GTREASURY

HOW CORPORATE TREASURY CAN PLAN FOR LIBOR REPLACEMENT

White Paper

October 2019

As December 2021 nears, the impacts of the end of London Interbank Offered Rate, or LIBOR, are becoming clearer. These impacts will be widespread and affect corporations in ways they may not expect. Understanding and planning are key to a successful transition. This document highlights current progress and the key issues corporate treasury organizations will face, as well as the actions they will need to take, with focus on the U.S.

INTRODUCTION

By the end of 2021, participating banks will no longer be required to publish rates used to calculate the benchmark interest rate, LIBOR. Instead, new Risk-Free Rates (RFRs) will replace LIBOR.

At the direction of the G20, the Financial Stability Board (FSB) has been tasked with coordinating the development of RFRs with national and regional Alternative Reference Rate Committees (ARRCs). According to the U.S. ARRC, the gross notional value of all financial products tied to U.S. dollar LIBOR is around $200 trillion.

RFRs seek to resolve the well-documented issues with LIBOR rates by being transaction based, and more representative of the broader financial markets. National working groups are developing RFRs in conjunction with the FSB and then working with market participants to transition to their country's respective RFR.

As of this writing, the following G-20[1] countries have named their LIBOR replacement and have begun working on transition.

Currency	Country/Region	LIBOR Replacement	Administrator (ARCC)	Collateralized
USD	United States	SOFR (Secured Overnight Financing Rate)	New York Federal Reserve	Secured
EUR	Euro Region	ESTER (Oct 2019) (Euro Short Term Rate)	European Central Bank	Unsecured
GBP	Great Britain	SONIA (Sterling Over Night Index Average)	Bank of England	Unsecured
CHF	Switzerland	SARON (Swiss Average Rate Overnight)	EUREX	Secured
JPY	Japan	TONAR (Tokyo Overnight Average Rate)	Bank of Japan	Unsecured
HKD	Hong Kong	HONIA (Hong Kong Dollar Overnight Index Average)	Treasury Markets Authority	Unsecured
SGD	Singapore	SORA (Singapore Overnight Rate Average)	Monetary Authority of Singapore	Unsecured
CAD	Canada	CDOR[2] (Canadian Dollar Offered Rate)	Canadian Bankers Association	Unsecured
AUD	Australia	BBSW[3] (Bank Bill Swap Rate)	Australian Financial Markets Association	Unsecured

[1] The remaining G-20 members, India, Russia, Indonesia, Argentina, Brazil, South Korea, China, Mexico, Russia, South Africa and Turkey have yet to announce their RFRs. ISDA (International Swap Dealers Association) is the global administrator for the LIBOR replacement for derivatives.
[2] Both Canada and Australia have reviewed and reformed their existing non LIBOR reference rates (CDOR and BBSW, respectively). The Central Bank of Canada has started to publish CORRA (Canadian Overnight Repo Rate Average) and expects increased usage over time.
[3] ibid

IMPACTS

The impacts of transitioning to a new RFR from LIBOR are far reaching and fall into three categories:

- **Benchmark Rate Change** – Transitioning to a new benchmark on existing and new financial contracts.
- **Interest Rate Valuation Curves and Market Conventions** – Transitioning to new interest rate discount curves derived from RFR-based instruments.
- **Regulatory Reporting** – Changes to hedge accounting standards and regulatory reporting based on new benchmarks and discount curves.

A thorough understanding of each impact is critical to a successful transition to the new RFR. The U.S. SOFR rate will be used as an example.

BENCHMARK RATE CHANGE – FALLBACK LANGUAGE

At its simplest, replacing LIBOR with an RFR means finding all financial instruments referencing LIBOR and replacing that reference with the RFR. This will be governed by what is called “fallback language” at the contract or agreement level.

Financial contracts referencing LIBOR are varied, ranging from cash instruments, such as corporate credit lines, floating rate notes (FRNs), inter-company loan agreements, in-house bank interest terms, or bank interest on accounts (physical and notional pools) to non-cash interest rate derivatives. They might even include penalty interest rate clauses on supplier agreements.

Each instrument’s contract will have its own financial terms and documentation. Every contract will need to be checked for its fallback language to ensure completeness. It is very likely that the fallback language will be inconsistent, ambiguous (considering temporary rather than permanent cessation of a benchmark), and in cases like inter-company loans, missing. Therefore, it is very likely that fallback language will need to be updated. Industry bodies are working to create consistent recommended fallback language.

Preparation for LIBOR replacement requires the review and remediation of fallback language for existing contracts due to mature after 2021, and for new financial contracts referencing LIBOR issued from now until the end of 2021.

It is critical that fallback language has these three essential characteristics:

- **Trigger** – A clearly defined event that instructs contract parties to permanently replace LIBOR with an RFR
- **Identification** – Identification of the replacement RFR (e.g. SOFR)
- **Adjustment** – An adjustment to the contract terms to take account of any expected differences between LIBOR and the replacement RFR

Trigger

The circumstances that trigger the changing of the benchmark need to be clearly defined. It is important to pay attention to the details of the contract language. For example, LIBOR resets are usually defined by reference to a market data provider’s page at a particular time, e.g. 11 AM LIBOR rate on Reuters page XYZ.

The trigger event may be the absence of the rate on the page at that time, or the rate published may not satisfy the conditions for meeting the minimum number of providers. Trigger events may vary from contract to contract

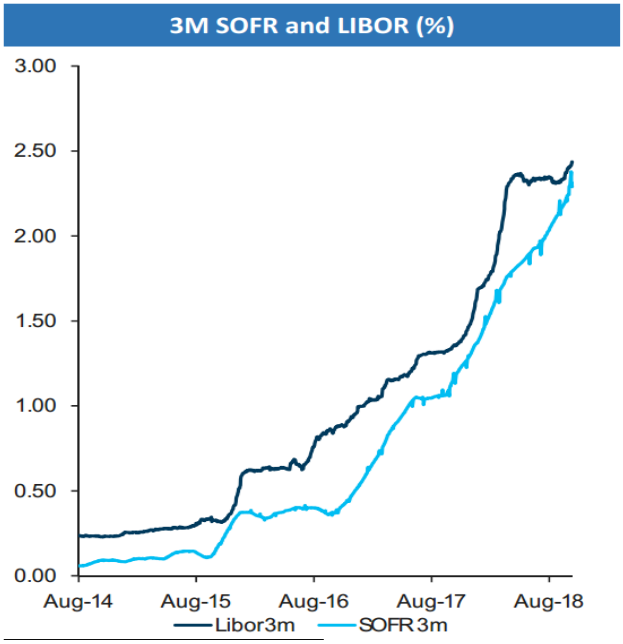
and, therefore, occur at different times. For a smoother transition, companies should consolidate the number of trigger events, making contract language more consistent. Of particular importance are trigger events for floating debt and associated derivatives linked in hedge relationships.

Identification

The fallback language must clearly identify the new reference rate. Identification may follow a priority, for example, in the U.S. there are many alternative rates, e.g. PRIME, FED FUNDS, SOFR, etc. It may be the case that SOFR is not currently in the priority list as it is a relatively new index, therefore, careful review of the fallback language is critical. Identification and priority may vary from contract to contract and should be standardized to make transition smoother.

Adjustment

SOFR is a secured rate, and LIBOR is not. Historically, SOFR has traded at a discount to LIBOR, as the graph below shows. It follows that if SOFR was to replace LIBOR in a financial contract, then there would need to be an adjustment to the spread to provide for this difference. Fallback language needs to state this and how the adjustment will be calculated, e.g. average of historical differences over some time period (backward looking) or equating present values (forward looking). There may be variations in each approach, and approaches may vary by counterparty. Contract rates need to be adjusted to maintain consistency.



Source: Federal Reserve, Barclays Research.

In summary, corporates preparing for LIBOR transition have two tasks related to fallback language:

- ✓ they need to identify whether all existing financial contracts referencing LIBOR and maturing after 2021 have fallback language, and
- ✓ they must ensure that it is comprehensive. Consistency is preferable across different instrument types, else a series of triggers and adjustments will need to be monitored over the transition period. Where fallback language is incomplete, it will need to be updated. New fallback language needs to be prepared for instruments referencing LIBOR to be issued between now and the end of 2021. Specific attention ought to be given to the fallback language for associated deals, e.g. an interest rate swap hedging floating debt.

Corporate treasury organizations will want to make sure their treasury management systems can accommodate the following:

- ✓ **Trigger** – Ability to change the index on deals from LIBOR to SOFR based on an effective date
- ✓ **Identification** – support of SOFR index
- ✓ **Adjustments** – ability to update a spread or rate on a deal, based on an effective date

INTEREST RATE VALUATION CURVES – SOFR TERM STRUCTURE

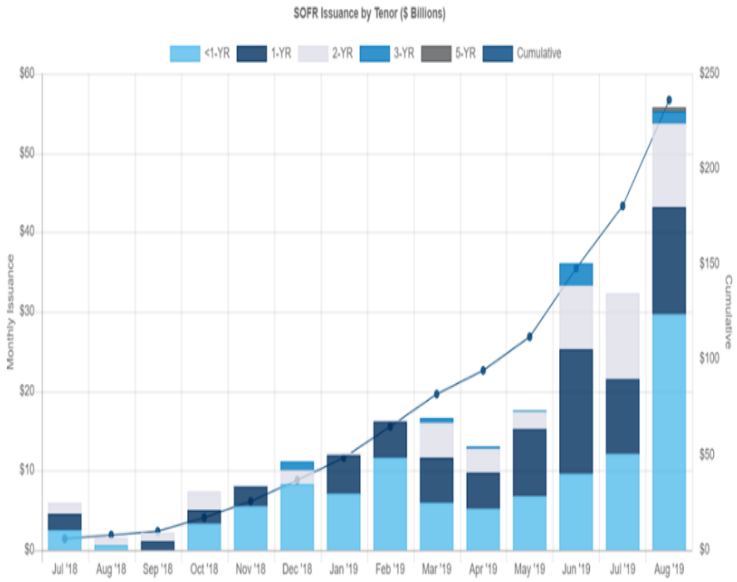
There are many important LIBOR based or related instruments (LIBOR cash rates, Eurodollar futures, LIBOR interest rate swaps, tenor and currency basis spreads) that are used to construct LIBOR rate projection and zero coupon discount curves.

Zero coupon discount curves are used to discount cashflows to present values and are used in the valuation of almost every financial derivative, regardless of valuation methodology. All these instruments are likely to disappear and be replaced with SOFR based instruments resulting in an entirely new SOFR based zero coupon curve used to value derivatives. This will be a major change to financial markets, and a major transition task will be developing markets for these new financial instruments, ensuring enough liquidity. Fallback language is not enough to transition, as to hedge a SOFR loan with an interest rate swap requires a term structure of SOFR rates from which to imply floating rates and to discount cashflows.

Tenor	Maturity Date	Ticker	Ticker Description	Value
LIBOR				
1M	Sun Oct-27-2019	USD1MLIBOR	USD 1M LIBOR	2.031500%
2M	Wed Nov-27-2019	USD2MLIBOR	USD 2M LIBOR	2.070880%
3M	Fri Dec-27-2019	USD3MLIBOR	USD 3M LIBOR	2.098630%
4M	Mon Jan-27-2020	USD4MLIBOR	USD 4M LIBOR	
5M	Thu Feb-27-2020	USD5MLIBOR	USD 5M LIBOR	
6M	Fri Mar-27-2020	USD6MLIBOR	USD 6M LIBOR	2.063000%
12M	Sun Sep-27-2020	USD12MLIBOR	USD 12M LIBOR	
Futures				
Dec-19 Fut	Mon Mar-16-2020	USD3MLIBORCF1	USD 3M LIBOR Calendar Future 1	98.040000
Mar-20 Fut	Mon Jun-15-2020	USD3MLIBORCF2	USD 3M LIBOR Calendar Future 2	98.335000
Jun-20 Fut	Mon Sep-14-2020	USD3MLIBORCF3	USD 3M LIBOR Calendar Future 3	98.455000
Sep-20 Fut	Mon Dec-14-2020	USD3MLIBORCF4	USD 3M LIBOR Calendar Future 4	98.535000
Dec-20 Fut	Mon Mar-15-2021	USD3MLIBORCF5	USD 3M LIBOR Calendar Future 5	98.540000
Mar-21 Fut	Mon Jun-14-2021	USD3MLIBORCF6	USD 3M LIBOR Calendar Future 6	98.620000
Jun-21 Fut	Mon Sep-13-2021	USD3MLIBORCF7	USD 3M LIBOR Calendar Future 7	98.640000
Sep-21 Fut	Mon Dec-13-2021	USD3MLIBORCF8	USD 3M LIBOR Calendar Future 8	98.645000
Dec-21 Fut	Mon Mar-14-2022	USD3MLIBORCF9	USD 3M LIBOR Calendar Future 9	98.620000
Interest Rate Swaps				
1Y	Sun Sep-27-2020	USD1YSSWAP	USD 1Y Semi Swap	1.837500%
2Y	Mon Sep-27-2021	USD2YSSWAP	USD 2Y Semi Swap	1.642000%
3Y	Tue Sep-27-2022	USD3YSSWAP	USD 3Y Semi Swap	1.560000%
4Y	Wed Sep-27-2023	USD4YSSWAP	USD 4Y Semi Swap	1.521000%
5Y	Fri Sep-27-2024	USD5YSSWAP	USD 5Y Semi Swap	1.506000%
6Y	Sat Sep-27-2025	USD6YSSWAP	USD 6Y Semi Swap	1.507000%
7Y	Sun Sep-27-2026	USD7YSSWAP	USD 7Y Semi Swap	1.516000%
8Y	Mon Sep-27-2027	USD8YSSWAP	USD 8Y Semi Swap	1.531000%
9Y	Wed Sep-27-2028	USD9YSSWAP	USD 9Y Semi Swap	1.550000%
10Y	Thu Sep-27-2029	USD10YSSWAP	USD 10Y Semi Swap	1.571000%
12Y	Sat Sep-27-2031	USD12YSSWAP	USD 12Y Semi Swap	1.608000%
15Y	Wed Sep-27-2034	USD15YSSWAP	USD 15Y Semi Swap	1.651000%
20Y	Tue Sep-27-2039	USD20YSSWAP	USD 20Y Semi Swap	1.700000%
25Y	Tue Sep-27-2044	USD25YSSWAP	USD 25Y Semi Swap	
30Y	Mon Sep-27-2049	USD30YSSWAP	USD 30Y Semi Swap	1.721000%

Source: GTreasury

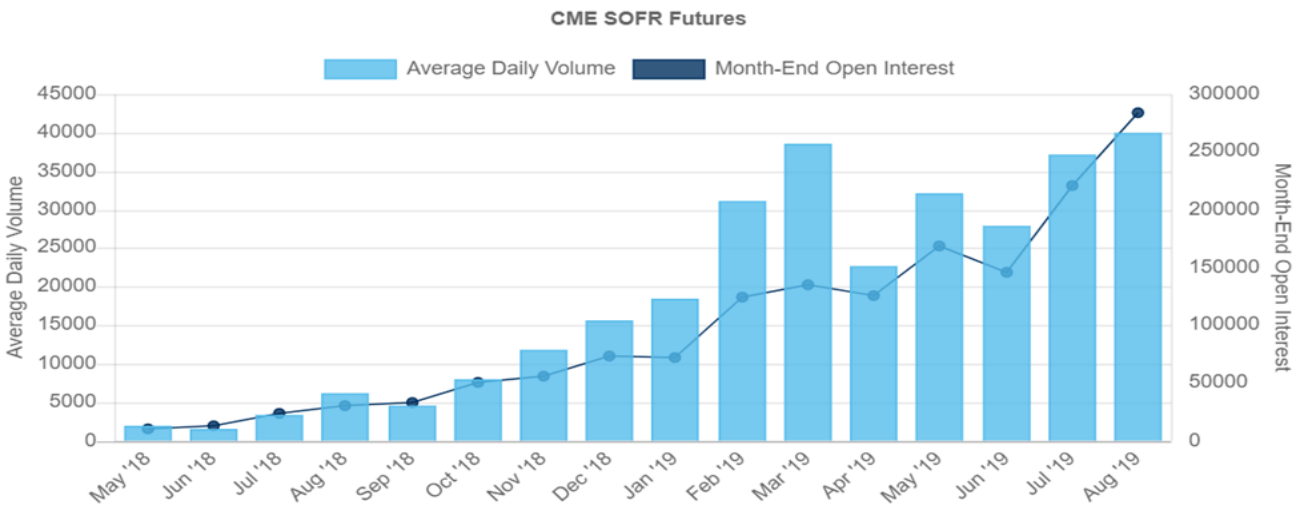
In the U.S., progress is being made with the World Bank, Fannie Mae and Freddie Mac, all issuing SOFR based FRNs. The U.S. has developed and evolved new market conventions and a term structure of SOFR rates. $236 bn of SOFR tied FRNs have been issued by 31 institutions including a record $55.7bn in August 2019. The Federal Reserve recently issued a paper on creating term SOFR rates from SOFR futures (https://www.federalreserve.gov/econres/feds/files/2019014pap.pdf)



Data as of August 30, 2019

Source: Bloomberg, compiled by CME Group for informational purposes. CME Group does not warrant the accuracy or completeness of the information.

The Chicago Mercantile Exchange (CME) has also created SOFR futures contracts, and liquidity is increasing.



Source: CME Group

Market Conventions - New market conventions are evolving for SOFR, which as an overnight rate (similar to OIS), has:

- a daily fixing with a five business day lag
- interest compounded daily and paid in arrears
- margins that are not compounded
- interest periods that are day adjusted, and
- a day count basis equal to Act/360.

The New York Federal Reserve recently published a SOFR Floating Rate Notes Conventions Matrix (https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2019/ARRC_SOFR_FRN_Conventions_Matrix.pdf) along with recommended conventions. It is recommended that negative SOFR rates be floored at zero.

The Federal Housing Financing Authority (FHFA) recently advised that Federal Home Loan banks will no longer issue new financial assets, liabilities and derivatives that reference LIBOR that mature after December,31, 2021 except for investments. By December 31, 2019 it will also be the case with investments maturing after December 2021.

Valuation - There are two important parts to the valuation arising from the LIBOR replacement. The first relates to the projection of future SOFR rates for SOFR linked floating instruments. The second, and more far reaching, relates to the transition to a SOFR based zero coupon curve used for discounting any cash flow, closed form solution, or simulation used for valuation purposes. This affects the valuation of any instrument. Both require a term structure of SOFR based instruments to exist. The issue now and in the short term is that liquid markets or SOFR based instruments only exist for tenors up to a few years, i.e. cash rates and futures. There is no liquid SOFR swap market. Until this market develops and is liquid enough, the development and transition to a SOFR based discount curve is unlikely. Alternatives such as OIS spread curves may be used to project future SOFR rates, and discounting may continue using LIBOR or OIS rates. This is a key issue with the transition away from LIBOR to SOFR based discounting of cashflows. A related issue is the availability of historical market data for proxy instrument valuation for hedge accounting purposes.

Credit Spreads – Credit Default Swap (CDS) spreads will also be affected. Currently they are referenced to the LIBOR benchmark and will in the future be referenced to SOFR. These are used in CVA/DVA calculations.

Currency and Tenor Basis Spreads – Existing currency and tenor basis spread curves all reference underlying LIBOR swap rates, so new spreads will emerge based on referencing SOFR swap rates.

The foregoing provides an idea of the amount of liquidity across different SOFR instruments that will be needed before future SOFR rates can be implied or any derivatives fair valued. How quickly this can happen is probably the least certain and most important aspect of the LIBOR transition.

Corporates will prefer that the SOFR curves exist and are liquid when a trigger event occurs, since they may have no control over the trigger event. Also, as fallback language may not be consistent across counterparties, a corporate may need to support both LIBOR and SOFR based curves for projection and valuation during the transition period.

REGULATORY REPORTING

Corporates are required to report regularly on aspects of their businesses that are affected by LIBOR.

Hedge Accounting - ASC 815 is a complex set of FASB (Financial Accounting Standards Board) rules governing the accounting for derivatives. The FASB has issued an Exposure Draft (https://www.fasb.org/jsp/FASB/Document_C/DocumentPage?cid=1176173289025&acceptedDisclaimer=true) for comment and has taken a practical approach to LIBOR transition, allowing changes to be made at the individual hedge relationship level and generally not requiring a re-designation of hedge relationships following trigger events. However, the valuation of all derivatives will be impacted by the change to a SOFR based discount curve. Interest rate derivatives in all hedge types will be impacted more than foreign exchange or commodity derivatives, and despite the accommodative FASB approach, corporates will need to make some changes to hedge relationships and valuations of derivatives.

- **Fair Value -** SOFR has been added as a new hedgable benchmark rate. Existing long haul LIBOR benchmark hedges may transition to a SOFR benchmark without de-designation, and a new credit spread calculated (either as of hedge inception or SOFR transition date). In the former case, the revised basis adjustment (based on SOFR benchmark and credit spread at hedge inception) may be amortized over the remaining life of the hedge relationship or taken to income immediately. Short Cut treatment may be continued under most circumstances.

- **Cash Flow** – New SOFR based hypothetical derivatives will need to be created for existing hedges where the hypothetical derivative method is being used and the hedged instrument index changes from LIBOR to SOFR. This may be independent of the transition of the hedging instrument. Critical Terms Match may continue under most circumstances.

The IFRS (International Financial Reporting Standards) Board also issued an Exposure Draft in May 2019 (https://www.ifrs.org/-/media/project/ibor-reform/ed-ibor-reform-may-19.pdf?la=en). It is broadly in line with the FASB Exposure Draft.

Interest Rate Sensitivity - Corporates periodically make market risk disclosures by reporting on the sensitivity of interest expense/income and asset/liability fair values based on changes to interest rates, e.g. +/- 100 bps. This is done now by shocking the LIBOR curve and revaluing instruments or re-projecting interest expense/income. In the future, this will be done by shocking the SOFR rather than LIBOR curve.

SUMMARY

The impacts of replacing LIBOR will be far reaching and not reversable. Much progress has been made in developing new RFRs and markets, establishing new market conventions, and updating regulatory frameworks.

Progress will continue and accelerate. Corporates may not be in control of when LIBOR will be replaced for all their affected financial contracts, but they can be prepared for the impacts and the actions required.

Developing a plan now is important for identifying impacted contracts, trigger events, dependencies, system enhancements, and actions required to smooth the transition.

For more information on how GTreasury is accommodating the transition from LIBOR, please contact marketing@GTreasury.com.

ABOUT THE AUTHOR

Peter Seward is GTreasury Vice President of Market Development, Risk, responsible for helping prospective corporate treasury clients understand how to apply technology to better manage risk and its impact on cash.

Among the many accomplishments of his 20-year career in the industry, was his first-to-market technology innovations, including integrated capabilities for a single treasury and risk management solution and new modules for the accounting standard update to ASC 815 for hedge accounting, the ASC 820 standard for fair value disclosure, the IFRS 9 standard for international hedge accounting, and Cash Flow at Risk (CFaR).

Seward's treasury technology expertise reaches far across the spectrum, from mobile applications to facial recognition. An early SaaS pioneer and advocate in treasury, Seward regularly shares his expertise as industry author and speaker.

About GTreasury

GTreasury is a digital TMS platform that gives organizations cloud access to an end-to-end workflow for treasury and risk management. Its design leverages new technologies to connect treasury's ecosystem, enabling the seamless flow of data across and beyond the enterprise for new and smarter ways of working. With GTreasury, organizations can implement any combination of integrated Cash Management, Payments, Financial Instruments, Accounting, Banking, Risk Management, and Hedge Accounting in one SaaS solution. GTreasury is headquartered in Chicago, with offices in North America, EMEA and APAC.