

BYE-BOR: THE END OF LIBOR PRESENTS UNIQUE CHALLENGES FOR INVESTORS

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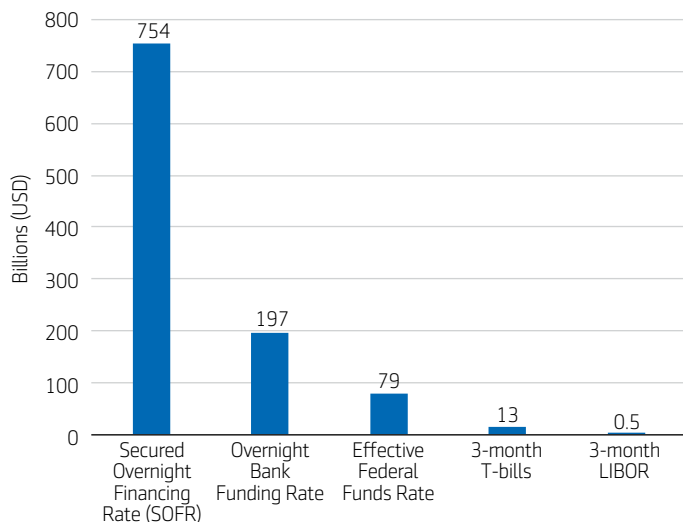
Similar to the software updates needed for Y2K in the late 90's, the present financial system also has a bug in it. Trillions of loans, securities, and derivatives are currently being priced off of an index that has been deemed faulty and set to expire at the end of 2021. As computer programmers in the 90's had to update their software for the new millennia, financial market participants are going to have to update their legal agreements, securities, and financial contracts to replace LIBOR with a new index.

Background: The Shift from LIBOR to SOFR

On July 27, 2017 the UK's Financial Conduct Authority (FCA) announced that market participants should not rely on LIBOR to be available after 2021, which is when the FCA will stop compelling panel banks to provide LIBOR submissions. Why would the FCA seek to transition away from the most prevalent floating rate benchmark of the last half century? The calculation of the scandal-ridden benchmark relies heavily on subjective submissions from participating panel banks with little weighting applied to data from actual transactions, which leads to a heightened risk for benchmark manipulation. Because of this, it is no surprise that regulators want to move toward a floating rate benchmark derived from transaction-based data with minimal subjective input.

The Alternative Reference Rate Committee (ARRC) has proposed the Secured Overnight Financing Rate (SOFR) as the best replacement for LIBOR. This is an interesting choice as SOFR has significant daily volume that regulators believe can be used to derive a reliable reference rate. SOFR is also compliant with the International Organization of Securities Commission's (IOSCO) set of recommended practices for a financial market benchmark. However, SOFR has challenges as a replacement.

Exhibit 1: SOFR volume towers over alternative reference rates, including 3-month LIBOR



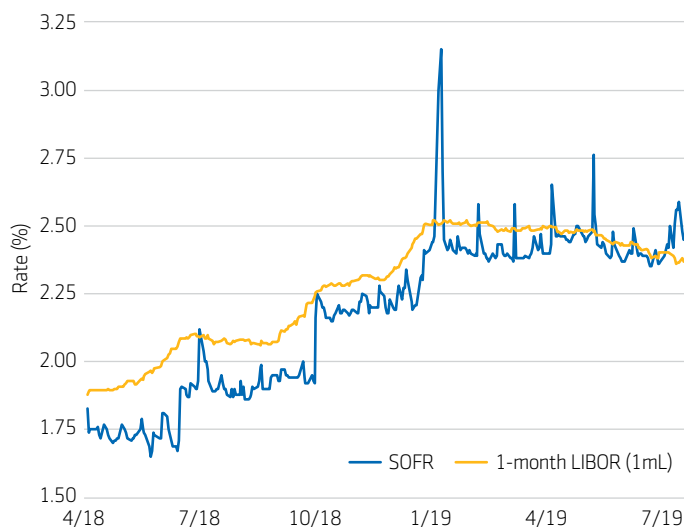
Source: Federal Reserve Bank of New York

LIBOR vs SOFR: Not an easy switch

The characteristics of SOFR are fundamentally different than those of LIBOR. LIBOR is an unsecured rate and includes an element of bank credit risk. SOFR, on the other hand, is a secured rate

representing the cost of borrowing cash overnight, collateralized by US Treasuries. Without the bank credit risk component, SOFR should be lower than LIBOR. The transition to SOFR will likely include a credit spread adjustment to help it mimic LIBOR more closely and eliminate a value transfer between parties. Exhibit 2 shows a comparison of 1-month LIBOR and SOFR. The historical basis between the two benchmarks has been around 11 basis points since SOFR's introduction in April of 2018, but oddly, there are periods, like now, where SOFR trades at levels higher than 1-month LIBOR.

Exhibit 2: SOFR and 1-month LIBOR

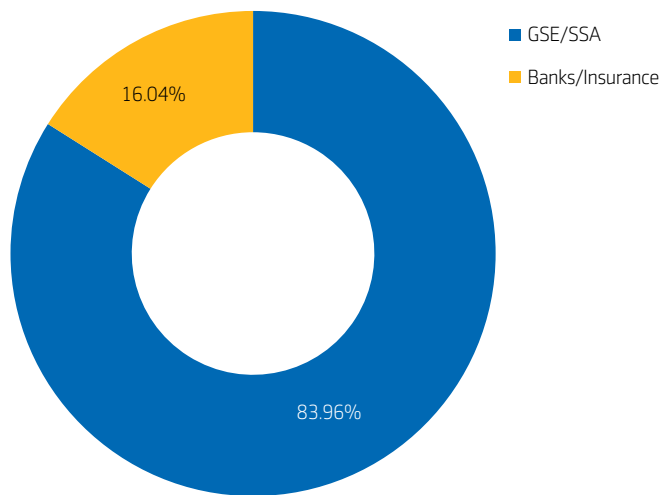


Source: AAM US, Bloomberg

SOFR is by no means a perfect benchmark, and there are significant hurdles to full adoption of ARRC's recommended reference rate. For instance, LIBOR is produced in seven tenors (overnight, 1 week, 1 month, 2 months, 3 months, 6 months, and 12 months) while SOFR is a standalone overnight rate. Progress has been made and is continuing as it relates to the development of a "term SOFR" (CME launched SOFR futures in May 2018 and began clearing SOFR swaps in October 2018 while ICE also offers 1-month and 3-month SOFR futures); however, liquidity will need to build further before securitizations can reliably be linked to these term SOFR rates. Due to the lack of term options, a compounded version of overnight SOFR would need to be used in order to create a 1-month or 3-month SOFR benchmark. This compounded rate will likely be done in arrears, meaning the benchmark rate would consist of SOFR rates during the period and would not allow participants to know the rate ahead of time.

Despite not yet having a reliable term SOFR, ARRC is urging both issuers and investors to not wait to begin using SOFR and recommends using a compounded version at this time. With that said, the vast majority of SOFR-linked issuance to date has been from government-sponsored entities as opposed to corporate issuers as shown in Exhibit 3. Greater acceptance and adoption can quickly improve all of these noted weaknesses; however, market focus and coordination within a shortened timeline is key.

Exhibit 3: SOFR-linked issuance dominated by agencies



Source: AAM US, Bloomberg

Step One: Fallback language for securitizations going forward

There are two primary challenges for investors as it relates to document language going forward: new document fallback language and legacy document fallback language. ARRC's recommended fallback waterfall for newly issued floating rate notes, securities, and securitizations lists, by order of priority, a series of benchmarks which would facilitate a transition away from LIBOR (Exhibit 4). If a term SOFR is not yet available, option two would be utilized and so on. The details surrounding the spread adjustment fallback options are yet to be determined but would be utilized to minimize the basis between LIBOR and SOFR. While recommended language has now been provided, it will be up to issuers to fully adopt some form of this new language within their securitization programs going forward. Since the recommendation was released, several securitized issuers have utilized some version of the below waterfall.

Exhibit 4: ARRC's Recommended Fallback Waterfall for Securitizations

1. Term SOFR + Spread Adjustment
2. Compounded SOFR + Spread Adjustment
3. Relevant Governmental Body Selected Rate + Spread Adjustment
4. ISDA Fallback Rate + Spread Adjustment
5. Transaction Specific Fallback Rate + Spread Adjustment

Spread Adjustment Fallback Language:

1. ARRC Selected Adjustment
2. ISDA Fallback Adjustment
3. Designated Transaction Representative Selected Adjustment

Step Two: Fallback language for legacy securitizations

Perhaps the most challenging aspect of transitioning from LIBOR to SOFR will be dealing with the roughly \$2 trillion in outstanding LIBOR-linked securitizations with many deals having document language that is inadequate to facilitate a successful transition (Exhibit 5). Existing LIBOR fallback language varies across different securitized sectors. For example, if LIBOR were to become unavailable and administrative agents were unable to obtain LIBOR quotes from participating banks, many deal documents for ABS securities state that the reference rate would revert to the most recent LIBOR posting. This would essentially flip these floating rate securities into fixed rate securities. Other documents provide the administrative agent with more flexibility as it relates to selecting a new reference rate, but there is little consistency across securitizations. In any scenario, there are likely to be parties who are looking to optimize their economic interests and will argue against outcomes that disadvantage them. With a finalized recommendation for new deal document language, investors can expect industry working groups to begin tackling the issue of legacy fallback language.

Exhibit 5: Amount outstanding in LIBOR-linked securitizations

Sector	Total Amount Outstanding (\$bn)	Total Outstanding Amount Indexed to LIBOR (\$bn)	Total Outstanding Amount Indexed to LIBOR (%)
Corporate CLOs	\$733	\$629	86%
International ABS	\$492	\$393	80%
Non-Agency MBS	\$572	\$281	49%
Consumer ABS	\$785	\$236	30%
Agency CMBS	\$641	\$97	15%
Private Label CMBS	\$523	\$77	15%
Agency MBS	\$6,461	\$250	4%
Total	\$10,207	\$1,963	19%

Source: Courtesy of J.P. Morgan Chase & Co., Copyright 2019. Reprinted with permission.

Conclusion

The approaching cessation of LIBOR and the transition to a new reference rate has been a hot topic this year and is likely to continue into 2020. There are numerous working groups representing a wide variety of industry participants that are working on a solution; however, significant uncertainty remains with regards to what a successful transition will ultimately look like. Similar to Y2K, the world made it out the other side unscathed, but not without significant legwork beforehand. While the LIBOR transition has gained traction, the financial industry might need to move a little faster for a smooth 2021.

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