The LIBOR transition story is not yet over

Our experts reflect on 5 of the remaining core issues and challenges

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When numbers matter

As we all recall too well, the push for the transition away from LIBOR was set into motion in 2012 after a rate-setting conspiracy found to involve certain panel banks undermined public confidence in the index. At that moment, the most influential number in the world of finance became the most discredited number in the world. Then in July of 2017, the FCA (Financial Conduct Authority) announced that LIBOR was to officially be phased out by a targeted date—the end of 2021.

Notably, given LIBOR's dominant role as an interest rate benchmark since the 1980s, the fact that there were only minor market disruptions around LIBOR's first transition phase ending December 31, 2021 speaks volumes about the adaptability and innovation that can take place in the world's financial systems. The transition seems to have progressed well, due in no small part to solid efforts by both public and private institutions to work in partnership in solving for the transition. And kudos to all the financial firms that made the significant investments in technology and processes and for thinking through all the issues throughout the years preceding the formal demise of LIBOR.

Thanks to all these efforts, most LIBOR rates were retired at the end of 2021 without much hullabaloo, though that doesn't mean it didn't take hard work. Also, the LIBOR transition journey is not fully complete. There are just six months to go until the five remaining U.S. dollar LIBOR rates are scheduled to cease publication at the end of June 2023. So, the story is not over. Some friction still remains in the full transition from LIBOR to the replacement reference rates, and this means there are issues to be addressed and challenges to overcome.

Numerix LIBOR/SOFR experts Ping Sun, SVP of Financial Engineering, and Liang Wu, SVP of Financial Engineering, share with our readers what they believe are some of the most significant details and concerns that exist as firms forge ahead with their final transition plans.

1 Model Validation Without Historical SOFR Market Data

Model validation to cover the SOFR rate can be tricky. For example, if you need to model market risk within a long history of certain scenarios, you can't do it because you do not have historical SOFR data. The reason you don't have historical data is because the SOFR derivatives market does not have a long history. SOFR began publication in 2018 and, although the Federal Reserve Bank of New York published SOFR fixings prior to its official inauguration, there is no corresponding derivatives data one can reference.

However, there are some workarounds because, historically, SOFR closely tracks the Fed Funds rate, which is a similar overnight rate and has been published going back over 20 years and can be used as a proxy for SOFR. Since banks need to manage risk, and they are without historical SOFR market data, they have no other choice but to use a proxy. But this could make the reach for the June 2023 transition deadline a bit of a painful one, particularly as SOFR liquidity needs to continue to develop while the historical risk measures are not directly available to traders and portfolio managers to use.

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2 Restrictions on Term SOFR

Term SOFR is allowed to be used only for hedging purposes in the cash market. The derivatives market cannot use Term SOFR by design as ARRC (the Alternative Reference Rates Committee) wants to hinge the benchmark reference rates solely on the risk-free rates (RFRs) and avoid any impacts of the derivates on the reference rates as much as possible. ARRC does not want another version of a tenor-based reference rate to be created because presumably all things bad that happened to LIBOR could happen to Term SOFR. The current Term SOFR acceptance in the derivatives market is only for hedging instruments such as interest rate caps and floors because these are the standard hedging vehicles in the cash market. While it makes sense to have Term SOFR caps traded in that example, it is difficult to make a debate for other derivatives.

The restrictions on the use of Term SOFR are a reason traders and portfolio managers are hesitating to start using SOFR-linked products. Term SOFR would simplify the trade term definition under the risk free rate, which would otherwise require modifications for products such as a range accrual. Besides, Term SOFR swaps can only be traded to hedge a cash loan. No speculation or hedging of just interest rate risk for asset managers can be done outright, and Term SOFR cannot be traded in an interdealer broker market. The Term SOFR swaps market is close to zero, with the only real activity being from banks and corporations wanting to hedge one-off loans against SOFR. There isn't yet any trading activity in Term SOFR swaptions and other derivatives.

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Regulators, however, have concerns allowing the Term SOFR rate to be used in derivatives because it is the same kind of term rate Libor was defined on. The SOFR underlying market is huge—roughly $1 trillion a day—but the derivatives market is not necessarily as solid. Regulators have put in place the initial restriction on Term SOFR to avoid complicating the transition process, and regulators are focused first on getting the market fully functioning and adopting the overnight reference rate and all the products based on that.

As of yet, there appears to be no regulatory intention to relax some of the restrictions on Term SOFR, but it may be inevitable because the market needs various risk profiles and products. Once liquidity is improving and the transition to the overnight rate has progressed, regulators will perhaps extend the use of Term SOFR from direct hedging of cash products to derivatives.

3 SOFR Volatility Data

As market liquidity of linear rates and fixed income products transitions from LIBOR to SOFR, market participants will need to adopt non-linear products such as SOFR swaptions, caps and floors for hedging and risk management purposes. Trading on these non-linear products hinges on the SOFR volatility data. The market for the exotic rates products is also dependent on the underlying volatility, which used to come from LIBOR swaptions and will now need to be derived from the corresponding SOFR swaptions.

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On the other hand, the market liquidity on the vanilla SOFR options is still developing and has a long way to go. One needs SOFR volatility in order to trade SOFR options, and reliable SOFR volatility can only be derived from liquid SOFR option trading—similar to the "chicken or egg" dilemma.

During this transition period, people may still rely on the LIBOR swaption volatility as a proxy. Adjustments based on the SOFR fallback can be applied to convert LIBOR swaption strikes to those for SOFR. The proxy is a rough representation, however, since the fallback spread and the market observed spread may not match, and further adjustment might be needed. Besides, it also involves volatility surface interpolation and extrapolation. Fitting the volatility surface using an extended SABR is one possible approach, which allows one to handle an underlying such as SOFR. The hope is that, as the SOFR option liquidity picks up, more reliable SOFR volatility data will become available.

4 Demand for Credit-Sensitive Alternative Rates

Market talk about various credit-sensitive alternatives to USD LIBOR is still common, with the leading discussions being focused on AMERIBOR* and BSBY (Bloomberg Short Term Bank Yield Index). AMERIBOR is designated for medium-sized and regional banks, whose core business is loans and not the derivatives market. BSBY is meant for the interbank lending market. AMERIBOR and BSBY, both being risk bearing reference rates, are intended to supplement the SOFR rate in an effort to facilitate the move away from LIBOR. These rates mimic the timing and term structure of USD LIBOR and are embedded in the credit risk premium, which is why they are enticing for businesses where risk premium needs to be taken into account. Also, moving from a credit-sensitive rate, such as USD LIBOR, to a risk-free rate, such as SOFR, may necessitate significant changes to operations in the debt and derivatives markets, and many market participants have expressed concerns about these changes.

Regulators, however, have concerns over credit-sensitive alternatives as these alternatives may jeopardize a SOFR-first strategy. Nonetheless, non-SOFR-based alternatives to LIBOR have jockeyed for position in recent years. In May of 2021, Bank of America and JPMorgan announced that they executed the first swap tied to BSBY. The BSBY-linked swap was a $250 million one-year basis swap with the other leg tied to SOFR. Interestingly, both Bank of America and JPMorgan have indicated that they do not believe the increased use of the BSBY index would hinder SOFR's efforts for wider adoption.

For AMERIBOR, in December of 2020 The American Financial Exchange (AFX) announced the completion of the exchange's first AMERIBOR interest-rate swap transaction. ED&F Man and First Merchants Bank entered into a bilateral and

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** The AMERIBOR term structure of interest rates, based on Ameribor futures, is calculated by Numerix and is published on the CBOE Futures Exchange on a daily basis.*

uncleared fixed versus 1-month AMERIBOR floating rate swap, with a 1-year maturity. The notional amount was $24 million, with payments netted monthly. The transaction marked an important moment for AMERIBOR as it became a viable standard for swap markets following the transition away from LIBOR.

It must be noted here that liquidity is still not good in AMERIBOR and BSBY compared to SOFR.

5 Final Transition Phase: Both a Risk and Operational Event

The final phase of the transition from LIBOR to RFRs will be "much bigger" than the previous one, affecting hundreds of trillions of dollars in contracts and affecting participants all over the world. The dominance of the U.S. dollar in terms of notional outstanding of derivatives relying on legacy LIBOR is bigger than the summation of all other currencies. That's the reason why this final transition phase is both a risk issue and an operational issue.

Onboarding the new products can be a challenging and expensive process. It requires a sizable infrastructure, a lot of resources, financial validation, the handling of legacy trades, will involve different company departments and will necessitate approvals for production. All of this has to happen *before* the June 2023 deadline.

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That's the key word: *before*. We want to stress that even if the deadline is next June, all market participants should be in full readiness by Q1 of next year—at the latest. We believe, however, that readiness by then may still be too late. Today, we see many firms aiming to fix their technology, analytic, validation and resourcing issues before the end of this year. The earlier you prepare for readiness, particularly by addressing the exposure of the portfolio to legacy LIBOR, the less risk you take in not being ready by June. What is that risk? For any market participants not fully prepared by the June 2023 deadline, they simply won't be able to trade.

ABOUT THE EXPERTS

Ping Sun, PhD, is a Senior Vice President of Financial Engineering at Numerix and is the product manager of the Numerix CrossAsset analytics platform. Dr. Sun's work has appeared in a number of publications and academic journals, and he has been showcased as a lecturer at a range of academic events and industry conferences. Dr. Sun was a postdoctoral fellow at Rutgers University and he earned a doctorate degree in Physics from City College of New York. He also received an undergraduate degree in Physics from Fudan University in Shanghai, China.

Liang Wu is a Senior Vice President of Financial Engineering and heads up CrossAsset Product Management at Numerix. Mr. Wu has previously served as VP of Financial Engineering in the Client Solution Group at Numerix. Before joining Numerix in 2015, he worked at CME Group and HSBC in Pricing and Valuation, and also held Model Review roles. He holds an MSc degree in Financial Engineering from Columbia University, an MSc degree in Space Physics from Rice University and a BSc degree in Geophysics from the University of Science and Technology of China.

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