

The Longest Goodbye: Life After LIBOR



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While meme stocks, crypto and the ongoing inflation debate have received a lot of headlines this year, the ongoing work to replace the London Interbank Offering Rate (LIBOR), a benchmark interest rate, has continued largely behind the scenes. This effort, which began almost a decade ago, touches nearly every corner of the global capital markets. Teams of lawyers, bankers, back and middle office professionals, regulators and other market participants are working full-time around the globe on this massive undertaking. The aggregate dollar value of exposures (estimated to be around \$350 trillion¹) is so large that the transition away from LIBOR could be a potential risk to global financial stability, according to regulators. With its many nuances and uncertainties, the end of LIBOR remains absent from many investors' radars. However, we expect that to change as the transition approaches. This review intends to provide background on why the transition is happening, the key dates that investors should be aware of and to lay out the post-LIBOR landscape. In particular, we will focus on how floating rate note investors may be impacted.

LIBOR's Sordid Past

The British Bankers Association created LIBOR in the 1980s to serve as a reference rate for the cost of borrowing between global banks on an unsecured basis.² The rate has historically reflected an average of the indicative offer rates submitted daily by panel banks in multiple currencies and tenors (currently overnight/spot next, 1-week, 1-month, 2-month, 3-month, 6-month and 12-month). Despite its original purpose as an interbank lending benchmark, LIBOR's importance grew substantially over the years and became the primary reference rate for other types of financial instruments, including derivatives, mortgages, loans and floating rate notes. LIBOR is also ubiquitous in financial models and various accounting assumptions.

However, beginning in 2008, a series of reports indicated potential manipulation of the rate for various reasons, including misleading the market on a bank's financial health or manipulating the rate in order to favor a panel bank's trading positions. Evidence of collusion in the rate-setting process was also uncovered. Several reforms addressed many of these issues, with the administration of the benchmark transferred to an independent party and overseen by the United Kingdom's financial regulator. However, the wheels were already set in motion to find an alternative reference rate that was not prone to manipulation, given the importance of the benchmark to the financial system. Moreover, the reforms failed to address another key flaw of LIBOR: the rate itself is not representative of actual transactions. Despite the trillions of dollars of financial instruments that reference LIBOR, the wholesale, unsecured bank lending market itself is miniscule. It is estimated that less than \$1 billion of transactions per day reference 3-month U.S. dollar LIBOR, the most heavily referenced LIBOR rate.³ The lack of representativeness of LIBOR raised serious questions about its role as a pricing benchmark across the global capital markets.

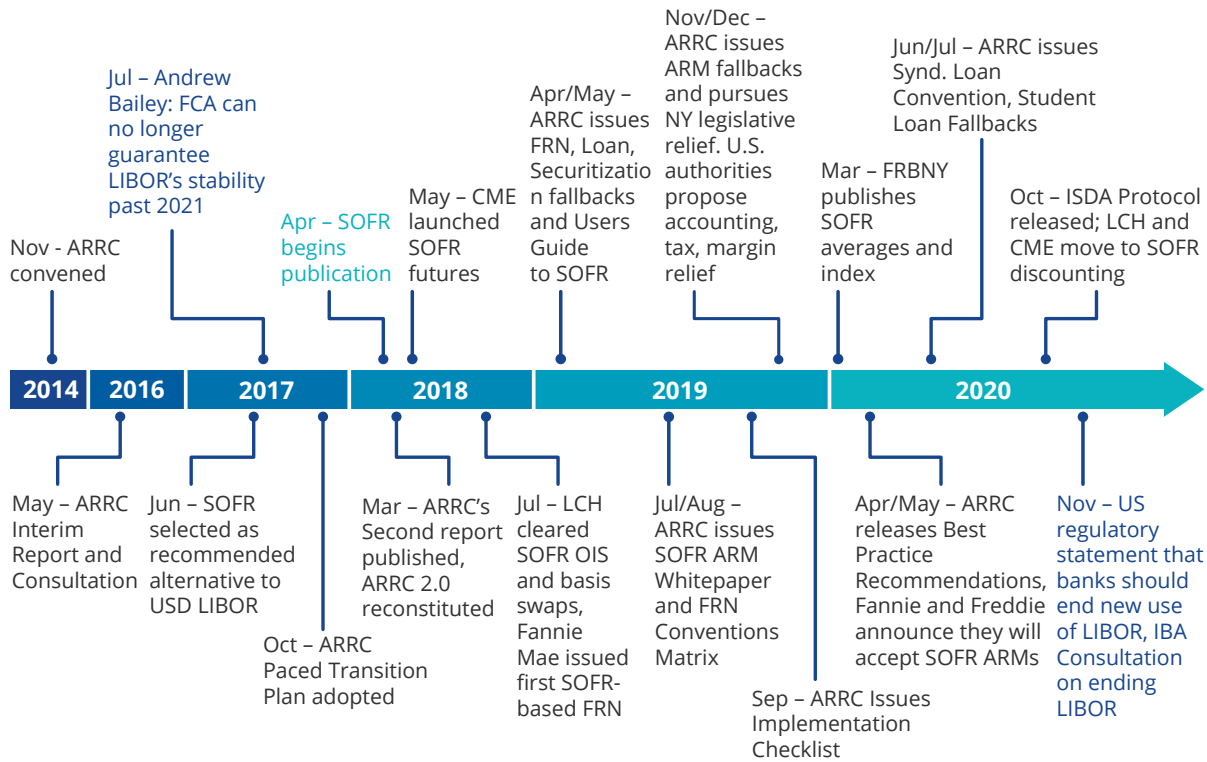
In 2013, the Financial Stability Board began its work with global regulators and central banks to both strengthen existing benchmarks and identify alternative risk-free reference rates. In the U.S., the Financial Stability Oversight Council recommended creating a new rate based on observable transactions and supported by appropriate governance structures. In response, the Federal Reserve convened the Alternative Reference Rates Committee (ARCC) to carry out this work. In 2017, ARCC recommended the Secured Overnight Financing Rate (SOFR) as an alternative to LIBOR for use in U.S. dollar denominated derivatives and other financial instruments. This recommendation was based on feedback from a diverse set of end users that comprised an advisory group established by ARCC. The New York Federal Reserve, the administrator of SOFR, began publishing the rate in April 2018. Since then, ARCC has developed supporting frameworks and conventions to transition to the new rate, and has played a key role in working with various market participants to establish a timeline for the ultimate retirement of LIBOR.

¹ Source: Credit Suisse

² There are other "IBORs" calculated in other jurisdictions, which all represent interbank lending rates. Throughout this blog we focus primarily on LIBOR.

³ Source: Second Report of the Alternative Reference Rates Committee, March 2018

Building Infrastructure: What Has Been Accomplished Over 2014-2020

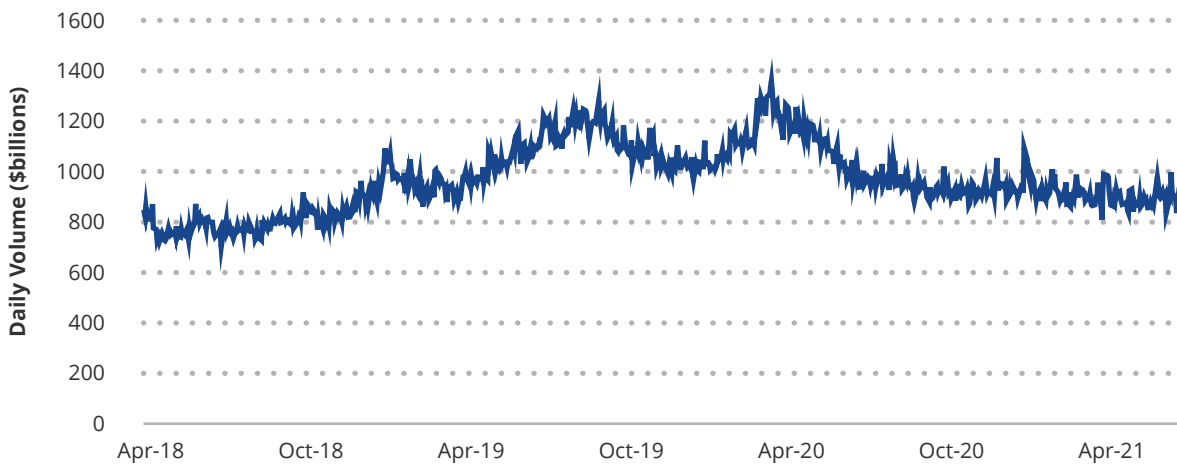


Source: New York Federal Reserve.

Goodbye LIBOR, Hello SOFR

SOFR is a broad measure of the cost of borrowing cash overnight collateralized by U.S. Treasury securities. Based on actual repurchase agreement transaction volume of approximately \$1 trillion per day, it is, therefore, fully transaction-based, nearly risk-free and provides a good representation of general funding conditions in U.S. money markets. Because it is fully transaction-based and representative of a broad range of market participants (not just global banks), it is protected from the manipulative practices that plagued LIBOR.

Daily Repo Transaction Volume Underlying SOFR



Source: New York Federal Reserve.

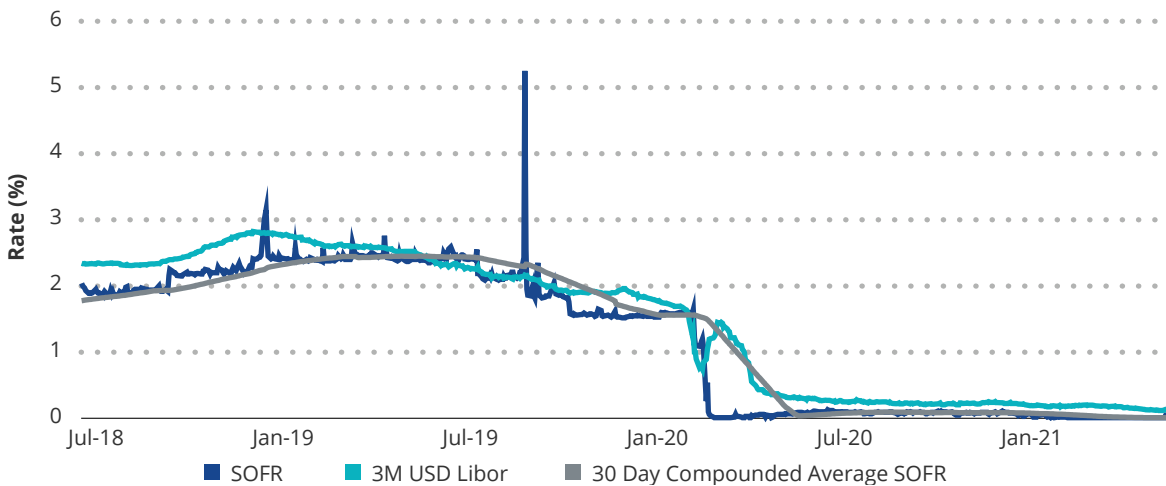
SOFR is a fundamentally different rate than LIBOR in several ways, and these differences have an impact on the actual level of the rate. A summary of the two rates is provided below. Most notable is that due to its secured nature using U.S. Treasuries, SOFR is a risk-free rate while LIBOR has always had an embedded credit risk element since it represents unsecured counterparty risk to a large global bank. Being transaction-based, SOFR is a backwards looking rate, whereas LIBOR is forward-looking, and is published in several tenors, including the widely referenced 3-month rate. However, although SOFR itself is an overnight and backwards-looking rate, a burgeoning futures market has recently allowed for the publication of implied, forward-looking term rates based on market expectations of the future path of SOFR.

	SOFR	Libor
Secured/Unsecured	Secured	Unsecured
Credit Spread	No	Yes – generally a proxy for AA-rated credit risk
Basis	All repo transactions from prior day collateralized by U.S. Treasury collateral, excluding special-issue collateral	Average rate at which a large global bank could fund itself in the wholesale unsecured interbank market, calculated from submissions from contributor banks which are based on both actual transactions and “expert judgement”
Term	Overnight; however a forward looking term rate based on the SOFR derivatives market has recently developed	Overnight, 1-week, 1-month, 2-month, 3-month, 6-month and 12-months
Currency	USD	USD, EUR, GBP, CHF and JPY
Rate Determination	In arrears	In advance
Administrator	New York Federal Reserve	Intercontinental Exchange (ICE) Benchmark Administration

Source: New York Federal Reserve and ICE Benchmark Administration

As shown below, these disparities result in a meaningful difference between SOFR and LIBOR historically, although they are generally correlated. As an overnight rate, and one that is subject to conditions in the U.S. repo market, SOFR can also exhibit more volatility. However, the 3-month average of daily SOFR rates (which puts it more on par with 3-month LIBOR), has historically been less volatile than 3-month LIBOR.

SOFR Typically Lower Than LIBOR, With Greater Volatility

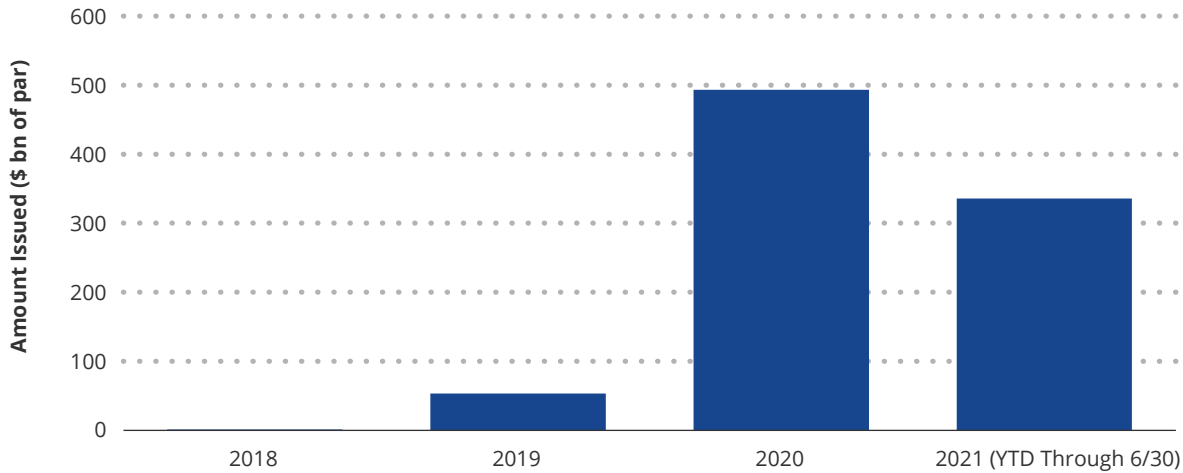


Source: New York Federal Reserve and Bloomberg.

SOFR Market Needs to Grow

SOFR is still relatively new and the SOFR market needs development in several key areas. Many market participants have continued to reference LIBOR. For example, through July 2021, the leveraged loan market had yet to see a single loan issued that was based on SOFR.⁴ Issuance of SOFR based floating rate notes has been somewhat more promising. Issuance was initially quite tepid, but grew significantly in 2020 to levels that exceeded U.S. Dollar LIBOR-based issuance. However, the universe of issuers is much less diverse and dominated by government agencies. Many non-financial corporates have continued to issue LIBOR-based notes.

SOFR FRN Issuance Since 2018



Source: Bloomberg as of 6/30/2021.

Although a derivatives market has developed and is growing, it is still relatively small compared to the Eurodollar market and needs to gain depth and liquidity. A large, deep and liquid derivatives market is crucial for hedging, price discovery and for the development of a robust term rate. Until recently, ARCC did not appear to believe that the derivatives market had sufficient liquidity, and recommended that the market move forward without a term rate.

Two recent and related developments, however, may provide the market with a long sought-after term rate, a key piece of the LIBOR transition that has been missing. First, based on recommendations from the CFTC, swap dealers largely transitioned to using SOFR in derivatives trades starting on July 26, 2021. Floating rate legs of swap contracts that would have previously referenced LIBOR switched to SOFR. This had the effect of quickly increasing volumes in the SOFR derivatives market, which accounted for 20% of overall daily volume versus 4% prior to the switch.⁵ Following this change, ARCC formally recommended the use of CME Group's term SOFR rates, which are based on the path of future overnight SOFR rates implied by futures contracts and overnight interest swaps. CME Group began publishing these 1, 3, and 6-month term rates in April 2021. The recommendation was a key milestone, as it was the final step in the LIBOR transition that was established by ARCC. It is too soon to know if the term rates will be widely adopted, but these developments appear promising.

Although a forward-looking term-rate solution may have been found, there are still other issues that the market must grapple with. One of the most important differences between SOFR and LIBOR is the embedded credit risk in LIBOR, reflective of the unsecured risk of lending to a global bank. As a risk-free rate, SOFR does not incorporate credit risk (or any associated credit spread) and, therefore, the rate itself is lower, even after accounting for the difference in tenor. This poses a challenge to market participants, such as banks, who generally prefer to incorporate this spread into both loans and funding costs to manage potential income or balance sheet volatility that can arise, for example if risk-free rates decline faster than their cost of funding. Investors in floating rate notes ("FRN") must also take this into consideration. All else equal, the credit spread for a SOFR-based FRN should be greater than a LIBOR-linked FRN to account for the lack of a credit-sensitive benchmark.

⁴ Source: Bloomberg

⁵ Source: Bloomberg

It is worth noting that a complete market-wide transition to SOFR is not a foregone conclusion. Although the Federal Reserve has effectively endorsed SOFR as its preferred benchmark through ARCC, the market has been busy innovating in an attempt to overcome some of the challenges that SOFR presents. Below are three potential alternatives that have emerged so far.

SOFR Alternatives:

Bloomberg Short-Term Bank Yield Index (BSBY)

Like many of the potential SOFR alternatives, BSBY is LIBOR-like in that it is a forward-looking, unsecured term rate designed to reflect bank funding costs. However, it does so without reliance on expert judgement or panel bank submissions.

BSBY is based on a large amount of data on money market instruments and short-term corporate bonds over a rolling multi-day window. Data comes from Bloomberg's proprietary electronic trading platforms. In addition to actual executed transactions, BSBY also incorporates "firm executable quotes" from these platforms.

According to a J.P. Morgan survey, investors have indicated a preference for this rate over SOFR in the cash market. However the majority of those surveyed do not expect it to gain as wide an acceptance as SOFR.

ICE Bank Yield Index

Similar to BSBY, the ICE index is a forward-looking, credit-sensitive benchmark, and was developed specifically as a potential replacement for LIBOR for U.S. dollar lending activity.

The rate will be based on primary and secondary market CP/CD transactions across various tenors, across multiple days, and measures the average yield that large internationally active banks fund themselves in the wholesale market on a senior, unsecured basis.

The ICE Bank Yield Index has not yet launched.

Ameribor was launched in 2015, giving it a significant track record unlike other potential LIBOR alternatives. It is the weighted average rate of overnight, unsecured loans made on American Financial Exchange, whose members are comprised primarily of small/mid-sized banks. Ameribor is, therefore, more relevant for smaller institutions, which generally do not borrow at either LIBOR or SOFR to fund themselves.

Similar to SOFR, term rates based on derivatives have recently begun to be published.

The End Draws Near

The LIBOR transition has been in the works for nearly a decade. The potential market impact and amount of preparation needed is too significant to rush. At the same time, however, regulators have been eager to transition towards a more robust, risk-free benchmark that does not suffer from the issues of LIBOR. The COVID-driven market volatility of 2020 led some to speculate that the ultimate end date could be delayed, however, in a series of statements, regulators made it clear that they plan to continue with implementation. A joint statement by the Federal Reserve, Federal Deposit Insurance Corporation (FDIC) and Office of the Comptroller of the Currency in November 2020 urged U.S. banks to prepare for the end of LIBOR:

"Given consumer protection, litigation, and reputation risks, the agencies believe entering into new contracts that use USD LIBOR as a reference rate after December 31, 2021, would create safety and soundness risks and will examine bank practices accordingly."

Source: Board of Governors of the Federal Reserve System Statement on Libor Transition, November 30, 2020

In March 2021, the U.K. Financial Conduct Authority, as regulator of LIBOR, officially announced the end of LIBOR and stated that the rate will lose its representativeness as a market benchmark. That announcement set off a chain of events, including the establishment of a market-wide "spread adjustment" for financial instruments that currently reference LIBOR, but will transition to SOFR.

Key Dates:

March 5, 2021	U.K. Financial Conduct Authority announces the future end of LIBOR and loss of representativeness, establishing a fixing date for the credit spread adjustment
March 9, 2021	ARCC confirmed that the FCA's announcement is a "Benchmark Transition Event" for USD Libor based contracts that have adopted ARCC fallback language This set LIBOR's replacement in motion ahead of the "Benchmark Replacement Date"
December 21, 2021	1-week and 2-month USD LIBOR rates will cease to be published, along with 35 other non-USD rates
December 31, 2021	New financial instruments should cease to use LIBOR, unless adequate "fallback" language is included that allow for a transition to SOFR or some other benchmark
June 30, 2023	1, 3, 6 and 12-month USD Libor will cease to be published

LIBOR's "Tough Legacy"

The establishment of a clear end-date for LIBOR delineates between pre- and post-cessation financial instruments. A holder of a derivative that expires or an FRN that matures prior to June 2023 has little economic exposure to the transition. A more complicated question is; what will happen to existing contracts that survive beyond the cessation date? It is estimated that approximately \$74 trillion of financial contracts and securities referenced to LIBOR will remain outstanding after the June 2023 cessation date. Floating rate notes make up only a small portion of that at approximately \$300 billion, however, that accounts for a meaningful portion of the investable universe. We estimate that approximately 44% of the investable corporate investment grade floating rate note market (by par amount) will remain outstanding past that date.⁶

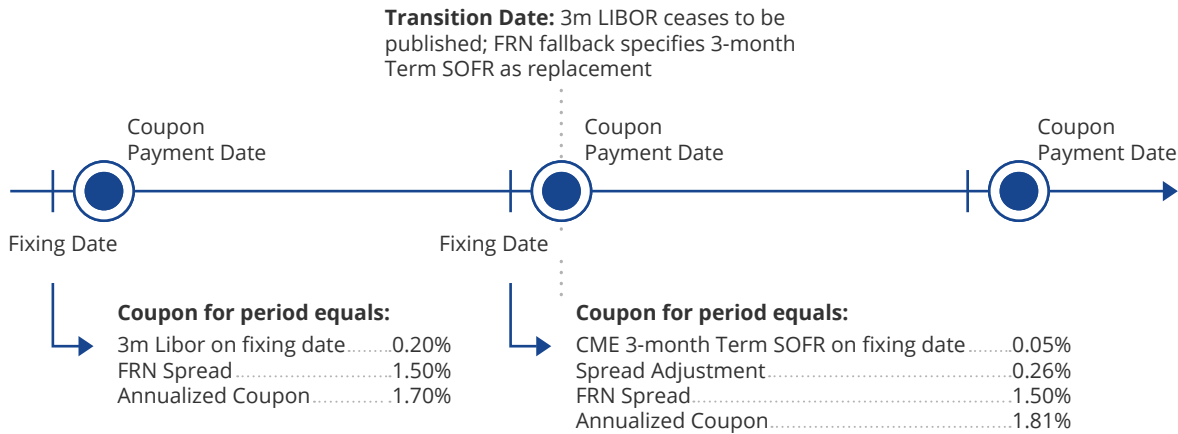
ARCC has provided recommended "fallback" language for various markets to include in newer deals, in order to accommodate a transition to SOFR if certain measures are satisfied (including the declaration of a "Benchmark Transition Date" by ARCC). As a result, FRNs and other securities issued in the last year or two should already anticipate the end of LIBOR. Fallback language can vary from one type of instrument to the next, but should generally reflect best practices and result in a smooth transition to SOFR, and be based on recommendations made by ARCC.

For example, fallback language may specify that a term SOFR rate be used if one exists. Following ARCC's recommendation of the CME Group's Term SOFR rates, it appears likely that FRNs with the appropriate language will transition to the applicable forward-looking rate. In the absence of using a term rate, an alternative could be a compounded daily average of historical rates, which are published by the New York Federal Reserve. To the extent the daily compounded average is used (for example for FRNs without adequate fallback language or for purposes other than calculating FRN coupons) amounts would not be known in advance. Accounting systems and operational processes would need to adjust to ensure that payment calculations are adapted to the new methodology. Fortunately, the ARCC recommendation and publication of term rate will likely overcome this challenge for many market participants.

In addition, a "spread adjustment" will be applied to financial instruments, such as FRNs, that transition from LIBOR to SOFR to account for the difference in credit risk. The spread adjustment methodology was developed by ARCC to provide a fair and reasonable way to incorporate historical differences between SOFR and LIBOR at various tenors, in order to minimize the impact to both borrowers and lenders. The official announcement by the U.K. Financial Conduct Authority of the cessation of Libor established the lookback period, over which the median difference between LIBOR and SOFR (compounded in arrears) was calculated over a five-year period. The spread adjustment was determined to be 26 basis points for 3-month U.S. dollar LIBOR to SOFR transitions, and will take effect upon the transition to SOFR.

⁶ Source: VanEck and MVIS as of 7/31/2021

Example: 3-Month LIBOR + 1.50% FRN That Transitions to Term SOFR



Note: The terms above are illustrative only. Terms will differ for individual securities, including the FRN spread, observation period, fixing dates, and payment date.

Older FRNs, loans, derivatives and other financial instruments can pose a much more challenging problem. These older obligations may never have contemplated the permanent cessation of LIBOR in their terms; it is more likely a temporary disruption would have been considered. For example, some bond prospectuses may specify that the most recently published LIBOR rate be used to calculate interest payments. In the case of a permanent cessation, the obvious problem with this approach is that a floating rate note can effectively become a fixed rate note. Dealer polls or some other reference benchmark may also be specified, and terms may provide a waterfall of alternatives or provide a trustee with discretion to determine the best course of action (potentially introducing risk to the trustee in a case of permanent cessation). More generally, terms are not standardized and did not contemplate the emergence of SOFR as the preferred benchmark, and do not specify any “spread adjustment” if SOFR or some other rate were used instead. For bilateral contracts, such as derivatives, amending these terms is relatively straightforward and can be done through an amendment to a master agreement. A widely syndicated floating rate note, however, typically would require unanimous consent to amend the deal terms, which is not feasible in most cases.

Significant effort has gone into addressing these “tough legacy” contracts that have no straightforward solution, and without any change to deal terms would result in an adverse economic impact to one party of a transaction. A milestone was achieved in April 2021, New York state adopted a bill that addresses contracts and securities without effective fallback language by essentially replacing, by law, any existing fallback language with ARCC recommended language. The legislation also provides a safe harbor to a party who selects SOFR as a replacement rate. The fact that the legislation was signed into New York law is significant; we estimate that New York law governs at least 80% of outstanding corporate floating rate note issuance. However, notes governed by other jurisdictions are not impacted, and there is the potential that the New York law could be challenged under federal law. Nevertheless, this legislation is significant and there is hope that a similar federal bill will be passed that could overcome some of the remaining issues.

What does this all mean for FRN investors?

We believe that because of the progress made by ARCC in recent years to draft effective fallback language in newly issued FRNs, the New York legislation that applies this fallback language to tough legacy FRNs, and the recent emergence of a term SOFR rate, investors with broad-exposure to the floating rate note market can have confidence that market participants are taking the right steps to allow for an orderly transition to SOFR. However, FRN investors should continue to monitor ongoing developments as there are still several unknowns and potential risks to that outlook. It is unclear what impact, if any, to liquidity may emerge between LIBOR and SOFR-based notes, or between FRNs with different fallback provisions. As mentioned, New York’s LIBOR legislation could be challenged, and it is possible that new legislation to cover bonds that do not fall under New York law will not come to fruition. From an economic standpoint, we believe that newly issued FRNs should effectively price the differences between SOFR and LIBOR into the spread over the benchmark. For FRNs that transition to SOFR, the credit spread adjustment should compensate investors for those differences, but ultimately market pricing should adjust if needed. If some FRNs use the new term SOFR rates and others use a compounded average or some other basis to calculate coupons, pricing differences could emerge to reflect the different terms.

The MVIS U.S. Investment Grade Floating Rate Index is designed to capture the performance of the broad investment grade corporate floating rate note market. We believe that with the introduction of SOFR, and potentially other viable alternative benchmarks, and the emergence of a term SOFR rate, the floating rate market will evolve over the next few years. The index methodology does not specify that a bond must be LIBOR or SOFR based, and the index composition should reflect the evolving makeup of the overall market over time, including after the LIBOR cessation. FRNs that do not have adequate fallback language may be removed for a variety of reasons; for example, if the notes become illiquid, they may no longer be eligible for inclusion. Importantly, if an FRN effectively becomes a fixed coupon bond due to insufficient fallback language, it would no longer qualify for inclusion. Lastly, to the extent that other alternative benchmarks, such as BSBY or Ameribor, become more widespread and if issuance grows, they will be increasingly represented in the index.

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