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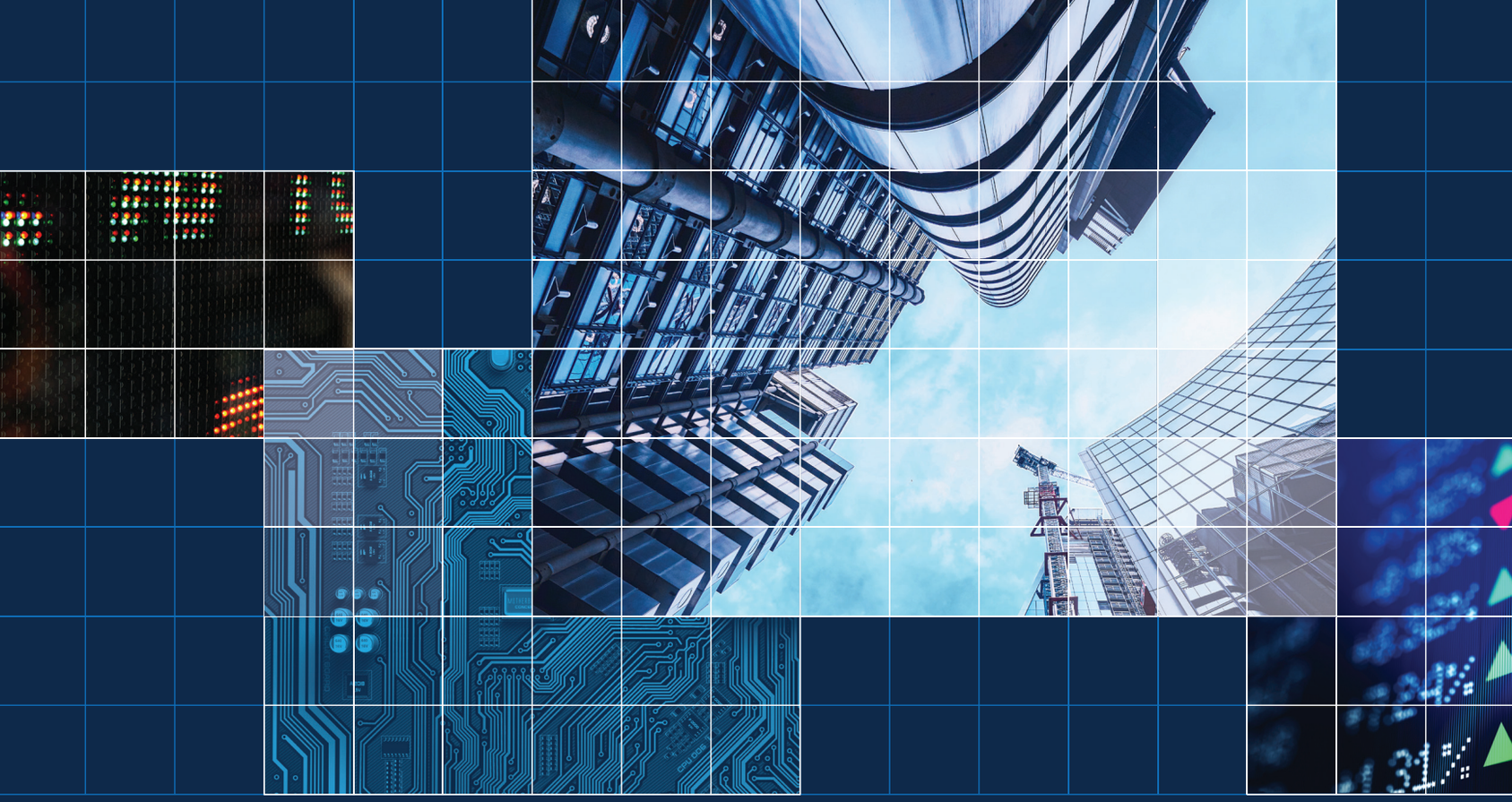

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Chickens, eggs and Libor fallbacks

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The transition away from Libor is littered with 'chicken and egg' conundrums. Deep cash markets linked to new risk-free rates (RFRs) require a liquid derivatives market for issuers to hedge exposures, yet RFR derivatives liquidity can only blossom where ample cash activity sparks a real hedging need. Similarly, the development of term RFRs relies on plentiful swaps trading, but there's a reluctance to adopt the new rates while they lack forward visibility.

The latest causality dilemma relates to the timing of Libor's death notice and an industry-wide protocol aimed at inserting standard fallback language in legacy swaps.

Regulators suggest widespread uptake of swaps fallbacks would be a trigger for slapping an end date on withering benchmarks. Yet Libor users view the regulator's cessation notice as the trigger for signing up to the fallback protocol.

Speaking at a *Risk.net* virtual event in June, Edwin Schooling Latter, head of markets policy at the UK Financial Conduct Authority (FCA) said there was a "good case" for a cessation announcement to be made once fallbacks had been inserted into swaps contracts. He added this could happen before year-end, giving 12 months' notice of Libor's demise.

At that point, the International Swaps and Derivatives Association-led protocol and updated definitions were set to take effect in November. Now, after crawling its way through the US Department of Justice antitrust process, the protocol effective date has been pushed back to January 25.

In theory, this could cast a Libor cessation notice out to 2021 and scupper any plan to shut down the rates according to the original end-2021 timeline, assuming the full 12 months' notice etched in the Ice Benchmark Administration's Libor rulebook. Unless, of course, the FCA opts to sign Libor's death warrant before the protocol becomes effective.

It's certainly an outcome many Libor users prefer. In a September *Risk.net* webinar poll, more than half of participants said they would sign up to the fallback protocol only when a cessation notice had been made. Almost 9% said they had no intention of signing it at all.

There's good reason why many want to wait. A Libor cessation notice would lock in the credit spread adjustment for switching from Libor to its successor benchmarks. Those signing up with knowledge of Libor's end date would do so with greater certainty of the economics.

This interplay between the protocol and announcement timing may not be helpful to either, some warn. "The protocol is a very critical event, and having it completely stacked up against the announcement makes it a bit more challenging," said Ivan Jossang, managing director in Morgan Stanley's fixed income division, speaking at the September webinar.

There may be a middle ground. Swaps users will have a minimum of three months to sign up from the October 23 launch. Banks will be encouraged to adhere in escrow in the two-week run-up. It means the protocol could have high adoption at launch, which may give the FCA enough comfort to sound an early death knell.

Yet there are many other considerations. Legislative powers aimed at mopping up tough legacy contracts by granting the FCA powers to create a 'synthetic' Libor are yet to be enacted. Exactly how and when this safety net rate can be used is yet to be thrashed out.

"I would expect those things in an ideal state to be sorted out prior to any announcement," said Doug Laurie, Barclays' programme lead for wholesale technology and change, at the September webinar.

Anyone waiting for a 2020 announcement should not hold their breath.

Helen Bartholomew
Editor-at-large, *Risk.net*

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SOFR basis tightens on 'big bang' auction disclosure

An indicative auction portfolio unveiled by LCH shows discount risk heavily skewed to the liquid end of curve. By Helen Bartholomew

The price difference between long-dated interest rate swaps linked to the secured overnight financing rate (SOFR) and the effective Federal funds rate came off all-time highs on September 18 after the largest clearing house indicated an auction of basis swaps forming part of October's 'big bang' discounting switch will be smaller than some participants feared.

The basis between 30-year SOFR and 30-year Fed funds swaps narrowed by 1 basis point to 7.25bp mid-morning New York time, after closing on Thursday September 17 at an all-time high of 8.2bp, Bloomberg data shows. Basis spreads narrowed by around 1bp in 10-, 15- and 20-year maturities, reflecting a smaller auction than higher-end estimates.

The move followed an announcement of indicative basis swap positions set to be auctioned on October 16, when LCH replaces the Fed funds rate with SOFR for discounting the present value of future cashflows on cleared interest rate swaps, and for calculating price alignment interest – the interest paid on collateral.

According to one analyst, results from the first indicative portfolio are "broadly as expected".

As part of the switch, LCH will make a one-off cash payment to compensate accounts for any change in net present value (NPV) across its $123 trillion cleared US dollar rates portfolio. The central counterparty will also distribute SOFR/Fed funds basis swaps to restore the original discount sensitivity of swap portfolios.

Non-member clients can opt out of receiving these basis swaps but were required to confirm their elections by September 4. Unwanted basis trades, which comprise six tenors ranging from two to 30 years, will be netted down and the rump sold via an auction on October 16.

The size and direction of the portfolio could change following the September 18 announcement as opt-outs trade in and out of clearing house positions up to October 14, when the final portfolio will be locked in.

At the 30-year point, based on positioning of opt-outs as of the September 16 close, the auction looks set to comprise basis swaps totalling $511 million notional, for which the winning bidder would pay Fed funds and receive SOFR. According to a source familiar with the matter, this translates to a net DV01 – the sensitivity to a 1bp move in rates – of $1.5 million.

> "Most of the risk is in the short-dated part of the curve, and people generally consider that to be the more liquid part of the market, so it should be easier to unwind"

Long-end interest rate swaps are dominated by asset-liability managers, many of which are unable to hold the basis instruments and were widely expected to dump their swaps at the auction. These insurers and pension funds tend to hold receive-fixed instruments, which have moved deeply in-the-money following emergency rate cuts. These positive NPV portfolios would be given pay Fed funds/receive SOFR swaps as part of the switch, meaning the auction has long been expected to be dominated by this one-way flow at the longest tenor.

Auctions for the five remaining tenors – two, five, 10, 15 and 20 years – are set to take the opposite direction, with winning bidders paying SOFR and receiving Fed funds.

Part of this is due to the trading behaviour of asset managers: these market participants typically trade their pay-fixed swaps at shorter tenors. By opting out of their pay SOFR/receive Fed funds basis swaps, this creates significant imbalances at shorter maturities, resulting in higher auction notionals.

The indicative portfolio shows discount risk is heavily skewed to the short end with the auction of two-year swaps set to total $15.18 billion notional. This falls to $8.243 billion in five-year instruments and $1.608 billion in 10-year tenors. By DV01, these correspond to $3 million for the shortest-dated bucket, $4 million in the five-year bucket and $1.5 million in the 10-year.

"Most of the risk is in the short-dated part of the curve, and people generally consider that to be the more liquid part of the market, so it should be easier to unwind," says the source. "There are far more volumes in two- to five-year maturities because that's where the real money issuance has been so far in SOFR."

Fifteen- and 20-year maturities were the most balanced, with the indicative portfolio pointing to an auction of $714 million and $14.5 million, respectively. This corresponds to DV01 of just $1 million per basis point in the 15-year bucket and negligible risk in the 20-year.

"What these numbers don't tell you is how much risk went in. It just tells you the net position," says the source. "The 20-year is an interesting example because that is a very small number, but all that really tells you is it's a very well-balanced portfolio."

The LCH figures account for only part of the industry-wide shift, however: "The important thing to bear in mind is that this is only LCH. There's obviously another clearing house that has this risk and it doesn't necessarily have the same composition [of] customers, but that number is still a mystery."

CME will conduct its discounting switch over the same weekend. Basis swaps will be mandatory for all customers, though non-member clients can dispose of unwanted swaps in an auction on October 19. The US CCP will not disclose indicative details of the portfolio in advance, though bidders will be informed of the size of the portfolio, subject to a non-disclosure agreement. Bidders will be asked to give a two-way price for the portfolio and a synthetic mirror image, with the final direction revealed only to the winning bidders.

LCH will update its indicative auction statistics on October 1 and final notionals will be confirmed on October 15. ■

Previously published on Risk.net

The Libor transition
Let's talk about SOFR

Time is ticking to Libor's planned decommission date of December 31, 2021. Firms need to move quickly to execute their transition strategies, and having unique insight into certain key issues can aid decision-making. Numerix's Ping Sun discusses transition timelines, secured overnight financing rate (SOFR) volatility, curve construction and the market implications for SOFR-based futures and swaps

The UK Financial Conduct Authority and the Bank of England, among other groups, have stressed the importance of holding firm to original transition timelines, but have also suggested interim milestones may be affected, meaning they could be postponed. What do you think of that statement?

Ping Sun: From the perspectives of regulators, central banks and clearing houses, the main concern is that any change to interim milestones could cause a chain reaction that might ultimately delay the final Libor transition. As such, the authorities are very cautious regarding any proposals to postpone interim milestones. Nonetheless, under the current market circumstances, there may still be a chance that some of the most immediate milestones could be pushed further.

More broadly, the state of financial institutions' transition readiness is very important. To this end, the market turmoil we are experiencing doesn't help. In Covid-19, we are certainly in an extremely strenuous situation. It is difficult to manage resources during the pandemic and a period of high volatility in the markets, whereby most working conditions may lead to less focus on preparations for the Libor transition. However, from what I see right now, many Numerix clients are preparing intensively for this transition and, hopefully, will continue to do so.

Market participants have a lot of concerns. What is the top priority for Numerix's clients?

Ping Sun: We find there is a huge demand for information covering a variety of issues. For instance, there are questions on where to obtain high-quality risk-free rate (RFR) derivatives market data while market liquidity is still developing. It is worth noting that in a recent global market survey Numerix conducted on the Libor transition, 29% of survey participants selected the lack of alternative reference rate liquidity as the primary challenge to transition efforts.

Concerns around how to strip the RFR curves is also among the most frequently raised topics. Market practitioners want to make sure they have the right curve analytics needed to strip the RFR curves to price and trade the newly introduced RFR derivatives, as well as to manage the associated risks. Further down the road, the impact analysis of the discounting switch and, ultimately, the Libor fallback is of great interest. For both pricing and risk management purposes, RFR volatility is an important starting point. To this end, time series data of RFRs are the only available sources of information, given that the RFR option market has yet to grow.

Many of Numerix's clients are asking for help in developing and executing their road maps, planning their next steps for the issues they want to handle, and working with Numerix to determine the solutions to the challenges they face.

One example of secured overnight financing rate (SOFR) volatility, on March 19, saw a big move in the spread between three-month USD Libor and SOFR. It reached 113.5 basis points, but was at 13bp only a month earlier. If Libor had ceased to exist on March 20, contracts that had been referencing a 13bp spread would suddenly have started referencing a rate 100bp higher. What are your thoughts on this spike in volatility?

Ping Sun: Volatility of the SOFR versus Libor spread is expected because Libor contains the credit component and the liquidity component. Additionally, during the global financial crisis that began in 2007–08, the spread between Libor and the effective Federal funds rate (EFFR) was close to 350bp. Therefore, the number being above 100bp of difference doesn't seem too wide, even when compared with when SOFR was first published in 2018 with a spread of around 60bp.

People have good reason to be concerned about the fallback methodology. The International Swaps and Derivatives Association fallback protocol is to use the median over a five-year lookback period to define the Libor-SOFR spread. This certainly doesn't reflect the current market spread between SOFR and USD Libor. There would be quite a significant amount of value transfer if the cessation of Libor were to happen right now.

In addition, market participants need to understand how rate behaviour impacts their trades and their positions in various products. SOFR has so far proved to be extremely sensitive to the liquidity in the repo market, although in a different form from that of Libor. In the past, we saw many regular spikes in the SOFR fixing, around and above the magnitude of 10bp, as a result of the month-end, quarter-end and year-end liquidity issues. This kind of volatile behaviour means that when people try to model the SOFR rates, they must keep in mind it might be something quite different from what they've seen in the past in EFFR and Libor, where the magnitudes of spikes and dips were at most several basis points.

Furthermore, it should be considered that RFRs are not directly utilised in financial products. Instead, they are used in terms of the so-called backward-looking, compounded-in-arrears term rate, at least in the derivatives market. This means you need to compound the RFR over a certain period of time – in many cases three or six months – and those geometrically averaged rates are actually your underlying. To this perspective, when you look at the historical fixing of the compounded rates, the volatility of those SOFR term rates are much lower than that of Libor or SOFR itself. The New York Federal Reserve started to publish the backward-looking SOFR term rates in March of this year.

Market participants also need to look into the possibility that the volatility of the rates could drive SOFR or Fed funds rates to go to negative, which are in the range of only several basis points above the zero interest rate.

Has the market chosen the right replacement rate for USD Libor? What gives you comfort that SOFR will be a stable enough rate?

Ping Sun: The question of whether SOFR is the right choice has been raised since it was first designated as the replacement rate for USD Libor. The SOFR underlying market is very solid and is being actively traded, which is a positive sign. Even in March, the daily transaction volume in dollar amounts was more than $1 trillion. Market participants – rather than worrying about the underlying market – may instead closely track the liquidity of the derivatives market on top of SOFR. From what we see in the swaps and futures markets, the trading volume has so far been gathering strength. Hopefully, the trend won't be interrupted by Covid-19. Since the transition period will take place until the end of 2021, there is very likely still time to develop a more liquid derivatives market, so people can define their SOFR curve and forward-looking term rates based on the actively traded vanilla derivatives. Meanwhile, there is no good alternative that I believe can attract enough market consensus or receive blessing from the US Federal Reserve.

Meanwhile, for SOFR to be applied in all market sectors – especially where market stress needs to be reflected in the reference rate, such as loans – the lack of risk sensitivity in an RFR such as SOFR is a concern. Possible approaches are being explored to add on top of SOFR certain risk-bearing spreads to address this issue. Alternatively, the possibility of using unsecured reference rates in the cash market, such as Ameribor, is being discussed as well.

SOFR offers a choice of different instruments that can be used to construct a curve. How can the behaviour of these different instruments affect the kind of SOFR curves you can derive?

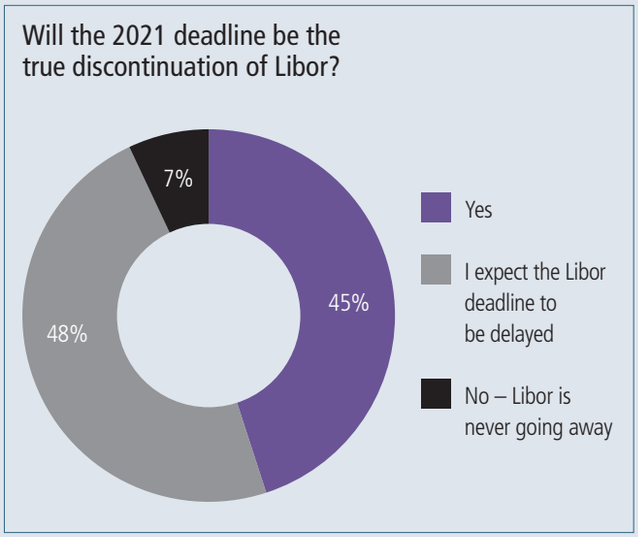
Ping Sun: In the SOFR market, the available derivatives that may currently be used to construct a SOFR curve are the SOFR one- and three-month futures in the front, and, at longer tenors, the SOFR overnight index swap (OIS) and the basis swaps of SOFR versus Fed funds, and SOFR versus the three-month Libor. With market liquidity still developing, different instrument choices can very likely result in very different curves.

As of today, the liquidity of SOFR swaps is still a concern, especially when it comes to curve stripping. The overall SOFR swap trading volume is less than 1% of that of the USD Libor swaps. Among the SOFR swaps, the liquidity of the SOFR OIS is slightly better than that of the SOFR basis swaps. However, when the discounting switch happens this October, it is expected the demand in the SOFR versus Fed funds basis swaps would get boosted to hedge the SOFR discounting risk.

The response of SOFR derivatives to the market stress is also an important subject. For example, during the spring the SOFR versus Libor basis spread increased significantly to more than 100bp in the front tenor of three months, as has the SOFR versus Fed fund basis, though not to that magnitude. For the latter, the level of increment in the front is about 10–15bp. On the other hand, for the longer tenors you don't see much change in the basis spread, likely due to the market's view on the upcoming fallback being hinged on the five-year historical median. Of course, due to much less trading activity at longer tenors, liquidity is also of concern.

As a result, when you try to build the SOFR curve, you may still use the SOFR futures in the front, which are currently the most liquid SOFR derivatives. In the range from two to three years and onward, you may need to look into the SOFR OIS or the SOFR basis swaps with the Fed funds or Libor. The particular choice of the instruments is dependent on the usage of the SOFR curve. The SOFR versus Fed funds basis swap is more relevant to the discounting switch, while the SOFR versus Libor basis swap concerns the Libor fallback. ■

During summer 2020, Numerix conducted a global survey among financial market participants and asked their opinion of the Libor transition timeline.



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Bids over troubled water

A deluge of one-way risk and kinks in basis swap auctions could derail the Libor transition milestone. By Helen Bartholomew

The US dollar swap market is preparing for what could be a momentous weekend in mid-October.

That is when CME and LCH will change the risk-free rate they use to value and pay interest on cash collateral for $134 trillion of cleared US dollar swaps. The so-called 'big bang', set to take place between October 16 and 19, will see the effective Federal funds rate replaced with the secured overnight financing rate, or SOFR – the Federal Reserve's preferred successor to US dollar Libor.

The two-step process for executing the move is complex and fraught with pitfalls. Switching the rate used to discount future cashflows and calculate price alignment interest (PAI) will change the net present value (NPV) of cleared portfolios. To square the winners and losers, the central counterparties will make a one-off cash adjustment to swapholder accounts.

Need to know

- In October, LCH and CME will begin using SOFR to discount the future cashflows of cleared US dollar interest rate swaps.
- Swapholders will receive cash payments to compensate for any change in the net present value of portfolios resulting from the switch. And changes to the risk profile of portfolios will be neutralised with SOFR/Fed funds basis swaps.
- End-users will be able to offload these compensating basis swaps in auctions arranged by the CCPs. But there are key differences in the timing, optionality and transparency of the compensation schemes.
- The auctions could fail if a flood of one-sided risk pushes prices off-market, or if there are insufficient bids to unwind the portfolios.
- Some rates traders think CME's auction process could expose participants to mark-to-market losses on unwanted basis swaps.

The changeover will also alter the discount risk sensitivity of cleared portfolios. This will be addressed via a distribution of SOFR/Fed funds basis swaps, which some participants will offload at auctions planned by both central counterparties (CCPs).

This re-hedging and auction step is where the potential dangers lurk. The SOFR/Fed funds basis has been unusually volatile this year. It widened to historic levels at the long end only to snap back after a September 18 disclosure from LCH on the size and direction of positions being offloaded by clients calmed the market. The effect was temporary. The basis has since set new records as traders fret about the unknown scale of positions that will be auctioned by CME.

"There could be a lot of volatility around the auctions given that no-one other than dealers really hedges discount risk," says a rates strategist at a US bank. "There's a real risk that markets turn one-sided in this endeavour."

The possibility of the auctions failing cannot be discounted. This could happen if one-sided flow pushes prices off-market, or if the expected netting benefits fail to materialise. Or there may simply not be enough bids to unwind the portfolios.

Differences in the timing and optionality of the auctions at the two CCPs add another layer of complexity. After a 'tabletop exercise' in June, members of a subgroup of the US Commodity Futures Trading Commission's Market Risk Advisory Committee warned these technical discrepancies created "significant operational and market risk" for participants.

All accounts at CME will receive mandatory basis swaps at the start of the process, which they can unwind via an auction at the end. LCH allows non-members to opt out of the basis swaps entirely. The unwanted positions will be auctioned at the start of the process, with the clearing price applied to all basis swaps, regardless of whether firms receive or opt out of them.

David Horner, LCH SwapClear

Some rates traders say CME's approach is riskier. "It's functionally the same, but there is a difference between taking the swap and unwinding it, or never getting it in the first place," says a rates trader at a US bank. "In the CME case, you can have a profit-and-loss (P&L) impact if you unwind at a different price. Whereas with LCH it never touches your books, so there's no mark-to-market."

A derivatives trader at a US insurer agrees. "CME is making a potential mistake by holding the auction on Monday rather than Friday to determine what the compensating values and resulting basis swaps should be. There's a risk you're going to give everyone basis swaps SOFR plus five on Friday, and then the markets tell you the price of that swap is SOFR plus eight [on Monday]. That means you compensate everyone three basis points different versus where the market actually clears."

Even so, analysts say the chances of a 'hard failure' – in which there aren't enough bids to absorb unwanted basis swap positions – are remote. But a 'soft failure' – where the auction delivers an off-market price – remains a real possibility.

David Horner, head of risk at LCH SwapClear, acknowledges the auctions may not satisfy everyone. "The process is designed so there will be a conclusive outcome no matter what happens with auction bids, which means a partial fill or even no fill is a possibility," he says. "We think there should be efficiencies in a centralised close-out process but people may prefer to close out the swaps on the open market."

Horner was speaking before the September 18 auction disclosure.

The stakes are certainly high. The stewards of the US dollar Libor transition are counting on the discounting switch to cement SOFR's standing in the market and catalyse liquidity in derivatives linked to the new rate. Any slip-ups could seriously derail or set back that effort.

"Technical though it may be, this is the most effective mechanism by which we facilitate and encourage trading in derivatives tied to SOFR for the market as a whole, so it's very important it goes well," says Joshua Younger, interest rate strategist at JP Morgan. "To meet all the timelines for benchmark reform, this has to work. If it doesn't, we're at risk of having to delay those timelines to avoid a more disorderly transition." (see box: *Liquidity tonic?*)

Structural differences

A simpler version of the discounting switch has already taken place in European markets. In a co-ordinated effort on July 27, LCH, CME and Eurex changed the discount rate for euro-denominated swaps from Eonia to the new euro short-term rate, or €STR, without hitch or fanfare. But the fixed 8.5bp spread between the two European rates meant only a cash adjustment – the simplest part of the dollar switch – was needed.

"The fact that Europe went well doesn't necessarily help inform us about this process given the lack of any use of basis swaps," says JP Morgan's Younger. "The basis swap element is really the issue here. Avoiding value transfer is very straightforward because there is no opting in or opting out – it's just a zero-sum game."

The complexity stems from the moving basis between SOFR and Fed funds. This means switching from one to the other will change the discount rate sensitivity of swap portfolios. To restore the original risk profile, LCH and CME will issue SOFR/Fed funds basis swaps to client accounts.

For dealers, this is a zero-cost way to shift discount risk hedges to the new rate. But for many end-users, it could be more of a headache than a remedy. Some client accounts are unable to hold basis swaps on their books, while others simply don't hedge discount risk and have no need for them.

The CCPs will help end-users offload unwanted basis swaps in centralised auctions, where netting benefits should reduce the cost of unwinding them.

The way the auctions are structured could have a big bearing on the outcome.

LCH is allowing non-member clients to opt out of basis swaps altogether and take a cash payment in lieu of the instruments. The CCP set a September 4 deadline for firms to confirm their intentions. The unwanted basis swaps will be netted down, with the balance auctioned off on Friday, October 16. The clearing price in the auction, determined in a 10-minute bidding window around 9.30am Eastern Standard Time for each of the six tenors, will be applied to all compensation.

Younger says this approach makes sense. "The theoretically sound way to do this is to use the auction to set pricing for all the swaps, whether they're delivered or placed at auction. It has the advantage of not resulting in any immediate mark-to-market for one set of swaps versus another," he says. "If you conduct the auction second, the question is at what price did you deliver the mandatory and the auctioned swaps? If there's a difference, it could be quite disruptive because the message is that the market isn't where we thought it was. That's a particularly acute risk in markets which don't trade very frequently or in large size."

This is the main concern some have with CME's plans. The US clearing house will auction unwanted swaps in a single 30-minute auction on Monday, October 19 – three days after the distribution of cash compensation and mandatory basis swaps, which will be priced using a reference curve. That means sellers in the auction are exposed to market moves in the interim and may book a P&L loss. This is limited to a maximum loss threshold, which, if exceeded, would cause the auction to fail.

CME recognises the risk, but says separating the auction from the distribution means the entire switch is not contingent on the success of the auction. "We view this as a key benefit of CME's transition process, as the transition has a greater certainty of success and ensures that the impact of the transition is neutralised through the cash and risk compensation," says Sunhil Cutinho, president of CME Clearing.

One-way sign

LCH has given the market advance warning over the size and shape of its auction, while CME will keep the market guessing. Initial LCH indications, released on September 18, show total notional of $26.4 billion of basis swaps to be auctioned across the six tenors.

This translates to DV01 – or sensitivity to a 1bp move in rates – of just $11 million. That is not as large as some had feared. JP Morgan's Younger estimates there is $100 million per basis point of net dollar discounting risk in the clearing houses. On September 29, the basis between SOFR and Fed funds swaps ranged between 0.5bp in two-year maturities to 8bp in 30-year tenors, according to Bloomberg. That means total dollars at risk should be under $500 million, absent an unexpected basis spike.

LCH's disclosures show the five shorter tenors – from two to 20 years – would see winning bidders take the pay SOFR/receive Fed funds leg of the basis swaps. Notional on offer ranges from more than $15 billion in the two-year to just $14.5 million in the 20-year bucket, which benefited from higher levels of netting due to balanced positioning.

The 30-year auction stands out, with dealers asked to bid on receive SOFR/pay Fed funds instruments with more than $500 million notional value. It's this longer-dated bucket that has long been a cause of concern – and remains so. The 30-year basis tightened almost 1bp to 7.5bp following the LCH announcement on September 18 only to widen out to a new all-time high of 8.94bp on September 29.

The problem is that sellers of these longer-dated basis instruments largely face the same direction and may also be exposed to high levels of discount risk. Analysts say much of this risk is concentrated at CME, which remains tight-lipped on the likely scale of its auction.

Asset liability managers are by far the biggest holders of longer-dated receive-fixed swaps. Many of these investors cannot hold basis swaps on their books under their derivatives-use plans and will instead dump them in the auctions. Those positions are expected to be sizeable. Longer-dated receive-fixed trades moved deeply in-the-money following the emergency rate cuts earlier this year. This left insurers and pension funds heavily exposed to discounting risk, meaning they will receive a hefty volume of compensating swaps.

The allocation of basis swaps depends on the NPV of portfolios. Those with positive NPV – such as insurers and pension funds – will be compensated with receive SOFR/pay Fed funds basis swaps. These so-called tighteners gain in value as the gap between the two rates narrows. Portfolios with negative NPV will get wideners – pay SOFR/receive Fed funds basis swaps. The more extreme the NPV, the higher the volume of basis swaps received.

These compensating swaps will be provided by LCH as a pair of fixed versus floating overnight indexed swaps (OISs) – one referencing SOFR and the opposite trade referencing Fed funds. CME is giving users a choice to take basis swaps or paired fix-float OISs.

Recent moves in the 30-year SOFR/Fed funds basis, which has more than quadrupled in the past three months, suggest the market expects the auction to be flooded with basis tighteners from holders of receive-fixed swaps. Pay-fixed accounts such as banks and asset managers – which would typically have negative NPV and offsetting basis positions – are unlikely to offset this flow.

LCH disclosures show $511 million notional of 30-year pay SOFR/receive Fed funds swaps up for grabs in its auction. This is subject to change up to October 14, when final positions are locked in. "It removes one important unknown, which is the population of accounts opting out. But some uncertainty will remain up to the auction," says LCH's Horner.

LIQUIDITY TONIC?

Libor transition officials in the US clearly hope the discounting switch will boost trading in derivatives linked to SOFR.

Analysts are not so sure. Joshua Younger, interest rate strategist at JP Morgan, says the discounting switch may be exactly the shot in the arm the SOFR derivatives market requires.

"To generate liquidity in a new derivatives product, you need to give people a reason not just to use SOFR derivatives but to use them actively and trade them around so there's sufficient transaction activity to make reasonably tight markets. The way you do that is by creating a population of non-derivatives assets or liabilities that are large and dynamic in their risk. The useful thing about discounting risk is that there's nothing more convex than the P&L associated with existing positions," he says.

"What we're doing here is generating very large exposures held by dealers who are sensitive to small deviations in discounting risk. Everyone's positions can be changing a lot as rates move around, so you not only have to build up a large stock of SOFR-linked hedges, you also have to rebalance those hedges frequently."

Others aren't convinced. Outside the dealer community, few firms hedge their discounting risk. SOFR's lack of a credit sensitivity has also kept borrowers and lenders on the sidelines.

"The adjustment will develop SOFR liquidity as far as dealer hedging is concerned but it's not necessarily going to result in a shift in behaviour from the real money community, and there may not be a material jump and SOFR-related derivatives liquidity beyond what is currently being done in the Fed funds market," says a rates strategist at another US bank.

"Until Libor is definitively going away, and until you start to see lending products shift, I don't think we're going to see a material uptick."

There's a long way to go. At LCH – the largest US dollar swaps clearing house – cleared SOFR swaps notional totals just $1.22 trillion, compared with $50 trillion of cleared US dollar Libor swaps notional.

So far, there is no evidence of a liquidity shift in euro markets since the cleared euro swap discounting rate flipped from Eonia to €STR. LCH cleared just €65 billion ($77 billion) of €STR swaps in August – the first full month following the switch – down on the previous two months.

In part, this reflects the fixed basis between the two euro overnight rates, meaning users can still view Eonia risk as €STR minus 8.5 basis points.

"I think the Fed funds one is different and, intuitively, it should be more of a boost to activity because Fed funds and SOFR are not co-dependent," says Horner.


Sunil Cutinho, CME

"Discounting risk is a dynamic risk, so it moves with the level of rates," he says. "People can also make adjustments such as portfolio transfers or re-couponing. This is just an indicative portfolio to give a feeling of size and direction, but it could change as time goes by."

That doesn't tell the full story. While LCH dominates dollar swap clearing with $123 trillion notional outstanding, compared with $7.6 trillion at CME, analysts at JP Morgan reckon the US CCP accounts for more than 85% of discount risk stemming from insurance companies.

CME is holding its cards closer to its chest. Swapholders had until October 2 to decide whether to keep the basis swaps or ditch them at auction. There are no plans to publish the size or direction of the portfolio prior to the auction. The size of the portfolio will be divulged to bidders under a non-disclosure agreement. The direction will remain a secret and will only be revealed to auction winners.

The CCP will ask participating dealers to make two-way prices referencing the real portfolio and a synthetic mirror image. This is intended to protect clients who may need to unwind swaps in the bilateral market in the event of an auction failure.

"Masking of the direction of the auction portfolio is necessary to protect the auction winners and the participating customers in case the auction is not executed," says CME's Cutinho.

Some see this as a futile exercise as the shape of the portfolio is unlikely to be materially different from that announced by LCH.

"More of the actual end-user activity is done in CME, so may not be something that can be fully extrapolated, but what happens at LCH is going to give a good indication of what to expect," says a trader at one US house.

CME says participants should not draw conclusions from the LCH announcement. "While LCH and CME may have common participants, we do not believe that LCH's announcement of the direction of its auction portfolio on September 18 will provide any insight or information on CME's auction portfolio," says Cutinho.

Winner's curse

The desire to keep things under wraps doesn't stop there. CME is also seeking relief from real-time reporting requirements. It says this is "necessary and appropriate" to incentivise multiple firms to participate as auction bidders.

"Absent such relief, CME is concerned that firms may be unwilling to participate as auction bidders or may not bid as aggressively if information about their transactions will be disclosed publicly," says Cutinho.

That request is causing disquiet among some buy-side firms.

"Transition to SOFR is predicated by the need for a more transparent benchmark and that same principle of transparency should apply to the transition steps we're taking as well," said Stephen Berger, global head of government and regulatory policy at Citadel, speaking at the Commodity Futures Trading Commission's Market Risk Advisory Committee meeting in July.

He worries an exemption could lead to "information asymmetries" where secondary market transactions are subject to post-trade transparency rules, while activity in the auction is kept in the dark.

Dealers are siding with CME on this. They argue that too much transparency when auctioning a large directional portfolio could expose bidders to a winners' curse, where they are left stranded with the positions, and result in less competitive pricing.

"I think the goal here if they were to get relief would be to ensure the dealers could bid more aggressively – and that should be in the interest of the buy side – by not being afraid that whoever wins will be stuck with a position that's impossible to unwind at reasonable level," says a rates trader at a second US house. "If there's prudential relief, it would be from public reporting. Private reporting to the authorities would happen regardless."

This is particularly relevant for CME's auction, which could rely on a single winner to take down the entire position. It could employ a so-called Dutch auction, where the bidding starts at a high asking price and is then reduced down to a level where the last part of the portfolio can be cleared, while a smaller portfolio could be auctioned on a winner-takes-all basis where the best price wins the full portfolio. CME will determine the auction style once the size of the portfolio is known.

LCH has already secured participation from 18 dealers for its auction. Bidders are being asked to provide tradeable quotes for at least 10% of each tenor on offer and can also enter an all-or-nothing price. The best price to clear the full portfolio based on partial bids would then be compared to the best all-or-nothing price to determine whether the swap goes to one or multiple winners. "We think we've sourced the vast majority of the available liquidity, but we've got other protections in the design," says Horner. "An auction cap will prevent a really off-market price from being realised, which should give customers some confidence."

There are other reasons to be confident. The euro discounting switch was a success and many of the lessons learned in June are being applied to the SOFR switch. For example, LCH users have been able to view their end-of-day discount calculations since March, allowing them to see on a daily basis a combination of their cash and basis swap compensation. The auction platform has been tested with external participants and a number of fire drills are anticipated before the event.

"It has been a good advert for central clearing, because you couldn't have done that bilaterally. That kind of an exercise hasn't been done before, so to be able to do something that's so efficient for hundreds of accounts and thousands of trades, I think it's a good outcome for the market," says Horner.

Guillaume Helie, chief operating officer for Libor transition in the global markets business at Goldman Sachs, agrees. He sees the discounting switch in October as a much-needed test of the market's readiness for Libor's eventual discontinuation, which would trigger fallback clauses that will automatically flip US dollar Libor swaps to SOFR.

"Ahead of year-end 2021, when the industry needs to be ready to implement fallbacks, the discounting switch is the only real test of operational readiness," says Helie. "I think that it's a healthy exercise as it allows institutions to stress-test their preparedness and adjust their plans accordingly for the real 'big bang', the cessation of Libor." ■

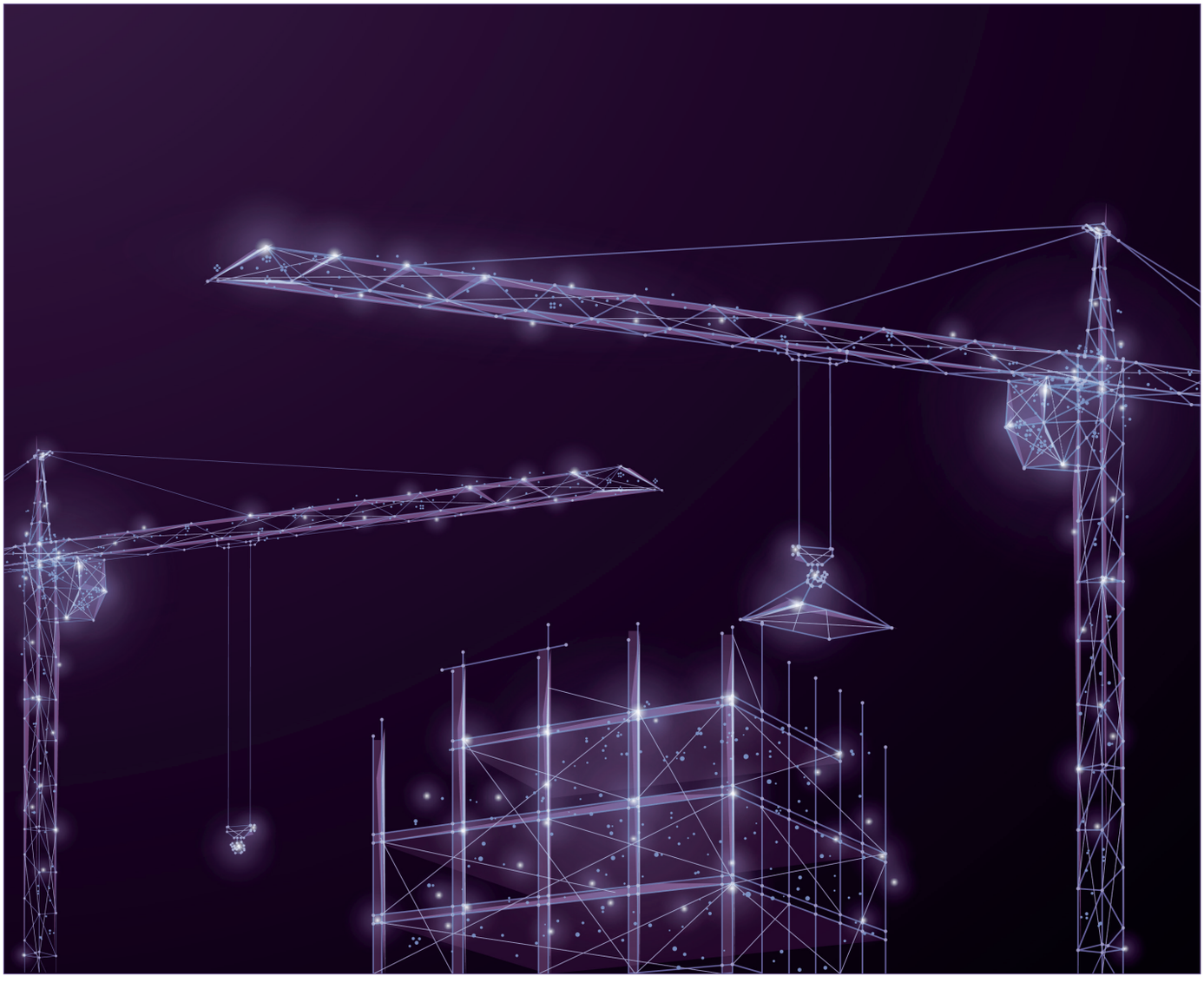
Previously published on Risk.net

LCH The Markets' Partner

Solid foundations

Bridging the transition gap

Phil Whitehurst, head of service development, rates, SwapClear at LCH, explores the potential parallels between forward-looking term Sonia rates and term SOFR rates. He presents his thoughts on the recent announcement of increased powers for the Financial Conduct Authority and offers insight into LCH's progress on the SOFR discounting switch



What are your views on the recent announcements of the UK Financial Conduct Authority's (FCA) enhanced powers, in regard to 'tough legacy', for example?

Phil Whitehurst: The announcements are really positive for the industry, but it's important to first be clear about what tough legacy contracts are. They're contracts that lack appropriate fallbacks and cannot realistically be renegotiated. In other words, they are 'stuck' as they are. This isn't true of swaps contracts, which can benefit from the International Swaps and Derivatives Association's (Isda) supplemented definitions and protocol, so derivatives markets are in good shape.

But this is much more relevant on the cash product side. If your contract is stuck as it is, then an abrupt cessation of the benchmark could be highly disruptive. In this context, it makes sense for the FCA to have the ability to provide continuity, and this is where the concept of a 'synthetic' Libor could present a powerful remedy.

Phil Whitehurst

The FCA would have the power to command a change in the benchmark methodology to something more sustainable, which then legally substitutes for the original. Importantly, this change would not restore the benchmark's representativeness, which means it can't be used for new business. The regulator has itself posited that forward-looking term risk-free rates (RFRs) could be one input to such a synthetic Libor, and that would help resolve some of the timing problems that are relevant for tough legacy.

This is all very constructive, and the fact that the presence of a synthetic benchmark does not restore the representativeness of the original helps to limit the scope. But there could be some jealous glances toward this solution from pockets of the market for which it is not intended, and the FCA will need to take care around the perimeters.

A number of providers have begun publishing forward-looking term sterling overnight index average (Sonia) reference rates (TSRRs). Do you see any parallels with the development of a term secured overnight financing rate (SOFR), and how do you see the outlook for it?

Phil Whitehurst: Term RFRs are generally not going to be allowed to become as critical and non-substitutable as prior generations of benchmark. But term rates can be much more robust than previous benchmarks. We think they could be the healthy basis of products necessary to support the real economy. That seems the ultimate conclusion of the various regionally focused groups addressing the question: that they are helpful and necessary.

It's interesting to look at the different currency-specific approaches emerging. In sterling, for example, the Working Group on Sterling Risk-Free Reference Rates has concluded that executable overnight index swaps (OISs) are the best basis for TSRRs, and a number of providers are already out there with indicative rates.

In the US, the Federal Reserve and the Alternative Reference Rates Committee (ARRC) have published materials on a futures-based methodology. On September 10, the ARRC launched a request for proposals to identify potential providers of a TSRR before the end of the year.[1]

Whether futures- or swaps-based, you can boil this down to a discussion of whether relative-dated market information, in the form of spot quotes, or absolute-dated information, via forward-starting prices, is your best data input. Put another way, who does the interpolating: a trader or an algorithm? It will be interesting to watch developments in this area.

What can you say about credit-sensitive benchmarks?

Phil Whitehurst: We can see that, as an intermediary, you might want a benchmark that rises and falls in response to your own borrowing rates and therefore hedges through to your income stream. But we also appreciate why end-users might want a rate that responds more exclusively to monetary policy and less to its transmission mechanisms. Ultimately, the role of a clearing house is to clear the products that our members want to trade. It's up to the market more broadly to establish liquidity in specific products.

What developments have you seen in the RFRs that have been selected?

Phil Whitehurst: Sterling is a very positive story in reference rate reform. The fact there was already a liquid market in Sonia products has provided a great foundation to build on. All the right elements are in place, and LCH is working to ensure Sonia product eligibility maps across from sterling Libor, such as with LCH's recent launch of variable notional Sonia capability.

With the euro short-term rate (€STR), we were expecting more of a step-up in activity following the discounting switch in late July, but that hasn't happened. €STR OISs have stayed around 5% of our euro OIS volumes, but of course Euribor swaps represent most euro market liquidity. That's a bit of a puzzle, but is perfectly sustainable for now.

For SOFR, we've seen consistent activity throughout the year, although volumes did briefly drop off at the height of the market volatility in March 2020. SOFR clearing has been live for more than two years, and we've seen more than $3 trillion in volume over that time – with more than half of that trading this year.

There has been a nice balance between outright OIS, focused on the shorter dates, and SOFR/effective Fed funds rate basis trades, which are happening all along the curve. SOFR/Libor trades have been less prevalent, but are picking up. The introduction of the hard-wired link to USD Libor via the Isda fallbacks, along with the discounting switch in October, are both likely to stimulate further growth.

How are LCH's plans progressing on the SOFR discounting switch?

Phil Whitehurst: We have finalised the last elements of the process, so it is now very much about execution. The areas that have had the most attention of late in the market are the client elections and the cash settlement process. LCH has announced the outcome of these elections, and further information is available on LCH's website.[2]

On client elections, this relates to the choice we gave end-users of whether to accept their allocation of risk compensating swaps or to cash settle them via LCH's process. To rewind, the change in discounting regime switches a portfolio's discounting risk from Fed funds to SOFR – and the risk compensating swaps provide a good proxy to neutralise this. Taking the swaps gives you coverage for that change in profile, and allows you to manage it on an ongoing basis. But we identified several reasons why end-users might want to cash settle on the switch date and catered for that. ■

[1] *ARRC (September 2020),* ARRC releases request for proposals for the publication of forward-looking SOFR term rates, *https://nyfed.org/33uP99a*

[2] *LCH SwapClear (September 2020),* Service notification – SOFR discounting auction indicative portfolio, *https://bit.ly/3hYQidn*

Accounting rules snare insurers in SOFR discounting switch

Re-couponing legacy swaps to reduce discount risk could have adverse accounting consequences. By Robert Mackenzie Smith

Complex accounting rules are dissuading some insurance companies from re-couponing legacy swaps ahead of the 'big bang' discounting switch at clearing houses in October. These firms had been expected to reduce the discount risk in their books by monetising deeply in-the-money positions. But some are discovering this can have adverse accounting consequences for their business.

"We are re-couponing in portfolios where we can, but there are some portfolios where the business unit is more sensitive to realising the gain/loss. We are not re-couponing in those portfolios," says the head of derivatives trading at an asset management firm that runs accounts for insurers and pension funds.

Holding on to deeply in-the-money swaps could create problems for insurers further down the line. From October 19, CME and LCH will begin using the secured overnight financing rate (SOFR) to discount future cashflows and pay interest on collateral for US dollar interest rate swaps. Currently, central counterparties (CCPs) use the effective Federal funds rate.

The change will affect the net present value (NPV) and discount risk sensitivity of cleared portfolios. CME and LCH will neutralise any value transfers with a combination of cash compensation and basis swaps, which can be unwound at auctions arranged by the clearing houses.

Portfolios with positive NPV will be handed the receive SOFR/pay Fed funds leg of basis swaps, while those with negative NPV will get the opposite – pay SOFR/receive Fed funds. The volume of basis swaps paid out depends on the level of NPV, or 'moneyness' of the portfolio. Those with extreme positive or negative NPV will receive a larger amount of basis swaps, while those around par would get fewer of them.

Insurers are large holders of longer-dated receive-fixed swaps, which moved deeply-in-the-money following emergency rate cuts earlier this year. This left them heavily exposed to discounting risk, meaning they could receive a hefty volume of basis swaps that could then be offloaded at the auctions – potentially flooding the market with one-way risk.

Insurers can reduce the amount of discount risk in their books by re-couponing positions.

"To the extent you want to reduce your risk, you would want to reduce as much of the NPV in your book as you could," says a derivatives trader at a US insurer. "One way to do that is through re-couponing, but there are implications to doing that."

Re-couponing involves converting legacy receive-fixed swaps, which are deeply-in-the-money, into new trades with at-market fixed coupons and monetising the difference. Doing so lowers the NPV of portfolios, thereby reducing the compensation requirement and the number of basis swaps that may need to be issued as part of the discounting switch.

Accounting rules make this tricky. Insurers must comply with Generally Accepted Accounting Principles (GAAP), which is mandatory for all US companies, and Statutory Accounting Principles (SAP) from the National Association of Insurance Commissioners (NAIC), which are used to set capital requirements.

Re-couponing can have different implications under each regime. "From a GAAP perspective, re-couponing a variable annuities portfolio wouldn't have any effect," says the derivatives trader at the US insurer. "It would have an effect on something that was following SAP, because that gain prior to realising it counts as an immediate positive value in your statutory accounting capital."

In other parts of the business, re-couponing positions with highly positive NPVs could have a negative GAAP impact if it reduces the investment income of the portfolio, the derivatives trader says.

Insurers must also consider whether a trade qualifies for hedge accounting. Re-couponing a trade that receives hedge accounting treatment may trigger a realised gain or loss on the balance sheet and generate tax liabilities.

"Since the underlying instrument that you're hedging isn't also being triggered, you might create a timing differential and have a gain on the asset and a loss on the derivative," says a swaps trader at a second US insurance company.

The accounting headaches may be contributing to muted re-couponing activity. Dealers say requests to re-coupon have been few and far between. A rates structurer at one US bank expects to see "more enquiries" as the October 19 deadline approaches. Others think insurers will forgo re-couponing and hold on to the swaps they receive from CCPs – an option that only recently became available to them.

Insurers were expected to offload the basis swaps due to uncertainty about how the positions would be classified by the NAIC. On July 15, the NAIC clarified that these swaps can be classified as hedging transactions. The New York Department of Financial Services issued similar guidance on July 27. This makes it easier for insurers to keep the compensating swaps on their books. However, each insurer will have to make its own decision on whether to stick or twist, making it harder to predict the size and direction of the auctions.

"The approach that we're taking here is that we're going to look to prudently manage the basis swaps over time and that may include using the auction process," says the swaps trader at the second US insurance company.

Swapholders with cleared portfolios at CME must notify the CCP of their intentions by October 2. The deadline for opting out of basis swaps at LCH closed on September 4 and final positions will be locked in on October 14.

The possibility that the auctions could result in adverse pricing, or even failure, means some have already decided to keep the basis swaps they will receive.

"We will be opting to keep the CME basis swaps and unwind them in the future," says the asset management firm's head of derivatives trading. ■

Previously published on Risk.net

[1] *Interpretation of the Statutory Accounting Principles Working Group (July 2020),* Basis swaps as a result of the Libor transition, *https://bit.ly/2EqeGqo*

[2] *New York Department of Financial Services (July 2020),* Guidance to insurance companies regarding the use of basis swaps by clearing parties in connection with the upcoming Libor transition, *https://on.ny.gov/33SzKyr*

Bonds and loans clash on Sonia compounding style

A new fracture in Sonia cash markets has disappointed some market participants, as recently issued conventions for calculating interest payments on loans have diverged from recommendations for bonds and swaps, threatening a nasty operational headache. The standards have been issued as part of the interest rate market's transition away from sterling Libor. By Helen Bartholomew

Conventions for bilateral and syndicated loans, published this month by the Working Group on Sterling Risk-Free Reference Rates (RFR WG), endorse a so-called 'lag' methodology, while sterling overnight index average (Sonia) bond markets will use the 'observation shift' method. The two approaches are designed to tackle one of the obstacles when adding up Sonia to create a three- or six-month loan rate. The 'shift' has the advantage that it allows use of a new index published by the Bank of England (BoE), a shortcut that should result in greater standardisation across the market.

"I think it was a surprise to many people that the loan market has gone down the lag route because of the lack of ability to use the [BoE] index in its current format," said Iain Budge, director for UK and Ireland financial institutions origination and solutions at NatWest Markets.

Toby Williams, technical specialist for benchmarks policy in the UK Financial Conduct Authority's markets and wholesale policy division, said the discrepancy was "unfortunate". "In an ideal world, conventions would be similar across all markets," he said.

"We're having to go through this natural process of markets finding their own groove, their own conventions that suit them. That might be unfortunate in the first instance, but we're not going to step in and say 'You have to use this way of doing it.' We can encourage it, but that's all we can do at this stage," he added.

Derivatives markets have embraced compounding-in-arrears as the preferred way to replicate the forward-looking nature of Libor in overnight risk-free rates. This sees the rate calculated by compounding the string of overnight rates across a given period. Sterling floating rate notes have adopted the same broad approach, but debate over the details has given rise to the competing shift and lag standards.

Now, with bonds opting for the former and loans selecting the latter, the division looks set to stay – at least in the short term.

"There might be different conventions between loans and bonds, and possibly between different currencies while the market coalesces over a preferred format," said Budge.

In the US, conventions are further splintered. The Alternative Reference Rates Committee (ARRC) has endorsed compounding-in-arrears with a five-day observation shift for bonds linked to the secured overnight financing rate (SOFR) – the official replacement for US dollar Libor. Loans linked to SOFR would be compounded using a lag methodology according to ARRC 'in arrears' conventions. Some industry participants are pushing for a daily simple methodology, which sees loan balances multiplied by the overnight SOFR rate on a daily basis.

"When you've got different markets and different jurisdictions influencing this, it's sometimes harder for that to play out as we would in theory like it to happen," said Williams.

Differences between lag and shift methodologies are subtle yet significant, boiling down to how each deals with the quirks of calculating interest at the end of a period by adding up the preceding daily fixings.

This calculation must conclude five days prior to the end of the period, so the payment amount is known in advance and can be made on time. For example, an interest period that runs from January 1 to March 31, would have an observation period that begins and ends five days earlier than those dates.

The two approaches diverge on how to account for the fact that weekends and holidays can make the business days in the observation period slightly different from those in the interest period. Under the lag method, fixings are weighted according to the observation period. So, on a Friday in the interest period, a lag method grabs the rate from five days earlier – typically the previous Friday – and applies the holiday and weekend schedule of the interest period. It means the rate would be given a three-day weight to account for the weekend. This can create mismatches in the event of public holidays, as higher weights may be given to a rate that was only live for a single day.

The shift method is seen as the more natural, enabling whatever happens in the observation period to be reflected in the interest period. For example, a Friday rate would carry a three-day weighting to cover the weekend regardless of which day that rate emerges in the interest period.

Given Sonia's relative stability, Budge said there's little economic difference between the two, but highlighted important "operational and documentation" challenges.

After initially coalescing around the lag structure, Sonia bond markets switched to a shift methodology in February, when the European Bank for Reconstruction and Development used the alternative structure for a £750 million ($967 million) floating rate note (FRN). This was in anticipation of an official compounded Sonia index, which can only be used in conjunction with the observation shift methodology.

The index was launched by the BoE on August 3. It dispenses with the need for cumbersome calculations and aims to eradicate mismatches that can emerge as a result of conflicting rounding assumptions when parties calculate their own rate. The European Investment Bank was the first issuer to peg a Sonia bond directly to the index later that month, and the structure is now expected to become the norm for sterling FRNs.

The index appears to have arrived too late to influence the loan consultation, as the lag method is used in most of the £90 billion of debt securities issued against Sonia to date.

In its September 10 paper, the RFR WG noted there is "no clear preference in sterling markets to date" and recognised the need for "the maximum possible degree of consistency across currencies, products and markets".

The group notes its preference for the lag structure based on its ability to become more rapidly available for the third quarter of 2020, when UK regulators have called on all lenders to be ready to offer non-Libor loan products. The door is kept ajar for wider use of the shift methodology, which the group describes as "a viable and robust alternative". ■

Previously published on Risk.net

MUREX™

Cliff effect might demand risk calculation agility until Libor cessation

Didier Loiseau, global head of rates, bonds and credit at Murex, examines the problems that originate from the spread calculation technicality stipulated by the new International Swaps and Derivatives Association Ibor fallback supplement, which incorporates fallback mechanics in derivatives contracts, specifying how rates will move from Libor to risk-free rates (RFRs) upon cessation – or pre-cessation – of Libor. The general logic is now well known: fallback rates will consist of compounded averages of RFRs plus a transition spread, calculated as the historical median of RFR-Libor fixing spreads

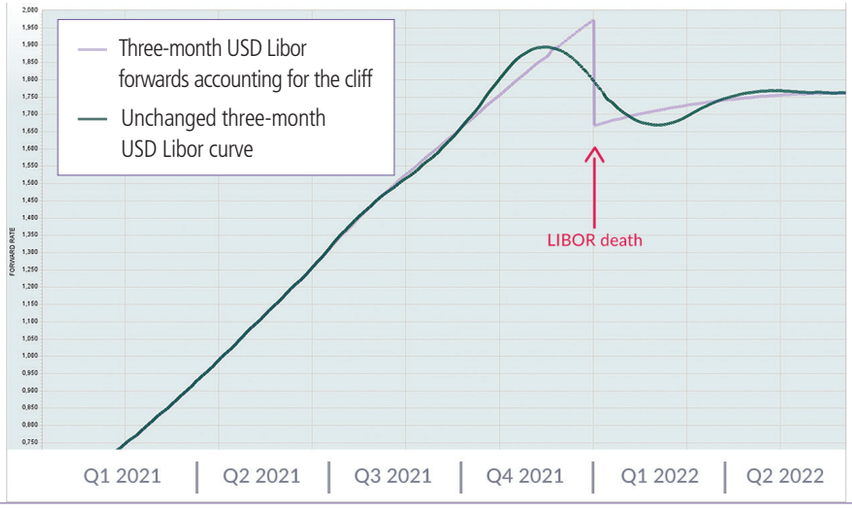
At *Risk.net*'s Libor Virtual Week, the UK Financial Conduct Authority's (FCA's) head of markets policy, Edwin Schooling Latter, reminded us that, under the supplement, any announcement of Libor discontinuation occurring on a given date would immediately trigger the five-year median spread calculation. This trigger would fix the spread in stone until discontinuation occurs. Therefore, if some of the Libors are subject to such an announcement as early as the end of 2020, as anticipated, the corresponding spreads would be fully determined then.

Between the discontinuation announcement and the actual discontinuation – a period possibly longer than one year – practitioners would need to manage Libor positions with a two-regime set of estimated fixings. The first regime, for all fixings before discontinuation date, would need to be estimated off the usual strip of Libor futures and fixing. The second one, for all fixings beyond any Libor discontinuation date, would need to be estimated off the risk-free rate (RFR) curve, adding the fixed transition spread to the resulting rate.

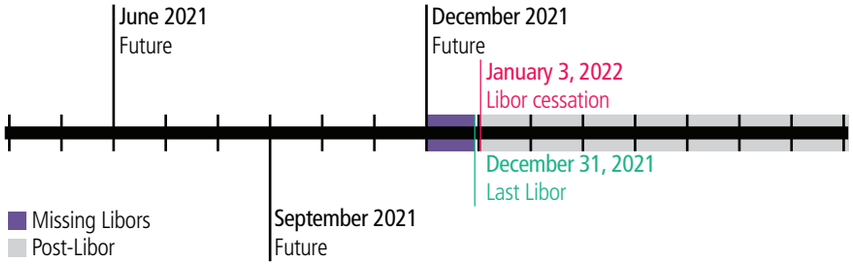
However, the Covid-19 pandemic demonstrated that RFR and Libor rates are significantly decorrelated, which is obvious from their fundamental difference in nature. Hence, depending on the respective movements of those rates, the difference between the two regimes – the 'cliff effect' – could be sharp. If it is, practitioners will need to significantly amend their pricing/valuation and risk calculation practices to take the cliff into account until Libor eventually dies.

Didier Loiseau, Murex

1 Three-month USD Libor forwards accounting for the cliff versus an example of an unchanged three-month USD Libor curve



2 Calibration instruments of the Libor three-month curve from April 2021, if Libor's cessation is announced for January 3, 2022



Trading Libor on the cliff edge – A twofold technical challenge

The cliff effect's challenge is twofold.

First, accounting for a brutal jump when estimating forward rates is unnatural for many rates analytics libraries. Although it is not the first time discontinuity in forwards must be modelled in curves – for example, central banks meeting jumps in the overnight index swap curve – catering for a single, potentially large jump at a fixed date while using completely different calibration instruments on both sides of the frontier is something rather new.

Most rate curve libraries would naturally smooth out rates across the frontier, which would mitigate the brutal nature of the jump. If the magnitude of the cliff is high, trying to force the jump could result in undesirable forward oscillations around the discontinuation date. An adaptation of rate curves libraries is therefore necessary to accommodate such a feature (see figure 1).

The second challenge is the necessity to amend risk calculations. For traders, that means accounting for the double regime forward curve when calculating sensitivities and hedge ratios, so they hedge the short-term fixings with, for example, Libor futures, and long-term fixings with RFR instruments – with a clear cut-off at the discontinuation date. This is yet another challenge that may not be the same as previous ones from a technical perspective and will certainly be an area of focus.

In any case, appropriate modelling of this jump requires significant adaptations of analytics libraries from pricing/valuation and risk perspectives. Should the cliff effect materialise in the coming months, these changes would need to be implemented in a very short amount of time – and would only remain for a limited period.

Trading desks can be enabled to mark the final Libor fixing

Another important factor to consider is how forward Libors can be controlled between the last full Libor instrument and the discontinuation date.

Let's take the example of the three-month USD Libor curve. Typically, the short term of the curve will be made of future quotes. Assuming Libor ceases on January 3, 2022, the last instrument of the Libor three-month curve is going to be the December 2021 future. This instrument will mark the December 15, 2021 Libor level, but what about three-month Libor levels between this date and January 3, 2022?

These 'missing' Libors cannot be calibrated or interpolated from Libor instruments – such as swaps – maturing after the transition date. Their levels will be impacted and polluted by the presence of the secured overnight financing rate (SOFR) + spread fixings on fixing dates after the transition.

Alternatively, relying on flat interpolation between December 15, 2021 and January 3, 2022 would likely be an approximation too rough for many practitioners.

The best solution, therefore, is to enable trading desks to actively mark the very final Libor. In the example presented in figure 2, this is the Libor fixing on December 31, 2021. By interpolation, it also gives full control on the missing Libors – Libor fixings falling strictly between December 15 and December 31, 2021.

Close monitoring going forward is essential

While it is evident the technical challenge is significant, it must be considered that it will only materialise if the level of the cliff is high enough. Indeed, it will keep evolving according to the SOFR curve, the Libor curve and the expected transition spread. Practitioners will need to carefully monitor market levels to know which way to go.

The FCA's announcements following the release of the new International Swaps and Derivatives Association protocol later this year also require close monitoring – only then will market participants need to make a call on whether and how to model the cliff in their pricing, valuation and risk calculations. ■

Contact *info@murex.com* for more information about Murex's packaged solution to manage cliff effects, mark the final Libor and navigate other aspects of the Libor transition.

The race to cash in on term Sonia is filled with twists

The race is on to become the dominant – and perhaps singular – provider of a forward-looking term version of the sterling overnight index average, which will replace Libor in the UK market. By Helen Bartholomew

Three vendors are already out of the starting gates. FTSE Russell, Ice Benchmark Administration (IBA) and Refinitiv began publishing prototypes of their term sterling overnight index average (Sonia) reference rates in July, using fairly similar methodologies. A fourth contestant, IHS Markit, is expected to enter the field in the coming weeks, with a radically different approach.

All four are competing for a share of a relatively small market. And there may only be room for one of them. "The most important thing is that our interest rate benchmarks are liquid and having more than one rate isn't going to be helpful for transition," says a treasurer at one European corporate.

Need to know

- Four benchmark administrators are competing to provide forward-looking term Sonia rates for the UK market.
- FTSE Russell, IBA and Refinitiv are using fairly similar methodologies. IHS Markit's term Sonia rate may appeal to those looking for something different.
- London Stock Exchange Group's (LSEG's) proposed acquisition of Refinitiv could winnow the field. LSEG already owns FTSE Russell and its Sonia term rate could be combined with Refinitiv's if the deal closes.
- The UK's Financial Conduct Authority (FCA) plans to create synthetic versions of Libor based on term risk-free rates for use in tough legacy contracts. As Libor's administrator, IBA could have a say on the selection of input rates, giving it a leg-up on the competition.
- A winner may emerge before year-end, after the FCA details its plans for synthetic Libor and competition authorities give their verdict on LSEG's acquisition of Refinitiv.

The spoils for the victor may still be considerable – if not immediately obvious. The UK's Financial Conduct Authority (FCA) estimates that 90% of the UK loan market will stick with a compounded-in-arrears version of Sonia, which will be published by the regulator itself. That leaves just 10% of the market for term rate vendors to fight over. But the revenue from licensing the rate may be secondary.

"Term Sonia is not a gold mine, but if it supports your futures contract then it could be a gold mine," says a benchmarks expert.

On the face of it, there's little to separate the contenders. Any disparity in the currently published rates is in the hundredths of a basis point. That's hardly surprising, given all three are based on the same primary data: committed Sonia overnight indexed swap (OIS) quotes from interdealer central limit order books (Clobs).

Beneath the bonnet, more differences emerge. Data is sliced and diced in a variety of ways, while collection windows range from 10 minutes at FTSE Russell to two hours at IBA. Varying waterfalls of back-up data may cause the rates to diverge materially in times of stress. When firm Clob quotes become scarce, IBA and FTSE Russell turn to futures markets, while Refinitiv reaches to indicative swap quotes from Tradeweb to produce the rate.

Markit's methodology is distinctive. It uses Sonia swaps transaction data sourced from its MarkitSERV processing platform, coupled with futures trades at two yet-to-be-named exchanges, to construct its forward curve.

The race is already filled with intrigue. Some see IBA as a shoe-in, especially given the UK's proposed fix for so-called tough legacy contracts: a formula-based 'synthetic' Libor that will be built using a forward-looking term Sonia rate. As Libor's administrator, IBA may have some sway in selecting the term risk-free rate (RFR) input – giving it a strong leg-up on the competition.

The move by FTSE Russell's parent – London Stock Exchange Group (LSEG) – to acquire Refinitiv adds another element of suspense. The $27 billion all-share takeover is subject to an antitrust investigation by the European Commission, which is due to conclude on October 27. If the deal closes, LSEG would gain control of Refinitiv's majority stake in Tradeweb – paving the way for the creation of a single term rate that includes futures data from its CurveGlobal venture and dealer-to-client OIS swap quotes from Tradeweb in its waterfall.

"They've got quite complementary data so it might make sense to combine them," says one industry consultant, referring to FTSE Russell and Refinitiv's term Sonia rates, adding: "I can't see LSEG wanting two rates, particularly if there's limited usage."

Among the competing vendors, opinions differ on how things will pan out. Stelios Tselikas, chief operating officer at IBA, expects a dominant rate to emerge after a jostle for liquidity in the early stages. "It is possible that over time liquidity will grow out of a single rate and the market will coalesce around that," he says. "But at the beginning and for the near future, you may have more than one rate that people are using."

Others see a more competitive environment, with different rates finding their niches and becoming the standard option for particular products. There may even be scope for wider usage of term rates beyond the loan market – for example, in rates structured products such as caps and floors that are incompatible with compounded rates.

"I think there will be multiple term rates as regulators don't want the concentration risk," says Scott Harman, a managing director in fixed income product management at FTSE Russell. "If the utility grew significantly and one rate became prominent, it seems like that would be counterintuitive to the objectives."

Method in the madness

The term rates being published by FTSE Russell, IBA and Refinitiv follow a blueprint drawn up by the Working Group on Sterling Risk-Free Reference Rates, which identified Sonia OIS quotes streamed on Clobs as the preferred inputs for forward-looking benchmarks.

All three take data from Tradition and TP Icap, while IBA adds BGC to the mix.

The methodologies for calculating a term rate using this level one data are fairly similar. The vendors harvest price quotes from the interdealer Clobs during a collection window and then slice this data into smaller segments to create dozens of synthetic order books. A series of volume-weighted mid-prices for trades above a standard market size is calculated based on a snapshot of bids and offers for each segment. Outliers are removed and an average of the remaining mid-prices is published as the final rate.

Each segment must contain a sufficient number of eligible quotes to produce a mid-price. IBA sets the minimum size for eligible quotes at £250 million ($327 million), while Refinitiv keeps this figure under wraps to prevent gaming. If the number of segments that produce a mid-price falls below a specified threshold – ranging from six out of 24 at IBA to 36 out of 40 at Refinitiv – the methodologies provide for the rate to be calculated using a second layer of so-called level-two data.

This is where the differences become more pronounced. In the absence of Clob quotes, IBA's waterfall hitches the rate to Sonia futures listed at Ice Futures Europe. Refinitiv would calculate its rate using dealer-to-client Sonia swap quotes at Tradeweb, in which it owns a majority stake.

Dealer-to-client quotes on Tradeweb are subject to last look, and questions have been raised over whether their use is consistent with the benchmark principles of the International Organization of Securities Commissions. IBA seemed to settle that debate in May when it added similar data from Tradeweb for Libor-referencing interest rate swaps as a back-up for the Ice Swap Rate, which makes its decision to exclude dealer-to-client quotes from the waterfall for its Sonia term rate all the more confounding.

The Ice Swap Rate suffered widespread outages during the market turbulence in March – when it relied exclusively on Clob data – as dealers pulled firm quotes from screens. Since adding Tradeweb's data, the rate has consistently published across all four tenors and 13 maturities.

Dealer-to-client quotes from Tradeweb proved to be a solid back-up for calculating term Sonia rates during the March turmoil, according to Refinitiv. "At one point, the S&P 500 had its fifth worst day ever and even at that level of volatility we still had institutional pricing information available," says Jacob Rank-Broadley, the company's director for regulatory and market structure propositions.

IBA says it is sticking with futures back-ups for its term Sonia rate, at least for the time being. These form two separate levels of the waterfall. Level two – currently in development – would apply the methodology for Clob quotes to futures order books. A third level extrapolates term rates from futures settlement prices.

"We've implemented a detailed and robust waterfall methodology, where we're trying to use the best available data for each level to produce a representative and reliable rate in all markets," says Tselikas. "There are two main parts to this: one is that you want to write a rate that is representative and the other is that you want to be able to produce a rate in every circumstance."

The main criticism of relying on futures markets is that they are far less liquid than swaps. In the first quarter of 2020, Sonia futures traded £1.7 trillion notional across three exchanges, compared to £6 trillion of volume in swaps.

Rank-Broadley does not rule out adding futures to Refinitiv's waterfall at some point, though he sees little value in doing so based on current liquidity.

"Given that level two [of the waterfall] has been persistent during volatile periods, and there has been a very low level of liquidity in Sonia futures to date, we were not in a position to justify that it added significant value," he says. "At this stage we've decided to exclude futures. We will likely revisit that in due course, but it's dependent on having sufficient liquidity

LSEG is awaiting approval from EU competition authorities to complete its acquisition of Refinitiv, potentially setting the stage for its Sonia term rate to be combined with FTSE Russell's

and we prefer OIS data, so it would always become a third level in our waterfall."

The Clob-based methodologies remain a work in progress and significant changes could still be made, particularly around data sources and back-up waterfalls. "What we're talking about is benchmarking a nascent market, so we have to be flexible in our thinking and we fully expect the methodology to evolve," says FTSE Russell's Harman.

FTSE Russell's waterfall is expected to include futures data from LSEG-owned CurveGlobal. Harman says Clob quotes and futures data are just the starting point for what the company hopes will be a much richer data pool underpinning the benchmark. "The more credible data you put in, the more precise the rate you'll get, so we're not wedded to just OIS quotes. We're looking at futures data as well, and if there is other data available in the market that would strengthen what we're doing, of course we would review it. It speaks to the evolution of the methodology that I'm sure will be ongoing for a number of years," says Harman.

Those looking for something truly different might consider Markit's rate, which uses Sonia swaps transaction data sourced from its MarkitSERV processing platform as its main input. The methodology is a little convoluted. As most OIS trades are forward starting – typically beginning on the Bank of England's Monetary Policy Committee meeting dates – Markit uses futures settlement prices to construct a base curve. Swap prices are then layered over the curve, with forward-starting instruments compounded up to the relevant business days.

In reality, the methodology is unlikely to be the main factor in the choice of term Sonia rate. Pricing, availability and regulatory backing are likely to be more decisive – and many of those details are still to be ironed out.

"There are differences, but ultimately the market will judge term Sonia by the data and what it costs," says Navin Rauniar, partner for Libor transition at consultancy TCS. "Clients are primarily concerned with when they will be able to use term Sonia, whether the regulator will let them use it and exactly what they can use it for."

Twists in the tale

Corporate and regulatory actions could have a big bearing on the outcome. LSEG is awaiting approval from EU competition authorities to complete its acquisition of Refinitiv, potentially setting the stage for its Sonia term rate to be combined with FTSE Russell's.

If the deal falls through, some see a possible tie-up between IBA and Refinitiv to strengthen the former's Sonia waterfall with Tradeweb data. In addition to using Tradeweb's data as a back-up for the Ice Swap Rate methodology, IBA is also working with the trading venue to develop a new US Treasury benchmark for mortgages and other interest rate products.

Then there's the timing. Term Sonia rates may not be available for use until early 2021, to allow for a six-month testing period. A lot will happen before then. The FCA is expected to make the first formal announcement about Libor's cessation at the end of this year. The regulator will also gain new powers in the UK's 2020 Financial Services Bill to create a synthetic Libor for use in 'tough legacy' contracts, which cannot be re-hitched to replacement rates. The FCA plans to issue a policy statement on the use of its new powers before the end of the year, after consulting with the market.

The FCA has indicated the synthetic rates will likely be built using forward-looking term RFRs as the primary inputs, with a fixed spread layered on top to reflect the bank credit risk inherent in Libor. Speaking at an industry event on July 12, Edwin Schooling Latter, the FCA's director of wholesale markets policy, said the creation of a synthetic Libor depended on a number of factors, including the availability of inputs "on appropriate terms to the Libor administrator". That suggests IBA will have some say over the selection of forward-looking term rates used to build synthetic Libor rates.

"Once a cessation decision is made and the FCA has a say on how synthetic Libor is going to go, I think it's going to become pretty clear what the rate is going to be," says the benchmarks specialist.

If the FCA decides to run an open contest, some say it will face an impossible task choosing between three almost identical Clob methodologies. This could play to IHS Markit's advantage.

Critically, while IHS Markit's methodology uses swaps and futures prices at the top of its waterfall, it defaults to a compounded-in-arrears version of Sonia if quote data becomes scarce – an approach that aligns with the FCA's preference for the vast majority of the market.

"Markit has the greatest chance of being defensible just because it's different. You can probably make good reasons for choosing it, which you can't do with the others," says a European rates trader at one large bank. "It makes it the most interesting of the four on the table, but it still isn't underpinned by an awful lot of transactions."

There will be plenty of twists and turns in the coming months, but the race itself could be over before the market gets a proper look at the final rates. ■

Previously published on Risk.net

Asia risks falling behind on Libor transition

Buy-side preparations for Libor's widely anticipated demise are progressing at a snail's pace in parts of Asia, due largely to inaction by local regulators, according to asset managers and banks in the region. Regulators are being urged to take a more active role in steering buy-side firms to new benchmarks. By Karen Lai and Chris Davis

Asset managers in Hong Kong are "actually quite behind the curve", says a senior Hong Kong-based executive at a US asset management firm, adding: "The regulators need to take a much more proactive approach."

The same observations are made by four banks active in the region. They say they have been working extensively with their buy-side clients to help them transition to new reference rates, but that their efforts alone have not been enough.

"For banks it is probably easier to wrap their heads around it, because of the regulators pushing and sending CEO letters to the banks," says Chordio Chan, head of investment at Bank of China (Hong Kong). "Banks are being regulated by the central banks. [But] for customers, there is nobody pushing them. That offers them the moral hazard that, 'well, we can afford to wait and see'."

It is widely expected that some Libor rates will not be published beyond 2021, once regulators stop compelling banks to submit quotes to the rate-setting panel. Once this happens, firms with Libor exposures will have to switch to an alternative reference rate.

In Hong Kong and many other parts of Asia, this will often be the secured overnight financing rate (SOFR), the replacement for US dollar Libor. The world's reserve currency is ubiquitous in local Asian markets – for example, tens of billions of dollars of floating rate notes linked to US dollar Libor are issued in Asia every year.

Libor in its various local iterations is a forward-looking rate, which allows a user to know their interest payments in advance. SOFR, however, currently has no forward-looking term structure. The Alternative Reference Rates Committee (ARRC), a US industry group, is seeking to develop such a forward rate, possibly using SOFR futures, prior to Libor's cessation.

"My feeling is that [buy-side] customers are hoping cessation will be postponed or that [the market] will come up with an in-advance SOFR product," Chan says.

Using an in-advance benchmark rather than one with a backward-looking term structure would reduce the need for asset managers to overhaul their systems.

"If I put in all the resources to make the changes, then somehow they come up with an in-advance model – then all that effort has been wasted," Chan says.

This kind of dithering has been harder in Europe and the US, where regulators have been actively pressuring and cajoling the buy side to move away from Libor.

For example, in January the ARRC, which is backed by the Federal Reserve, released a checklist for how the buy side should implement the transition to SOFR. And, in February, the UK's Financial Conduct Authority wrote to the chief executives of all UK-regulated asset management firms, setting out what it expects them to do ahead of Libor's disappearance.

By contrast, Hong Kong's Securities and Futures Commission, which regulates the asset management industry, has nothing on its website that addresses the benchmark's all-but-inevitable death. The commission declined to say whether it planned to provide any guidance on the transition.

The advice that does exist has come from an unexpected place: the Hong Kong Monetary Authority, which regulates banks, asked the Asia Securities Industry and Financial Markets Association (Asifma) to develop an Ibor transition guide for financial institutions in the region. The resulting paper was published in July.

The HKMA has also worked with Hong Kong's Treasury Markets Association on an explanatory note about the benchmark reform, aimed at corporate treasurers. In a July letter about the reform, sent to the chief executives of the banks it regulates, the central bank requested that the banks distribute the TMA note to their corporate customers "to impress upon them the need to make early preparations".

The guide produced by Asifma together with other industry groups is targeted at financial institutions in general and contains no specific advice for asset managers, while the pointers in the TMA note amount only to two short paragraphs.

Bank of China's Chan says that, while the HKMA is trying to encourage buy-side firms to learn more about the transition to risk-free rates through such measures, they are not subject to the same regulatory pressure to transition as banks. "This ensures clients receive the necessary information. However, at the end of the day, it's down to the client whether they treat these educational material seriously," he says.

Besides detailed and targeted guidance, the buy side in Asia also needs direct engagement from regulators and firm-specific advice, according to banks and others in the financial industry.

"The simple fact is that the transition consists of two sides. You cannot force the transition just by putting pressure on one side," says Terry Yang, a finance partner at law firm Clifford Chance.

Buy-side firms also need clarity on how alternative risk-free rates, including SOFR, should be used in product valuation – something many do not understand, despite banks' work on this with their clients, he adds.

A senior risk manager for a large regional bank in Asia says: "At some stage [Asian] regulators have to start approaching the buy side as well, and identify those players who do need more guidance."

The senior Hong Kong-based executive at the US asset management firm says Asian regulators also need to do more to promote local alternative benchmarks. He says local Libor replacement rates should be developed both by industry associations and the authorities.

"What if the industry comes up with a solution that regulators are not comfortable with? Regulators need to provide input from a regulatory perspective. It's not realistic to expect the buy side and the sell side to come together and say, 'let's do XYZ'. Libor transition is a change of market structure," he says. ■

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Preparing for transition amid Covid-19 delays

Arguably, banks have most to lose from transition away from Libor. Together with the sheer volume, value and range of contracts affected, the move to alternative reference rates makes product pricing and hedging more complex, and puts additional strain on resources, systems and processes. But, as banks get to grips with these large-scale change programmes and monitor the evolving regulatory and industry developments, the process also signals a key opportunity to rethink portfolios and refocus key client relationships, with rich rewards for those who plan and execute their strategies effectively. Two European banks respond to some of the key questions being posed in the current environment

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To what extent will central counterparty (CCP) discounting switches act as a catalyst for secured overnight financing rate (SOFR) swap liquidity?

Subadra Rajappa, Societe Generale: The 'big bang' transition to SOFR discounting and price alignment interest is in an important step in the transition from Libor to SOFR. As investors get more comfortable with SOFR as a benchmark, this could perhaps encourage trading in longer maturity swaps. That said, it is unclear if a CCP discounting switch will be the catalyst for liquidity in SOFR swaps. While the availability of a SOFR discounting curve and greater price discovery are positives – especially for longer maturities, where there are few SOFR swaps transactions – it might not be enough to encourage investors to make the switch. Ultimately, liquidity in SOFR swaps will depend on end-investor commitment to participation in SOFR swaps, which is still somewhat limited. The risk of an early announcement by the UK Financial Conduct Authority (FCA) of the cessation of Libor should hasten the transition to SOFR, although that has not yet happened. With the big-bang transition to SOFR discounting and broader adoption of International Swaps and Derivatives Association (Isda) fallbacks, the approaching deadline of Libor cessation should encourage greater participation and higher liquidity in SOFR derivatives.

Ian Fox, Lloyds Banking Group: It is hoped that the USD discounting switch to SOFR will be a catalyst for increased liquidity in SOFR derivatives, but how much of an impact it will have remains to be seen. The reality is, current liquidity in USD swaps is very poor compared with GBP and needs to increase soon to enable transition of other products.

Given the growing interest in alternative credit-sensitive benchmarks in the US, will SOFR remain the dominant rate? What are the pros and cons of a multi-rate environment?

Ian Fox: I would expect SOFR to be the dominant rate for USD derivatives, but it appears likely there will be a number of alternative rates in use across cash products, determined partly by the nature of the product and partly by the sophistication of the user. A multi-rate environment means that rates can be tailored to particular needs, but also that liquidity is diluted. The key is to ensure sufficient liquidity in each rate being used such that it is reliable and robust.

Subadra Rajappa: While alternative credit-sensitive benchmarks are gaining popularity and wider acceptance, I expect SOFR to remain the dominant rate as it is widely endorsed as the benchmark of choice by global regulatory agencies. A large volume of overnight transactions – a requirement for compliance of International Organization of Securities Commissions principles – is the mainstay of the new benchmark that is harder to achieve with other new and existing alternatives. While there is a case to be made for the coexistence of multiple benchmarks – especially now that SOFR is quite different from these benchmarks – historically, multiple benchmarks have struggled to coexist as investors tend to favour the most widely accepted and liquid. Despite its many flaws, Libor has remained popular since inception, with large volumes of cash and derivatives contracts contributing to liquidity, contrary to effective Fed funds or the sterling overnight index average (Sonia), both of which have coexisted with Libor for some time now. The advantage of a multi-rate environment is that investors get to choose the benchmark that best reflects their business needs and risk exposures. The downside is a bifurcated market, resulting in incompatibility between securities and trading instruments, poor liquidity and increased transaction costs.

What are the main use cases for term SOFR/term Sonia?

Ian Fox: The paper issued by the Working Group on Sterling Risk-Free Reference Rates (RFR WG) in the UK gives clear guidance on the use cases for term Sonia: for less sophisticated customers (generally those not active in derivatives) and for products that clearly need a term rate at the start of the interest period (invoice discounting is a prime example). The expectation in the UK is that products that can use daily compounded Sonia in arrears should do so – being derivatives and circa 90% by value of cash products. The position is less clear-cut in the US, not least because Libor is currently used in a wider range of – particularly retail – products than in the UK. I expect term SOFR will be one of the range of alternative rates that replace Libor in the US.

How widely will Isda's fallback language protocols be adopted by the market?

Subadra Rajappa: The market is expected to widely adopt Isda fallbacks as a part of prudent planning for transition. The sell side and – based on conversations with clients – probably around half of the investor community, including most of the larger asset managers, are going to sign on. Others will look at it after the protocols go live. So a good proportion of financial institutions are likely to sign up in the couple of months following the mid- to late-January 2021 effective date for the protocol.

But there is still a high level of uncertainty among the broader participants in the swaps market as to whether they will be adopting the protocols. Over time, if they see a critical mass, they're more likely to push for it and get it done.

Regulators are counting on very swift adoption of the protocol – especially in light of the comments by Edwin Schooling Latter, head of markets policy at the FCA, that an announcement about Libor's cessation could come as early as November.[1] That proclamation is only consequential to those who have signed on to the protocol, because embedded in the protocol is language that would trigger a fallback if Libor is deemed an unrepresentative benchmark.

Ian Fox: The FCA has made it clear it expects regulated firms to adopt the Isda protocol, and that any firm with significant derivatives exposure that chooses not to sign will need to be ready for some serious questions from their supervisor. That pretty much sets the scene for the UK. In the US, adoption is strongly recommended by the Alternative Reference Rates Committee (ARRC) and indications are that the majority of market participants will sign up.

How has the Covid-19 pandemic affected market participants' transition plans? What are the main milestones firms should be focusing on?

Subadra Rajappa: The pandemic definitely affected the transition – initially, at least, given the focus on getting systems set up to work from home. The expectation in March was that transition would be delayed. But that changed quite abruptly with the announcements from the FCA and all of the US regulatory agencies that showed a strong commitment to sticking to the timeline. So urgency started to pick up again on the transition effort.

The road map set out by the ARRC is probably the best strategy that markets should be looking to adopt, but little progress has been made since the introduction of this road map. This is because participants are waiting for two key events – one is the signing of the Isda protocol; the other is the big bang of the SOFR discounting switch.

If you look at volume of trades that are happening in SOFR, it's still minuscule, so we need some critical mass and some external events to push it along. There is a lot riding on market expectations for these two events to be the trigger for broader adoption of SOFR-based derivatives. The questions centre around what happens afterwards if change is still slow to come. There will need to be a strong communications nudge from the ARRC and global regulators to move the market.

Ian Fox: Covid-19 hit us around the time that the RFR WG and authorities had planned to launch a range of events to communicate about Libor transition more broadly across the market, and banks were also planning bulk client outreach exercises. Clearly, those activities were put on hold as customers and banks dealt with more pressing needs. Now that immediate Covid-19 pressures on businesses and banks have eased, it is time to re-engage on customer communication and to begin back-book transition activity.

The RFR WG's milestones for the third quarter of 2020 are now upon us, so participants should be aware that new Libor loans will only be offered with mandatory transition language. From the end of Q1 next year, even that option disappears and no new GBP Libor loans will be available. In derivatives, GBP linear Libor derivatives are also expected to cease from the end of Q1 2021. The message is clear that Libor will cease sometime after the end of next year, and availability of Libor products will start to reduce rapidly from now, so participants need to make sure they are prepared. ■

[1] *K Devasabai (June 2020), Risk.net,* Libor death notice could be served this year – FCA, *www.risk.net/7566041*

>> The panellists' responses to our questionnaire are in a personal capacity, and the views expressed herein do not necessarily reflect or represent the views of their employing institutions

Rival SOFR conventions splinter the loan market

Diverging approaches to calculating interest payments are sowing uncertainty and hedging concerns. By Robert Mackenzie Smith

Nature, as Aristotle observed, abhors a vacuum. So, it seems, do fixed income markets.

In the absence of an official forward-looking term version of SOFR, the secured overnight financing rate, various segments of the market have developed their own conventions for calculating interest payments based on US dollar Libor's chosen successor.

"You can't pin a multi-trillion dollar business on the hope that there will be a forward-looking term SOFR," says Meredith Coffey, executive vice-president of research and public policy at the Loan Syndications and Trading Association. "The work on new conventions must therefore be done."

The problem is that different parts of the market are taking different paths, resulting in a plethora of contrasting conventions for calculating backward-looking SOFR term rates. Syndicated loans will use a so-called daily simple rate. Swaps and floating rate notes (FRNs) will compound the daily SOFR rate over the current interest period, with a lag to allow time to arrange payment. The mortgage market has opted for SOFR compounding-in-advance, ahead of the current interest period. A convention for bilateral loans is still being worked out.

This splintering could cause new headaches for the market. The use of multiple conventions across contracts that previously referenced the same Libor rates will give rise to new basis risks, which must be carefully managed when hedging. "It's a legitimate and real concern," says David Knutson, head of credit research at Schroders. "Hedging inefficiencies are just air pockets, so they can create problems, but if a good pilot understands them and can anticipate them, then they can be managed."

Hanging over all of this is a deep longing in many parts of the market for a forward-looking term SOFR rate. "There's a view that it would be great to have a forward curve now," says Kristi Leo, president of the Structured Finance Association. "We've mentioned it many times in our responses to regulators in requests for comments. We certainly would love to have it."

The market may not have to wait much longer. The Alternative Reference Rates Committee (ARRC) tasked with co-ordinating the transition away from Libor will begin reviewing term SOFR proposals in September, with publication slated to begin in the first half of 2021. Some benchmark administrators are optimistic a term SOFR rate could be ready by the end of this year, at least in trial form.

But that timeline is conditional on there being sufficient liquidity in SOFR-linked derivatives to construct a forward curve – a far from guaranteed proposition, given SOFR swap volumes are currently less than 1% of Libor equivalents.

In the meantime, the US Treasury is looking at issuing FRNs linked to SOFR – a move that could unite the market around a single convention for calculating backward-looking rates, and push term SOFR to the sidelines.

Need to know

- In the US, at least three different conventions are being used to calculate interest payments based on overnight SOFR rates.
- The use of multiple conventions could introduce basis risks across contracts that were previously aligned. Market participants are confident these can be managed with new hedging structures and strategies.
- Large parts of the market are expected to ditch these varying rates for a forward-looking term SOFR rate when it becomes available next year.
- The market could unite around a single convention for calculating backward-looking rates if the US Treasury moves ahead with plans to issue floating rate notes linked to a compounded version of SOFR.

Competing conventions

To date, usage of SOFR in cash products has been limited. According to the ARRC, there was $680 billion of floating rate SOFR debt outstanding as of August 2020, compared with trillions referencing US dollar Libor.

The emergence of accepted conventions for calculating interest payments linked to SOFR could spur more issuance, but it will also bring new complications.

The derivatives market was quick to embrace compounding-in-arrears, where a term rate is calculated at the end of the interest period by looking backwards and compounding the daily overnight rates. The cash market was expected to follow suit. Instead, it started splintering.

FRNs went for compounding. Initially, the syndicated loan market – which has an estimated $1.5 trillion of exposure to US dollar Libor – seemed poised to adopt the same convention. But an industry consultation revealed a preference for a daily simple convention, where the outstanding balance of a loan is multiplied by the overnight SOFR rate on a daily basis. This differs from compounding-in-arrears and simple averaging, where the average daily rate is applied to the principal at the end of the interest period. The advantage of the daily simple convention is that it allows for the prepayment of loans.

"Many of the conventions that are used in securities markets are not applicable in the loan market," says Coffey, who chairs the ARRC's working group on business loans. "Loans have characteristics such as prepayments. And because they can prepay at any time, applying an average rate at the end of a period to a fixed principal doesn't work."

After considering the feedback from the market, the working group recommended the daily simple SOFR as the primary convention for syndicated loans, with compounding-in-arrears as a secondary option for those that prefer to use it.

The mortgage market is moving in yet another direction. To be eligible for purchase by Fannie Mae and Freddie Mac, adjustable rate mortgages must use SOFR compounded-in-advance, where interest payments are calculated based using overnight rates from the prior month or quarter. For instance, monthly interest payments for August would be based on daily rates in July.

One of the reasons for opting for this convention is to satisfy the 'qualified mortgage' rule, which states that consumers must be informed of their interest rate 45 days in advance.

"A consumer mortgage cannot be treated as a utility bill where you find out at the end of the month what the interest payment you owed was," says Ameez Nanjee, vice-president for asset and liability management in the investments and capital markets division at Freddie Mac.

Basis risk

The differing conventions could introduce basis risks across products that were previously aligned. According to an ARRC report, compounding-in-arrears "more accurately reflects the time value of money" and products that use this convention "will have less hedging basis". The extent of that basis varies. The difference between daily simple and compounded SOFR has been almost non-existent since 2008, though it can be meaningful when interest rates are elevated. Research from the ARRC shows the basis was as high as 11 basis points for a six-month reset in the early 2000s.

Compounding-in-advance can result in a much higher basis versus contracts that use a compounded-in-arrears convention. ARRC research shows that while the difference has amounted to a few basis points since 2008, it was as high as negative 50bp for a six-month reset just prior to the financial crisis.

A fleeting basis will also emerge immediately following changes to policy rates. If the Fed lowers or raises interest rates, the change would be reflected in the compounded-in-arrears rate immediately, while the in-advance rate will lag by a month or more. This means mortgage hedges will not perfectly align all the time, though any differences will generally net out over the life of a contract.

"The only difference will be the timing of those cashflows," says Nanjee at Freddie Mac. "The cashflows themselves will be the same. So, yes, the in-advance rate will lag in that situation, so ultimately it comes down to the discounting cost of one month of a lag payment."

Technical differences in the way backward-looking term rates are calculated could create further basis issues, even for contracts that use the same basic conventions. SOFR swaps use compounding-in-arrears with a two-day delay, meaning payment is not due until two days after the end of the interest period. Cash products use a variety of different methods to facilitate time for payments, including lookbacks and observation period shifts, which are bespoke to each contract and track the interest period differently.

Ann Battle, assistant general counsel at the International Swaps and Derivatives Association, says dealers will adapt and offer bespoke swaps to cope with any basis issues that arise. "The OTC derivatives market developed to enable hedging on a bespoke basis. So, I expect we'll see people come up with different strategies," she says. That could be easier said than done. Any changes to standard swaps contracts would be incorporated in the International Swaps and Derivatives Association definitions, and also approved by central counterparties in order to be eligible for clearing.

Sairah Burki, managing director of regulatory policy at the Commercial Real Estate Finance Council, is also confident basis risks can be managed. "For lenders, there's going to be a basis issue somewhere," she says, adding: "I think the market will resolve it with some kind of hedging structure."

The loan market has largely avoided basis issues between cash products and related securitisations. Collateralised loan obligations and residential and commercial mortgage-backed securities are using the same conventions as their respective underlyings.

The choice of conventions also reflects other considerations, beyond the desire to avoid basis risks. Commercial mortgage-backed securities, for example, will line up with commercial mortgages by using a compounded-in-advance rate. While this may introduce some basis risks when hedging with swaps, any such problems between cash products and securitisations will be minimised. And it should make it easier for the entire commercial real estate market to move to a SOFR term rate when it becomes available.

"It will be easier to switch from compounding-in-advance to a term rate precisely because it's a similar kind of approach," says Burki.

Looking forward

The yearning for a SOFR term rate is palpable in other segments of the market, too. Freddie Mac has signalled it will use term SOFR, should it become available, for securitisations of multifamily mortgages. It is unknown if it would do the same for other products.

Even FRNs, which have made a smooth transition to SOFR compounded-in-arrears, would still opt for term SOFR if was available, says Schroders' Knutson.

But the shift to a term SOFR rate is not necessarily inevitable. The market could yet settle on a single convention for backward-looking rates, especially if the US government starts issuing floating rate-linked SOFR, with interest payments compounded-in-arrears. The Treasury Department issued a proposal and request for comment in May on the potential issuance of a Treasury FRN indexed to SOFR.

"It will be an orienting North Star for the market to coalesce around," says Knutson, of the Treasury's proposed SOFR FRN issuance. "Right now, everyone is just wandering in the wilderness. But if the Treasury comes out and starts issuing SOFR securities, that will be a bright light, like a beacon. And that will help everyone from some municipality in Kansas to JP Morgan march in the same direction."

A survey conducted earlier this year by the Credit Roundtable, a bond advocacy group, found 85% of respondents would purchase compounded SOFR FRNs if they were issued by the Treasury.

If the Treasury begins issuing SOFR FRNs before a forward-looking term rate becomes available, the rest of the market may well follow its lead. "While forward-looking term rates don't exist, that would have been seemingly everyone's preference," says Christine Scaffidi, senior principal product manager for corporate and syndicated lending at Finastra. "However, we will likely end up with a certain segment of the market that does get comfortable with the complexity of the compounded rate in-arrears, and if they get comfortable with that, even if forward-looking term rates come into play, they may decide to stick with the compounded rate in-arrears," she adds.

As Aristotle also said, nature does nothing in vain. Perhaps the same is also true of markets. ■

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Hong Kong plots Honia-linked floater debut

The Hong Kong Monetary Authority hopes a floating rate note sale will kick-start a new debt market linked to the risk-free rate.
By Chris Davis

Hong Kong is planning to issue government debt linked to the local market's alternative reference rate, the Hong Kong dollar overnight index average (Honia).

A senior regulator says the move is intended to encourage more activity in the new risk-free rate, as Hong Kong pursues its 'twin rate' approach to Libor transition.

"We are considering the issuance of a Honia-linked floating rate note under the government bond programme in Hong Kong," said Howard Lee, deputy chief executive of the Hong Kong Monetary Authority (HKMA). "We expect the issuance could help spur corporate issuance of similar notes, and help promote the development of the Honia market."

Lee was speaking at a benchmarking conference hosted by the International Swaps and Derivatives Association on September 16.

While Hong Kong has no plans to discontinue publication of the market's primary interest rate benchmark, the Hong Kong interbank offered rate (Hibor), authorities are keen to encourage greater use of Honia. The intention is for both rates to co-exist in the market.

A working group set up by the Treasury Markets Association last year named Honia as the alternative reference rate to Hibor. Honia is based on overnight trades in the local interbank lending market, whereas Hibor is based on estimates of funding costs from a panel of banks.

Hong Kong is one of a number of jurisdictions worldwide attempting to wean financial markets off Ibors and on to alternative risk-free rates in advance of the anticipated death of the Libor benchmark at the end of 2021.

The planned issuance comes after Hong Kong Exchange's OTC Clear became the first central counterparty to clear a Honia swap in July – a trade between Bank of China (Hong Kong) and HSBC.

OTC Clear has also developed a proxy methodology to simulate the Honia term curve, implied from the foreign exchange forwards market.

To date, however, there have been no floating rate note issuances linked to the Honia rate.

In the US, floating rate notes linked to the new SOFR risk-free rate totalled $680 billion to July 10, according to Bloomberg data.

In August, Singapore became the first country globally to issue central bank debt linked to a risk-free rate. The Monetary Authority of Singapore (MAS) sold S$500 million (US$370 million) of six-month notes, which referenced a compounded calculation of the Singapore Overnight Rate Average.

SORA has been selected as Singapore's alternative risk-free rate, and the replacement rate for the Swap Offer Rate (SOR), a benchmark used in derivatives contracts that is calculated with reference to USD Libor and set to cease at the end of 2021. As Singapore's interbank rate, Sibor, is phased out over the next four years, SORA will become Singapore's key benchmark for all interest rate products.

Speaking at the same conference, Leong Sing Chiong, assistant managing director in the markets and investment group at MAS, said the floating rate notes have already had the desired effect of building momentum behind the move to SORA.

"[We] launched the SORA FRN programme to catalyse activity in SORA markets and systems readiness within the primary dealer community, rather than wait for gradual issuance to pick up across the market," he said. "The programme has provided a strong kick-start by increasing the size of SORA exposures in the system and ensuring private dealer banks are ready from a systems perspective."

The central bank will issue SORA FRNs every month and is planning longer tenors in the coming year, Leong added.

The HKMA did not reveal a timetable for the issuance of Honia FRNs.

"Since it will be the first Honia-linked FRN, we are carefully studying the possible structure of the note and will further seek industry input before finalising the product features," he said. ■

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New Tradeweb/IBA benchmark tipped as a 'competitor' to SOFR

A forward-looking risk-free rate aimed at the US mortgage market could have broader applications. By Robert Mackenzie Smith

A new benchmark developed jointly by Tradeweb and Ice Benchmark Administration is being eyed as a potential alternative to the secured overnight financing rate (SOFR), the Federal Reserve's preferred alternative to US dollar Libor.

The constant maturity Treasury (CMT) rate tracks the volume-weighted average price of on-the-run US Treasury bills, notes and bonds executed on Tradeweb's dealer-to-client platform.

Colm Murtagh, head of US institutional rates at Tradeweb, says the CMT rate will be a "complement" to SOFR and is aimed at the mortgage market. "Mortgage originators use a constant maturity Treasury rate," he says. "We would be targeting that [sector]."

Others see it as a direct competitor. "It seems to make more sense as a competitor to SOFR," says Mark Brell, executive vice-president of global trade services at Texas-based Frost Bank. "You can make the argument that the market is deep and liquid, so it's understandable why people are throwing that idea around."

Brell is a participant in the credit sensitivity group convened by US regulators to find ways to make SOFR more palatable to lenders.

A report published by Tradeweb and IBA in July also suggests the CMT rate could have wider applications. It could be used as a benchmark for cash products, such as floating rate notes and loans, the companies say – making it an alternative to SOFR in those markets. The CMT rate could also be used as a benchmark for floating rate preferred stock, a market estimated to be close to $250 billion in size.

The CMT rate's natural term structure might also appeal to investors that want a forward-looking benchmark. A term version of SOFR could be released before the end of this year, at least in trial form, though a final version is not expected to be available until the first half of 2021, at the earliest.

"Asset managers who currently manage short-duration money against a Libor index would probably want to see some sort of risk-free rate in the three-month or six-month term that they could actually use to manage money against," says Murtagh.

"The move from Libor is not one size fits all," he adds. "There's many different options and, depending on the financial instrument you're talking about, maybe there is a better benchmark."

The CMT rate will be available in 12 maturities from one month to 30 years.

While the CMT rate is inherently forward-looking, given the term structure of the US government securities it tracks, it has some of the same drawbacks as other risk-free rates. Like SOFR, it lacks a bank-sensitive credit component, which is seen as crucial for lending.

"CMT-based indices have the same basic problems in terms of a lack of credit sensitivity that SOFR does, so that wouldn't be at the top of our list as far as something we'd be looking to use as a replacement index for Libor," says a treasurer at one US regional bank.

Moving mortgages

In the US mortgage market, the transition away from Libor is already under way. Fannie Mae and Freddie Mac, the government-sponsored enterprises (GSEs) that acquire most US mortgages, will cease purchases and issuances of Libor-based adjustable-rate mortgages (ARMs) and mortgage-backed securities (MBSs) respectively by the end of this year. The GSEs have been able to purchase single-family ARMs and issue MBSs linked to SOFR since August 3.

ARMs accounted for 3.5% of mortgage originations in June, according to a recent report from mortgage software company Ellie Mae.

The US Treasury already produces a CMT rate that can be used as a benchmark for ARMs, in place of US dollar Libor.

The US Treasury's CMT rate is based on an end-of-day snapshot of indicative quotes obtained by the Federal Reserve Bank of New York. Tradeweb and IBA are using data taken from Tradeweb's dealer-to-client trading platform over the course of the day. Murtagh says this approach aligns more closely with the principles for financial benchmarks developed by the International Organization of Securities Commissions in 2013.

"It would be much more representative to have volume-weighted average prices on transactions actually entered into between institutional clients and dealers, because that's a much more reflective rate of where trades are actually happening," he says.

Average daily volume of US Treasury transactions on Tradeweb's platform totalled $83.7 billion in July.

The GSEs can purchase ARMs linked to the Treasury's CMT rate, though it is unclear if they will be able to acquire mortgages referencing Tradeweb and IBA's new rate. The Federal Housing Finance Agency, which regulates the GSEs, declined to comment.

The emergence of the new CMT rate adds another twist to the already tangled US dollar Libor transition. While regulators want the market to use SOFR wherever possible, a number of other benchmarks – such as Ameribor and the Ice Bank Yield Index – are targeting various slices of the market.

The credit sensitivity group convened by US regulators is also attempting to create a credit index that can be layered on top of risk-free rates to make them more suitable for cash products.

"The real question is who's going to pick what and who's going to start using these rates," says Adam Schneider, partner at Oliver Wyman's digital and banking practices in the Americas. "All of these [benchmarks] exist, or could exist tomorrow. It's a market question. What's going to be the market favourite?"

Tradeweb and the IBA are currently consulting the market on the methodology for the CMT rate. The companies declined to say when the rate will begin publishing. ■

Previously published on Risk.net

Stanford's Duffie shakes up the SOFR credit race with AXI index

Academics propose new credit index that ditches Libor tenors for a single funding spread. By Helen Bartholomew and Robert Mackenzie Smith

US lenders in search of a credit-sensitive interest rate benchmark may soon be spoilt for choice.

A trio of academics led by Stanford University's Darrell Duffie have developed a new credit spread index that can be layered on top of the secured overnight financing rate (SOFR), the US Federal Reserve's preferred US dollar Libor replacement.

The 'across the curve credit spread index' – known as AXI – is competing with the Ice Bank Yield Index (BYI) and Ameribor for the backing of the Credit Sensitivity Group (CSG), which was convened in February to recommend ways to make SOFR more palatable for lenders. The CSG's members consist of banks, regulators and outside experts, including Duffie.

In contrast to other benchmark alternatives, AXI ditches term settings in favour of a single spread that measures the weighted average cost of wholesale unsecured debt funding for US banks in maturities from overnight to five years. The methodology can also incorporate corporate credit spreads to reflect a client's cost of funding.

While other indexes seek to closely mimic Libor, AXI's developers proclaim its differences as an advantage.

"The whole reason we're in this problem is that Libor is no longer representative," says Duffie, who is professor of finance at Stanford University's Graduate School of Business.

"There are almost no transactions with which to fix Libor, so if we want it to be representative, we would want to stay away from Libor and look at the actual funding banks are getting. That's what this index does – it moves to wherever the actual fundings are. If they turn out to be short term, then it weights the short-term rates. If they turn out to be long term, it weights to the long term."

Duffie developed AXI with Antje Berndt and Yichao Zhu at the Australian National University. His involvement gives the project a measure of credibility in regulatory and banking circles. As chair of the Financial Stability Board's market practitioners group, Duffie led the first major effort to reform Libor in 2013. One industry source describes the emergence of AXI as "a game-changer". Others agree the index could have legs.

"The paper lays out a rationale that could potentially work. We'll need to dig into the details some more," says Mark Brell, executive vice-president of global trade services at Texas-based Frost Bank and a CSG member. "There's probably three or four dogs in this hunt right now. It will be interesting to see what the final decision of the credit sensitivity working group is."

Besides BYI and Ameribor, IHS Markit is also said to be developing a credit spread add-on for SOFR using credit default swap data.

"That's what this index does – it moves to wherever the actual fundings are. If they turn out to be short term, then it weights the short-term rates. If they turn out to be long term, it weights to the long term"

Darrell Duffie, Stanford University

Ditching the tenors

SOFR's lack of credit sensitivity has long been a source of concern for lenders. In a 2019 letter to regulators, a group of 10 US regional banks warned that lending could become unprofitable during periods of economic stress, when the cost of funding tends to deviate from risk-free rates.

The CSG was established to look into these concerns. The group is now assessing a range of credit-sensitive indexes that can be layered on top of SOFR.

At first glance, AXI bears some similarity to one of those alternatives – Ice's BYI. Both indexes are based on short-term primary bank funding transactions and secondary market bond data from the Trace reporting system. That's where the commonalities end. While BYI buckets transactions according to their maturities to produce one-, three- and six-month settings, AXI generates a combined rate that is automatically skewed towards the most active market segments.

The methodology weights individual bond transactions by volumes and recent issuance metrics. For example, if primary issuance of one- to two-year maturities outstrips issuance of four- to five-year securities in the preceding year, a $2 million trade in a security with an 18-month remaining tenor would carry more weight in the index than a similar-sized trade with four years outstanding.

A separate short-term component based on money market maturities is incorporated in the rate and could be bolstered subject to the availability of more robust data.

Duffie argues this approach delivers a spread that adapts to evolving market trends and is more representative of a bank's true cost of funding. "Changes in regulation and market structure have caused the banks over the years to switch their maturity structure back and forth across time," Duffie says. "If you were to fix on a specific maturity, your approach would become obsolete after market structure changed again."

Regulatory changes introduced after the 2008 financial crisis require banks to hold more stable, longer-term funding, resulting in fewer short-term transactions of the type used to generate Libor-like rates. The Federal Reserve estimates there are just six or seven transactions underpinning one-month and three-month US dollar Libor on most days, while six-month settings may reference just two transactions. Trace volume in the longer-term transactions used in the AXI methodology ranges from $8 billion to around $30 billion per month.

The inclusion of longer-term bond yields means AXI typically trades at a higher level than Libor or BYI. This may make it unpalatable for non-US banks, which tend to be more intensive users of short-term dollar funding and may want a spread that primarily focuses on money market issuance. "It's designed for US banks, so if foreign banks are not funding the way that US banks are, then this would be less representative for foreign banks," says Duffie.

AXI's skew towards the largest bank issuers may also make it a poor fit for smaller lenders if their funding spreads are not sufficiently correlated. Some of these banks have expressed a preference for Ameribor – though Duffie notes most banks currently reference Libor, which reflects the funding costs of only the largest global dealers.

Derivatives potential

Removing maturity buckets and ditching term settings means AXI can reference a larger pool of transactions. According to Duffie, this is critical for the development of robust derivatives markets, which would allow banks and end-users to hedge the credit component alongside their SOFR exposure.

For potential users, it's a vital selling point.

"I am completely in agreement that if there is a credit-sensitive index – whether it's called AXI or whatever else it might be, there does need to be a deep, liquid underlying derivatives market for banks and our customers to hedge the underlying index or hedge the underlying risk," says Frost Bank's Brell.

Duffie concedes there is more work to be done on the index. To make it suitable for commercial use, a benchmark administrator would need to more data inputs, particularly in short-term markets. The short-term funding component of the current version of AXI relies on data from Ice Benchmark Administration, which is split into maturity buckets and must be approximated. More comprehensive money market data could be sourced from the Depository Trust & Clearing Corporation or the Federal Reserve.

The bond data taken from Trace may also need to be embellished for commercial production. While the reporting system publishes intraday transaction data, individual trade sizes are capped at $5 million. Full reports incorporating large trades are published with a several-month delay. This 'uncapped' data was used for testing purposes, meaning the rate was only calculated up to late 2019. A live benchmark would require real-time activity and may have to ditch the largest transactions. Duffie's analysis shows this would make little difference in the rate, but inclusion of larger trades would bolster the rate's representativeness and ward off potential manipulation.

Input data need not be limited to US bank debt. In additional analysis, corporate debt was added to the mix. "It's not a question only of the bank funding costs, but of the costs of funding to the corporate borrowers as well. If that's the case, and since they're almost the same, why not deepen the pool of transactions?" says Duffie. "If you include corporate borrowings it hardly changes at all. And yet you get five times the volume of transactions, so that that would definitely make it very robust."

This may dissuade corporate borrowers from opportunistically drawing down SOFR-linked credit lines, which may appear cheap next to their own ballooning credit spreads in stress periods. Data from Refinitiv shows $238 billion was tapped from credit facilities during the Covid-19 crisis, compared to just $38 billion during the global financial crisis in 2008 and 2009. ■

Previously published on Risk.net

Singapore to end Sibor by 2024

Singapore is set to phase out publication of its key interbank interest rate benchmark within three to four years, with the market to shift to using the new overnight rate. By Karen Lai and Chris Davis

A report released on July 29 by three industry committees recommends the discontinuation of the one-month and three-month tenors of the Singapore interbank offered rate (Sibor) – benchmarks widely used in the loan market – by some time in 2024.[1]

The report also proposes that six-month Sibor should be discontinued after the end of 2021. This follows a 2017 consultation that recommended publication of 12-month Sibor should cease at the end of 2020. The report seeks industry feedback on the proposals, to be submitted by the end of September.

A compounded or term version of the Singapore overnight rate average (SORA) is the recommended replacement for Sibor. Transition of legacy one-month and three-month Sibor contracts on to SORA should take place after the derivatives market has moved from the swap offer rate (SOR) to SORA, scheduled to be finished by the end of 2021, the report says.

Transition of legacy six-month Sibor contracts, which are far fewer in number, can begin ahead of that date, the report adds.

The move to phase out Sibor will make Singapore the first of Asia-Pacific's so-called multi-rate jurisdictions to fully commit to risk-free rates (RFRs). Other countries – Hong Kong, Australia and Japan – have sought to reform rather than kill off their interbank offered rates.

Andrew Ng, who heads the treasury team at DBS in Singapore, says the discontinuation of Sibor is a sensible step because the benchmark suffers from the same problem as the outgoing Libor – namely a lack of underlying transactions and a heavy reliance on expert judgement.

The Principles for Financial Benchmarks, issued by the International Organization of Securities Commissions (Iosco), states that reference rates should be anchored in observable arm's-length transactions.

"In the methodology you are supposed to have transactions but you don't really have many Sibor transactions these days. Most of it is expert judgement, and this is against the Iosco principles," he says.

Sibor administrator the Association of Banks in Singapore, and the Singapore Foreign Exchange Market Committee had previously devised measures aimed at strengthening the benchmark by including wholesale alongside unsecured interbank transactions. However, testing conducted from July 2019 to June 2020 to validate this new methodology, known as Sibor-plus, found that the new benchmark, while robust, was more volatile than Sibor. There was also a "non-negligible" basis between the two rates, the report states.

"They are thinking that if Sibor-plus is so volatile, then why don't we just move to SORA instead," says Ng. "They're just going to bite the bullet now."

A boost for SORA

The report says the cessation of Sibor will also support the deepening of SORA markets. The Singapore dollar rates market is already switching to SORA from SOR – the fixing currently used for most swaps and some cash products. This is because SOR cannot be calculated should publication of Libor cease after 2021, since its calculation relies partly on reference to the US dollar Libor benchmark.

Signs of progress in adoption of SORA have already been seen this year. In May, DBS priced the first floating rate note linked to the new benchmark, while LCH launched central clearing for SORA swaps in the same month.

LCH plans to further support the transition by switching to SORA for the discounting of the present value of future cashflows of Singapore dollar interest rate swaps, and as the rate used to calculate interest on posted margin, known as price alignment interest (PAI).

The steering committee formed by the Monetary Authority of Singapore to oversee the transition to SORA has highlighted a switch to SORA for PAI and discounting as a priority for the second half of this year.

Ng suggests that other jurisdictions in Asia that are currently committed to a multi-rate market may also follow Singapore in the future by transitioning away from interbank rates towards RFRs.

"All the central banks want to follow these Iosco principles, so others like Hong Kong and Japan, I think, will also work towards greater use of RFRs," he says. ■

Previously published on Risk.net

[1] *Association of Banks in Singapore, Singapore Foreign Exchange Market Committee and the Steering Committee for SOR Transition to SORA (July 2020),* Sibor reform and the future landscape for SGD interest rate benchmarks, *https://bit.ly/343rtYQ*

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