatives, bonds, loans, and structured products; it is also used as the benchmark to determine the value of financial products.

Interbank funding activities that underpin LIBOR have declined significantly since the 2008 financial crisis, challenging its robustness and representativeness.

- In 2014, the Financial Stability Board published the review of major interest rate benchmarks and set out the plans and timelines to develop alternative nearly risk-free reference rates.
- In 2017, the U.K.'s Financial Conduct Authority (FCA, the regulator of ICE Benchmark Administration [IBA], the benchmark administrator for LIBOR) decided to no longer require panel banks to submit information to the IBA for the calculation of LIBOR after Dec. 31, 2021.
- On March 5, 2021, the FCA announced that all LIBOR settings will either cease to be provided by any administrator or no longer be representative: immediately after Dec. 31, 2021, for all sterling, euro, Swiss franc, and Japanese yen settings, as well as the one-week and two-month U.S. dollar settings; and immediately after June 30, 2023, for the remaining U.S. dollar settings. Despite the delay in the most-used USD LIBOR tenors, U.S. regulators have urged financial institutions to stop entering new USD LIBOR transactions by the end of 2021.
- The reform on benchmark rates also includes other survey-based LIBOR-like IBORs, e.g., EURIBOR in euros, the Bank Bill Swap Rate (BBSW) in Australian dollars, Canadian Dollar Offered Rate (CDOR), HIBOR in Hong Kong dollars, etc.

FAQs

1. What are the proposed replacement rates for LIBOR?

Authorities in the U.K., U.S., EU, Japan, and Switzerland and the jurisdictions of other major IBORs have taken steps with private participants to identify and develop transaction-based overnight risk-free rates (RFRs) to replace IBORs. The RFRs are generally anchored on the most liquid segment of money markets. Unlike LIBOR, RFRs are nearly risk free and do not embed a bank credit risk component.

Some jurisdictions opted to implement a two-rate approach, reforming and retaining existing IBORs in addition to recommended RFRs. In the EU, Japan, and Australia, the Euro Interbank Offered Rate (EURIBOR[1]), the Tokyo Interbank Offered Rate (TIBOR), and the BBSW will coexist with the RFRs, respectively. In Canada, the CDOR will stay but its relevance is expected to decline, and the Canadian Overnight Repo Rate Average (CORRA) is expected to become the predominate reference rate over time. The two-rate approach allows the coexistence of credit-sensitive term benchmarks and RFRs, permitting market participants to choose the appropriate rate for specific use.

In the U.S., the Federal Reserve Board and the Federal Reserve Bank of New York have established the Alternative Reference Rates Committee (ARRC) with a diverse group of private-sector and official-sector entities to help ensure a successful transition away from the U.S. dollar LIBOR. The ARRC has selected the Secured Overnight Funding Rate (SOFR) as the recommended alternative reference rate for the U.S. and leads the transition from USD LIBOR to SOFR.

SOFR is based on observable transactions of overnight borrowing in the U.S. Treasury repo market, with a daily volume of over USD 977 billion since SOFR's first publication in April 2018. In comparison, as of 2019, "(t)he Fed estimates that on a typical day there are currently around six to seven actual market transactions—totaling about $500 million—that could underpin one- and three-month U.S. dollar LIBOR across all of the panel banks. For the six-month tenor, there are only two or three transactions per day. At the one-year tenor the average is one transaction per day, and on many days there are none. That means that the majority of panelist submissions each day are based solely on 'expert judgment.'"[2] [3]

USD LIBOR and SOFR are not equivalents in economic terms. SOFR is an overnight, secured, almost-risk-free rate published with a one-day lag. USD LIBOR is a forward-looking, unsecured bank funding rate with both overnight and term rates of up to 12 months available. There are two major differences between SOFR and USD LIBOR that make the transition to SOFR challenging. First, SOFR is an overnight rate and LIBOR is published for seven tenors of forward-looking term rates. Second, SOFR is nearly risk free because it is an overnight secured

[1] Work on identifying fallbacks for EURIBOR based on the Euro Short-Term Rate (€STR) is in progress.

[2] Since March 2019, LIBOR panel bank's submissions are determined through the use of a "Waterfall Methodology," which utilizes eligible transaction data where available, transaction-derived data otherwise, and, if neither is available, market and transaction data-based expert judgement, appropriately framed, using the bank's own internally approved procedure (based on a set of permitted inputs and agreed with IBA).

[3] Held, Michael: SOFR and the transition from LIBOR (bis.org). 2019.

rate collateralized with U.S. Treasuries, while LIBOR is credit-sensitive, embedding bank credit risk premia.

SOFR is calculated and published by the Federal Reserve Bank of New York. In addition to the daily SOFR, the Federal Reserve Bank of New York also publishes three compounded averages of the SOFR (30-, 90-, and 180-calendar day average) and an SOFR Index that allows for the calculation of compounded average rates over custom time periods. In fact, many derivatives contracts or cash products referencing SOFR are based on averages of daily rates, which helps address the concern around day-to-day volatility of SOFR rates.

Exhibit 1: RFRs in Major Currency Areas

JURISDICTION	CURRENCY	CURRENT IBOR	RFR	TWO-RATE APPROACH
U.S.	USD	USD LIBOR	SOFR (Secured Overnight Financing Rate)	-
U.K.	GBP	GBP LIBOR	SONIA (Sterling Overnight Index Average)	-
Eurozone	EURO	EUR LIBOR, EONIA, EURIBOR	€STR (Euro Short-Term Rate)	Yes, EURIBOR stays
Switzerland	CHF	CHF LIBOR	SARON (Swiss Average Overnight Rate)	-
Japan	JPY	JPY LIBOR, TIBOR, Euroyen TIBOR	TONA (Tokyo Overnight Average Rate)	Yes, TIBOR stays
Canada	CAD	CDOR	CORRA (Canadian Overnight Repo Rate Average)	Yes, CDOR stays
Australia	AUD	BBSW	AONIA (RBA Interbank Overnight Cash Rate)	Yes, BBSW stays

Source: Bank of International Settlements, the Federal Reserve Bank of New York, ECB, Bank of England. Table is provided for illustrative purposes.

2. How is S&P DJI preparing for the LIBOR transition?

S&P DJI has convened a LIBOR Working Group across various functions to oversee and coordinate firm-wide efforts supporting the LIBOR transition (including other affected IBORs). The LIBOR Working Group meets regularly to accomplish the following objectives.

a) Identify replacement rates for affected indices and analytics calculation

S&P DJI is actively reviewing all existing indices by currency to identify those with exposure to IBORs and their use cases. Depending on the use case, the tenor of the rate, and specific considerations for each index, the LIBOR Working Group will identify the appropriate alternative reference rate to replace IBORs for each affected index.

Daily RFRs may be a natural alternative to the overnight IBORs that are currently used in some indices as cash investment rates. In other cases, a term rate might be preferable or required, as IBOR term rates are currently referenced in some indices. One option is backward-looking term rates calculated as a simple or compounded average of daily RFRs. For forward-looking term rates, availability and development status of RFR-based term rates vary by jurisdiction. As of January 2021, RFR-based forward-looking term rates are only available in GBP as Term SONIA Reference Rates (TSRRs). In the U.S. and Japan, the term reference rates are anticipated to be published before mid-2021. In the eurozone, EURIBOR will continue to be used, while development of €STR-based term rates is ongoing. In Switzerland, a robust SARON-based term rate is deemed as unlikely to be feasible. If a forward-looking term rate is required in an index and no such rate is available in the jurisdiction, non-RFR rates such as T-bill rates may be considered. In some strategy indices, specifics of the individual strategy need to be considered in identifying the replacement rates for IBORs.

For S&P DJI's U.S. investment-grade and high-yield corporate bond indices, LIBOR and LIBOR-based swap and swaption data are currently used in yield curve and interest rate option modeling for analytics calculation, e.g., option-adjusted spread (OAS), effective duration, spread duration, etc. After the LIBOR transition, and depending on market developments, benchmark swap and swaption data will be used instead for curve and volatility calibration.

Once IBOR replacement rates are identified, back-tests and analysis can be conducted on the impact of the rate switch for specific use cases of IBORs on selected indices, as well as on the analytics of corporate bonds.

b) Determine the transition date for existing indices and the cutoff date when new index launches can no longer use affected IBORs

S&P DJI continues to monitor market developments around the LIBOR transition to determine the transition date for existing indices and cutoff date for new indices to cease utilizing affected IBORs. Similarly, we are closely following market developments in SOFR-based interest rate derivatives, particularly in market depth and liquidity, to identify the right time to switch to appropriate benchmark swap and swaption data for curve and option model calibration.

c) Identify and coordinate required improvements in data and systems

Our data team is actively engaging with vendors for new data access. Our IT and analytics teams are making changes to systems and processes to integrate new data into our database and calculation process.

d) Market communication and consultations

S&P DJI will seek market feedback regarding the transition from LIBOR to an alternative rate through published consultations. The consultations will be posted on http://www.spglobal.com/spdji, and feedback will only be accepted during the posted timeframe as specified in the consultations.

In accordance with S&P DJI's policies, once the consultations have closed and prior to the Index Committee's final review, S&P DJI will consider the issues and may request clarifications from respondents as part of that review. All feedback from the consultations will be reviewed and considered before a final decision is made by the Index Committee.

When a decision is made to proceed with the changes resulting from the consultations, an announcement will be made on our website.

3. How is LIBOR used in indices offered by S&P DJI?

As an index provider, S&P DJI currently uses LIBOR in the following ways.

a) **Cash investment in index calculation:** LIBOR has been used as a cash rate for both S&P DJI branded and custom indices that have cash investments or require a funding rate. The affected indices include: 1) total return indices calculated from excess return indices and excess return indices calculated from total return indices (e.g., S&P 500 PR (3M LIBOR)); 2) leveraged indices (e.g., S&P Risk Control Indices); and 3) as a defined cash position accruing interest (e.g., S&P Merger Arbitrage Index Series).

b) **Index rebalance:** LIBOR has been used in the methodologies of S&P DJI branded and custom indices as an input for index rebalance. For example, in the S&P Risk Premia Rates Carry and Value (Spread Reversion) Indices, IBORs across seven countries are used as the short-term interest rates for the calculation of yield spread used in index construction. Another example is the S&P/LSTA U.S. Leveraged Loan 100 Index, which includes LIBOR in its eligibility factors.

c) **Index analytics:** USD LIBOR and LIBOR-based swap and swaption data have been used in yield curve and volatility modeling for U.S. corporate bond analytics. The affected indices include the S&P U.S. Investment Grade Corporate Bond Index and S&P U.S. High Yield Corporate Bond Index for which OAS, effective duration, spread duration, etc., are calculated and published. Some S&P DJI fixed income indices (e.g., the S&P U.S. High Yield Low Volatility Corporate Bond Index) also use the calculated analytics in constituent selection at each rebalance as stipulated in the index methodology.

4. What is S&P DJI's timeline for LIBOR transition?

On March 5, 2021, the FCA announced that all LIBOR settings will either cease to be provided by any administrator or no longer be representative: immediately after Dec. 31, 2021, for all sterling, euro, Swiss franc, and Japanese yen settings, as well as the one-week and two-month U.S. dollar settings; and immediately after June 30, 2023, for the remaining U.S. dollar settings. In the eurozone, the Euro Overnight Index Average (EONIA) is expected to be discontinued on Jan. 3, 2022.

Given the likely discontinuation of most LIBOR rates at the end of 2021, and the importance of this event, S&P DJI will seek feedback through a consultation with market participants and stakeholders in the second quarter of 2021 to determine the appropriate replacement rates for our indices and timing for these changes. The implementation of such changes will be conducted before the end of the year, with a three-month notice period. Further communication regarding the consultation will be provided promptly.

As the USD LIBOR cessation of key tenors is delayed until mid-2023 and the USD swaption market based on alternative rates is still nascent, replacement instruments for USD LIBOR-based swaps and swaptions used in yield curve and interest rate option modeling for fixed income analytics calculation will be determined at a later date when benchmark instruments emerge with sufficient liquidity developed in this market.

RESOURCES

Alternative Reference Rates Committee (ARRC) https://www.newyorkfed.org/arrc

Working Group on Sterling Risk-Free Reference Rates https://www.bankofengland.co.uk/markets/transition-to-sterling-risk-free-rates-from-libor/working-group-on-sterling-risk-free-reference-rates

Working Group on Euro Risk-free Rates
https://www.ecb.europa.eu/paym/interest_rate_benchmarks/WG_euro_risk-free_rates/html/index.en.html

Cross-Industry Committee on Japanese Yen Interest Rate Benchmarks
https://www.boj.or.jp/en/paym/market/jpy_cmte/index.htm/

The National Working Group on Swiss Franc Reference Rates
https://www.snb.ch/en/ifor/finmkt/fnmkt_benchm/id/finmkt_reformrates

Canadian Alternative Reference Rate Working Group https://www.bankofcanada.ca/markets/canadian-alternative-reference-rate-working-group/

Interest Rate Benchmark Reform in Australia https://www.rba.gov.au/mkt-operations/resources/interest-rate-benchmark-reform.html

Secured Overnight Financing Rate Data https://apps.newyorkfed.org/markets/autorates/SOFR

ISDA https://www.isda.org/category/legal/benchmarks/

Financial Conduct Authority (FCA) https://www.fca.org.uk/markets/libor

Financial Stability Board (FSB) https://www.fsb.org/work-of-the-fsb/market-and-institutional-resilience/financial-benchmarks/

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