Taking Comfort with the Transition to SOFR

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Capital Markets - Loan Pricing

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Report Highlights

- The London Inter-bank Offered Rate (LIBOR) is used as a reference rate for more than $200 trillion of financial contracts in the cash and derivatives markets. The regulator of the producer of LIBOR has repeatedly stressed that it is very likely that LIBOR will cease to be produced early in 2022.
- The Secured Overnight Financing Rate (SOFR) is an alternative index that has been identified as a replacement index to LIBOR by the Alternative Reference Rates Committee (ARRC) and the U.S. Federal Reserve. This index is based on a broad measure of the overnight cash lending that is collateralized by U.S. Treasury securities in the repurchase agreement (repo) market.
- Freddie Mac is a member of the ARRC and is actively engaged in conversations with its regulator, the Federal Housing Finance Agency (FHFA), and other ARRC members to develop a strategy addressing the transition from LIBOR to alternate indices, including the development of new SOFR-based loan and securitization offerings.
- The U.S. multifamily industry is in the process of transitioning to new SOFR-indexed loans and products.
- This report provides a historical overview of the transition from LIBOR to SOFR and shares insights into SOFR features from a pricing and capital markets perspective.
- Freddie Mac Multifamily began issuing SOFR bonds as part of the K-F73 floating-rate transaction in December 2019. Since then, there have been 21 additional floating-rate K-Deal® issuances with a SOFR tranche. The size of the SOFR tranche has incrementally increased from around 20% to over 50% in our new floating-rate K-Deals and it currently averages about 40%.
- The market for SOFR cap availability is expanding and Freddie Mac is working with providers to increase participation.

With the financial markets' transition away from LIBOR to SOFR underway, early adopters are raising questions and considerations about this new index as they head into their respective investment committees in an already challenging time.

The multifamily industry is in the process of transitioning from LIBOR to new SOFR-indexed offerings. However, though a tentative transition timeline has been set and quoting new loans over a SOFR benchmark is underway, only now are borrowers focusing on how SOFR-indexed products tie in to their portfolios.

As the industry shifts to the new index, it's important to address a few topics related to the new benchmark that might be of interest to our Optigo® network of lenders, borrowers and investors. This report will focus on four key topics: (a) the historical volatility of SOFR, (b) the historical relationship between LIBOR and SOFR, (c) the demand for SOFR bonds and (d) the interest rate cap market for SOFR.

How SOFR is Derived

SOFR is derived from actual repo transactions in a robust market and with a large number of transactions. SOFR is meant to gauge the cost of borrowing cash overnight, collateralized by Treasury securities. Since the index is fully transaction-based and derived from a liquid market, it should be, in theory, more reflective of the current market environment than LIBOR.

While LIBOR is a forward-looking rate derived from the funding cost "estimates" reported by a consortium of banks, SOFR is a backward-looking rate based on actual overnight borrowing transactions in the repo market. JP Morgan estimates that the size of the underlying transactions used to set LIBOR is around $500 million.[1] In addition, LIBOR can be based on "expert judgment" of the panel banks supplying the quoted rates if it lacks sufficient transactions for each of the tenors quoted. In contrast, SOFR is based on actual transactions of overnight borrowing collateralized by Treasury securities. The volume of the market generating SOFR ranges from $700 billion to $800 billion, every day. In other words, there is a much bigger pool for the rate to reference.

Historical SOFR Volatility

As many are aware, the repo market that's used to derive overnight SOFR can be (and has been) volatile at times. Overnight SOFR volatility has led to instances of large spikes in the rate. The most extreme case was an over 282-basis-point (bps) increase in overnight SOFR on September 17, 2019, to 5.25%. It's important to point out how quickly these spikes historically reversed themselves given the vast market size and large number of participants. In this extreme example, the SOFR rate fell back down by 270 bps the next day, reversing almost 100% of that dramatic increase.

According to a Federal Reserve research article, the spike was due to a classic supply and demand imbalance, as a corporate tax payment date and a Treasury settlement date both fell on September 16, 2019, leaving the market short on cash to finance Treasury securities. The move was exacerbated by a lack of reserves in the system, reduced liquidity, inelastic borrowing demand in the repo market and uncertainty on the lending side. The Fed ultimately stepped into the market in the following days and helped stabilize it with its own repo operations.

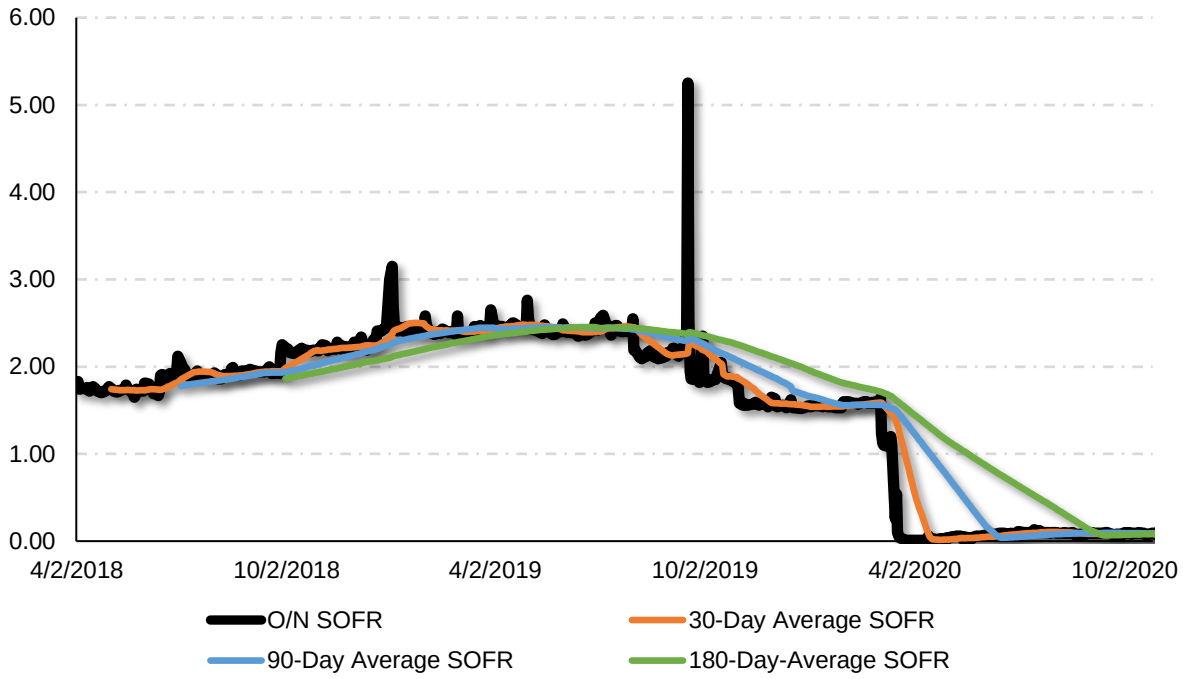
[1] https://www.jpmorgan.com/solutions/cib/markets/libor-sofr

While a large spike like this is a reasonable concern about adopting the benchmark, it is mitigated by stabilizing factors such as historical reversals, periodic Fed participation and, moreover, by the industry's move toward using a 30-day average to smooth out any individual day liquidity-based movements for the benchmark. As has been shown in ARRC and Federal Reserve papers, the three-month LIBOR rate is actually more volatile than a 90-day average of SOFR.[2][3]

In general, using an average can significantly dampen SOFR volatility. The "smoothing" impact of using an average is important.

The ARRC, a group composed of private-sector firms, trade associations and regulators convened by the Federal Reserve/New York Fed, published a version of the chart below (Exhibit 1), evidencing how using an "average" significantly dampens SOFR volatility. Understanding the smoothing impact of using an average is important.

Exhibit 1: SOFR and SOFR Averages (Percent)



Sources: Bloomberg, FRBNY, Freddie Mac

Historical Relationship Between 30-Day Average SOFR and One-Month LIBOR

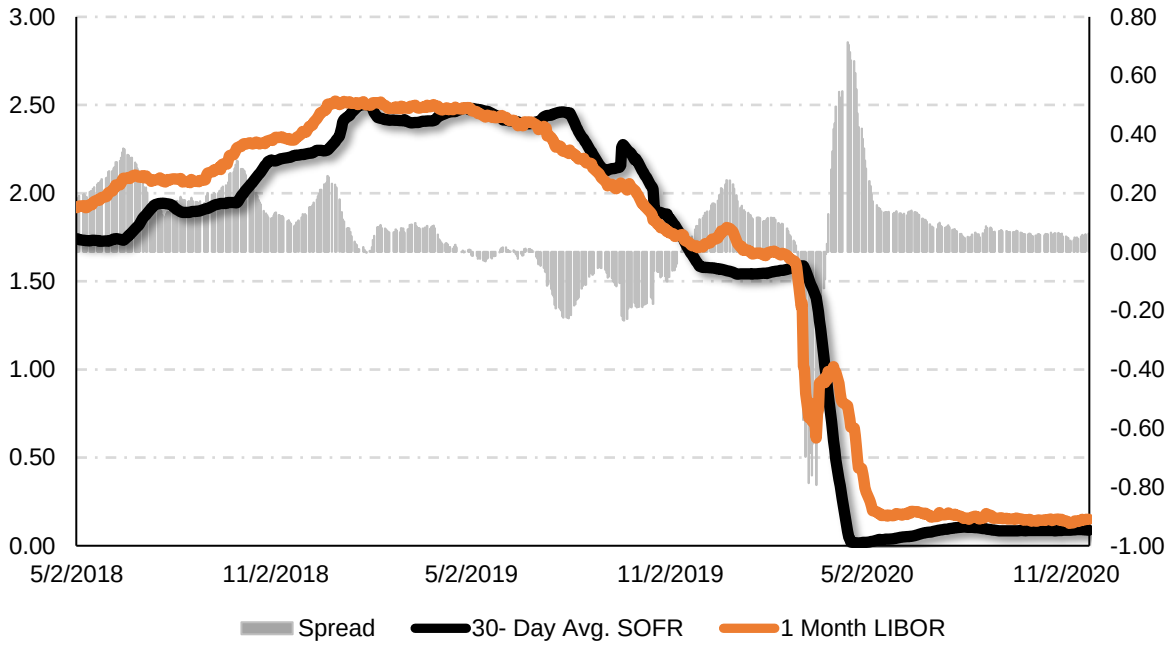
From a borrower's perspective, since SOFR is based on fundings that are "secured" in the overnight Treasury market, whereas LIBOR tracks "unsecured" lending, SOFR should, in theory, be lower than LIBOR over longer periods. SOFR rates were first published in early 2018 and an indicative 30-day average SOFR figure was first published in May 2018. Exhibit 2 shows the historical

[2] https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/ARRC-faq.pdf
[3] The Fed started publishing indicative average SOFR levels in May 2018. The actual average SOFR levels were first published in March 2020. In this report we use this dataset from the New York Fed's website for average SOFR levels: https://www.newyorkfed.org/medialibrary/media/markets/historical_indicative_sofr_avg_ind_data.xlsx

difference between the benchmarks, and conveys that SOFR has historically been a lower benchmark. Going back to May 2018, the historical difference between the two indices is approximately 8 bps. By comparison, the current difference today is roughly 6 bps.

30-Day Average SOFR is 6 bps tighter than one-month LIBOR currently. The historical average is approximately 8 bps.

Exhibit 2: 30-Day Average SOFR vs. One-Month LIBOR (Percent)



Sources: Bloomberg, Freddie Mac

Demand for SOFR Bonds

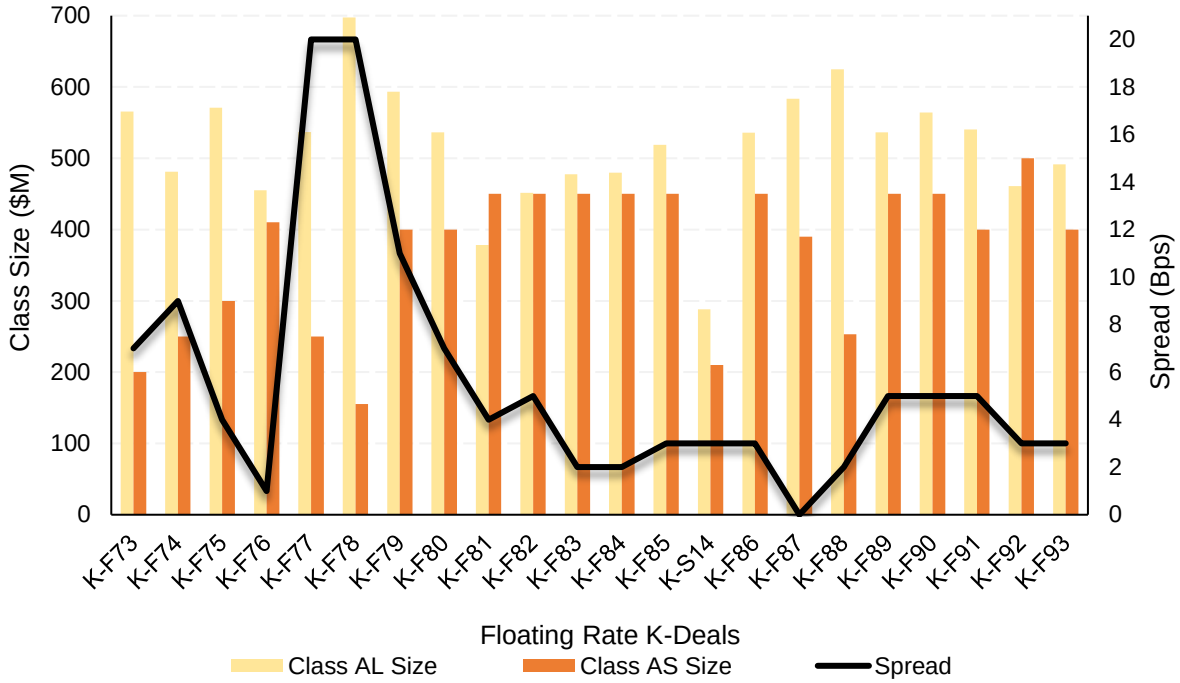
As part of the LIBOR to SOFR transition, Freddie Mac began issuing SOFR bonds with our K-F73 floating-rate securitization in December 2019. Our floating-rate issuances with SOFR bonds now include 22 different transactions totaling more than $8.1 billion in multifamily SOFR bond issuance. This has given us the opportunity to build our investor base and optimize our back-end execution in preparation for the next steps of the transition.

Exhibit 3 below details the size of our SOFR- and LIBOR-indexed bonds in our recent floating-rate K-Deals. Our first SOFR-indexed tranche (Class AS) was $200 million, or roughly 20% of the deal. Despite volatile markets and the generally smaller size of recent AS classes, we're averaging an AS class that is about 40% of the total size of our floating-rate K-Deals.

Because the 30-day average SOFR rate that our AS bonds are indexed to is currently lower than the one-month LIBOR rate that we use for our LIBOR-indexed floating bonds, investors are looking for a larger spread on our AS bonds to achieve comparable yields. The additional spread required on the AS class by investors started at 7 bps, dipped as low as 0 bps, and in the latest deals stood at 3 bps. In addition to detailing the size of our SOFR- and LIBOR-indexed bonds, Exhibit 3 also illustrates the additional spread required by investors in our AS classes.

Exhibit 3: SOFR Class Size and Spread Delta

SOFR classes on our floating-rate K-F transactions grew to be roughly equal to our LIBOR classes but have declined a bit before increasing again recently. SOFR bond spreads are only about 3 bps wider than LIBOR bond spreads currently.



Source: Freddie Mac

Interest Rate Caps

The market for SOFR caps is still under development, although it is worth noting that some financial institutions are already quoting SOFR caps. Freddie Mac is working closely with these participants and we believe that, as more institutions offer SOFR caps, the cost difference between SOFR and LIBOR caps will compress.

Conclusion

As the industry transitions together, many of the early concerns and questions around the LIBOR transition have since been answered. When looking at historical benchmark differences and smoothing daily volatility through averages, the ARRC's decision to recommend the use of SOFR provides a solid long-term value proposition for borrowers. Ongoing new issuance of SOFR bonds will lead to improved liquidity and increased investor demand and should ultimately lead to long-term price stability for borrowers.

We're excited to work with each of you, our partners, on completing the transition and making it a successful experience for you and your customers across the Optigo network.

For additional information on Freddie Mac Multifamily's SOFR transition plan, including FAQs, legal resources and our transition timeline, please visit https://mf.freddiemac.com/libor/.