Risk publications

Libor Risk

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Libor deadlines

The dominoes start to fall

Bankers may be looking back with fondness to more normal times, when the biggest problem they faced was how to prise trillions of financial contracts away from Libor. Now, when they're fighting a full-blown financial meltdown from makeshift offices at their own kitchen tables, Libor transition might be starting to look like run-of-the-mill stuff.

Regulators want to detach the market from Libor before the end of 2021, when panel banks will be free to stop supporting the rate and it could vanish. An array of deadlines for re-hitching segments of the market to overnight risk-free rates (RFRs) were already a tall order. Since coronavirus (Covid-19) panic sent stocks, bonds and oil prices tumbling – and tested business continuity plans in all manner of new ways – the timetable is beginning to look impossible.

The first domino has already fallen. On March 16, the US Federal Housing Finance Agency extended the deadline for federal home loan banks including Fannie Mae and Freddie Mac to cease entering into Libor-based instruments that mature after the end of 2021. Originally slated for March 31, the lenders have been given a further three months to comply.

On March 18, the International Swaps and Derivatives Association extended the response deadline for its second consultation on pre-cessation triggers in swaps fallbacks. Initially planned for March 25, participants now have until April 1 to decide whether Libor swaps should switch to RFRs on the benchmark being deemed non-representative, or on its final demise.

Further extensions are foreseen. "The view of most is that some form of delay will be required, it's just a question of what that looks like," says a London-based banker familiar with sterling RFR working group discussions.

On March 25, the UK Financial Conduct Authority (FCA), Bank of England and members of the working group on sterling RFRs confirmed the end-2021 target date remains in place, though recent events are "likely to affect some of the interim transition milestones."

One of the most pressing in a wave of tight deadlines comes at the end of September 2020, when the FCA has called for an end to Libor-linked lending in sterling markets. Just a handful of loans have to date been linked to the sterling overnight index average (Sonia) – Libor's successor for UK markets. For corporates, making the leap to a compounded-in-arrears version of an overnight rate requires systems updates. With a crisis raging through the real economy, it's unlikely to be at the top of a treasurer's to-do list.

"The Q3 date for shifting all sterling lending was an important part of the wider transition, but obviously that date is in question given current events," says one London-based trader.

Concerns over readiness were already elevated before concerns over Covid-19 took hold. In a recent survey by the Futures Industry Association and Greenwich Associates, 63% of end-users identified Libor transition as a top priority for 2020, yet only 21% claimed to be "appropriately prepared". Almost 10% had yet to commence any planning.

Dislocated rates markets haven't helped either. The secured overnight financing rate (SOFR) – US dollar Libor's heir apparent – has decoupled from other lending benchmarks such as commercial paper rates and Libor itself, exacerbating worries over its appropriateness as a lending benchmark.

Regulators may have to accept Libor transition will be slower than they hoped. But the final framework may yet be more robust as a result. Knowing how rates perform in times of stress will be crucial to the success of benchmarks intended for real economy use, and there's been no bigger stress test for rates markets than that seen in March.

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

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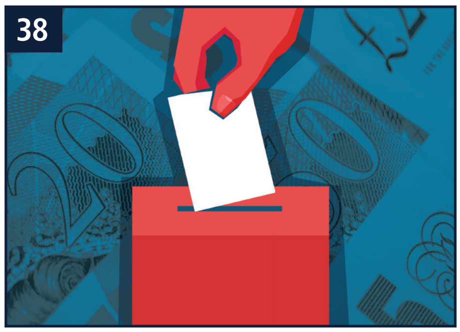

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LCH The Markets' Partner

Pre-cessation Ibor picture gets clearer

As the derivatives market has accepted the impending transition away from interbank offered rates, attention has turned to how best to manage it. Philip Whitehurst, head of service development, rates at LCH, explores how the clearing house is working closely with industry bodies and listening to the views of market participants to preserve integrity and robustness in a transparent manner


Philip Whitehurst

In recent months, the focus of the derivatives market has moved from the question of whether benchmark rates will change to how this transition will take place. This is a significant shift in sentiment that comes alongside tangible moves by the industry – alongside regulators and trade associations – to create a clearer road map for this market evolution.

The need for fallbacks to kick in when a benchmark ceases to exist is simple to understand and accept – indeed, there is little choice. The question that has been more difficult to answer is: what happens in the case that interbank offered rates (Ibors) continue to be published but are no longer representative of their underlying market?

It is generally agreed that benchmark rates need to be representative of their marketplace. Customers have complained in the past when, for example, their borrowing rate is pegged to something that doesn't truly reflect market costs. Pre-cessation triggers seek to address this issue.

In a November 19, 2019 letter, the Financial Stability Board (FSB) encouraged the International Swaps and Derivatives Association (Isda) to add a pre-cessation trigger alongside the cessation trigger as standard language for definitions for new derivatives.[1] The FSB also recommended doing this in a single protocol without embedded optionality for outstanding derivatives contracts referencing key Ibors. They argued this would help reduce systemic risk and market fragmentation by ensuring as much of the swaps market as possible falls back to alternative rates in a co-ordinated manner.

Isda had already tried to foster industry consensus on this, but it hasn't been easy. In its initial consultation, the majority of the market favoured a pre-cessation trigger but disagreed over how to make it available. And, with time of the essence, Isda wanted to forge ahead with implementing permanent triggers.

The FSB's strategy would require Isda to reconsult with the market on a single documentation approach, and Isda has subsequently announced its plan to do so. Completeness must be balanced with timeliness, but if a strong majority of market participants now supports a 'non-representativeness' fallback trigger for Ibor derivatives in response to this consultation, then Isda would have the mandate to implement it.

To make progress, the association's most recent letter requested clarification of information in two areas:

1. How long a rate might remain non-representative
2. The approach central counterparties would take to this scenario.

The Financial Conduct Authority and the Ice Benchmark Administration have both issued responses to the first point. To address the second, LCH has made clear to its members in recent weeks that it seeks their feedback on proposals to enact automatic pre-cessation triggers.

While LCH already has discretionary power to act as proposed, the rule changes would provide clarity to users by automating the process.

Proposed LCH changes

The draft LCH rulebook changes provide for the same planned approach to be used for permanent cessation triggers – that is, to fall back to the adjusted backward-looking risk-free rate (RFR) together with a credit spread adjustment, as formulated in the relevant Isda-supplemented Ibor definition.

Under the proposed LCH rulebook changes, following a regulator's announcement that an existing RFR is no longer representative, the effective date of the change to the new RFR would be publicly notified to all SwapClear members as the later of five days after such regulator's announcement or the date the rate ceased to be representative.

LCH is working closely with Isda and other industry bodies to provide as much clarity as possible to this process. The latest proposal would also ensure that the determination of a rate being non-representative sits with the relevant regulator, and that it leads to an automatic trigger into fallback arrangements.

The original eight-week consultation period – which was open to the entire market – had been extended by one week and closed on March 31, 2020. The rulebook changes, as always, remain subject to regulatory approval or review.

As the leading clearing house for rate swaps, LCH is ensuring it demonstrates leadership in this important industry shift while taking on board the views of market participants. By balancing systemic risk with the concerns of stakeholders, it seeks to continue to preserve the integrity and robustness of one of the world's most vital financial markets.

[1] *A Bailey and J Williams (November 2019),* Letter to Scott O'Malia and Katherine Tew Darras, *https://bit.ly/2SSqo0o*

BoE to publish 'golden source' compounded Sonia index in July

The UK is to align with the US in an effort to eliminate interest calculation mismatches and turbo-charge adoption

The Bank of England has bowed to industry calls for an official sterling overnight index average (Sonia) index, and will publish a new 'golden source' compounded-in-arrears version of the risk-free rate from July. The move aligns with the US, where the Federal Reserve Bank of New York began publishing a compounded-in-arrears index on the secured overnight financing rate (SOFR) on March 2.

According to Andrew Hauser, executive director for markets at the Bank of England, the latest development is part of an effort to accelerate adoption of the risk-free rate ahead of a third-quarter target for stamping out new issuance of Libor-linked cash instruments.

"The index will provide a flexible tool to help market participants construct compounded Sonia rates in an easy and consistent way, supporting achievement of their 2020 Q3 target for new issuance," said Hauser, speaking at a February benchmark event in London hosted by two industry associations.

Market participants have been calling on the BoE to create an official compounded-in-arrears Sonia index to ease interest calculations for bonds and loans linked to a backward-looking compounded version of the rate, and eliminate mismatches, which may emerge between participants.

Differing levels of access to data and internal expertise could present a barrier to widespread transition to Sonia, Hauser said. For example, a three-month interest period requires 60 data inputs and the precise interest amount depends on the convention used for non-business days and the approach to rounding numbers.

"Uncertainty over such issues could make it harder for some types of non-financial borrower to calculate their interest charge and reconcile it with the various quotes they might receive," Hauser said.

It's an issue previously flagged by the European Bank for Reconstruction and Development (EBRD). The triple A issuer veered from the standard coupon structure for its latest £750 million Sonia floating rate note after discovering rounding mismatches when calculating coupons on earlier instruments linked to the compounded rate.

The EBRD ditched the more commonly used five-day 'lookback' structure in favour of a five-day 'observation period shift'. This technique is likely to be the one adopted by the BoE for its Sonia index as it is the only structure suitable for building a single index. A lookback structure would require a separate index for each variation in the number of days' payment visibility – or lag – required by the issuer.

The EBRD's latest bond will re-hitch to the Sonia index for coupon payments once published. For loan periods longer than overnight, the new index will reduce the interest calculation to just two data points: the start-date and end-date of the instrument. Hauser hopes it will ease reconciliation problems and notes the benchmark will be publicly available alongside the overnight rate.

The BoE has also opened a consultation to gauge whether there is market consensus for publication of so-called 'screen rates' for a set of period averages, for example a three-month and six-month version of compounded Sonia rates.

"If that consensus exists, we stand ready to work with the market to deliver this complementary tool," Hauser said.

He warned, however, such publication would need to be limited to a small set of rates.

"The specific set of published rates would need to be simple, widely accessible, and based on a clear consensus from the market on the preferred convention to be used. Publishing a large number of alternatives could risk undermining the very certainty that borrowers need," he said.

To date, attempts to coalesce around a single number for calculating compounded Sonia have been left to the private sector. NatWest Markets publishes a version as part of its realisedrate.com benchmark calculator, which effectively applies the same compounding formula agreed by Isda for derivatives fallbacks currently in a late stage of development.

A spokesperson for NatWest Markets says: "The BoE stepping forward to publish a Sonia index along the same lines as the New York Fed announcement for SOFR a while ago is a

positive sign, and will help the industry coalesce on a single set of conventions for compounding. We will watch these developments closely to see how best to align the site to continue to support market participants going forwards."

In December, NatWest Markets said it expected to drop the US rate calculator in favour of a look-through to the New York Fed-published compounded SOFR index.

Collateral haircuts

Hauser also confirmed the BoE will progressively increase haircuts on Libor-linked collateral as part of its own lending operations from the third quarter of 2020.

Following a consultation launched last year, Libor-linked collateral, which represents around a tenth of the BoE's £300 billion ($390 billion) sterling monetary framework, will incur a 10% add-on from October 2020, rising to 40% in June 2021. Libor instruments will be haircut at 100% by the end of 2021, deeming them effectively ineligible at that point.

"This graduated approach reflects the clear feedback we received from firms on our discussion paper last year," said Hauser. "It is intended to give firms the incentives, certainty and time they need to prepare for Libor transition, replacing Libor-linked collateral with risk-free rate alternatives and maintaining drawing capacity throughout."

Any Libor-linked securities issued after October 2020 will be ineligible for use as collateral in the BoE's liquidity operations. ■

Helen Bartholomew

First SOFR versus CORRA cross-currency swap hits market

JP Morgan and the National Bank of Canada have extended SOFR cross-currency trading into the Canadian market

In a first for the family of Libor replacement rates, JP Morgan and the National Bank of Canada have traded what they say is the first cross-currency basis swap referencing the US secured overnight financing rate (SOFR) and the Canadian dollar equivalent rate.

The two-year, C$5 million ($3.8 million) swap traded on January 10 and became effective on January 14, two trading days after execution. Both rates – SOFR and the Canadian overnight repo rate average (CORRA) – are daily compounding.

The trade comes after a series of SOFR-referencing cross-currency basis swaps transacted in the interdealer markets last year. Traders are looking to move beyond the market's reliance on interbank offered rates such as Libor, as rates across five currencies, including the US dollar, are likely to disappear after 2021 when the UK regulator will no longer force banks to submit quotes to the panel that sets the benchmark.

"At this point people are looking to test the pipes and just get one of these trades on the book and get a structure out there to the market," says Simon Payne, who heads the cross-currency basis swaps desk at interdealer broker Icap. Icap handled the SOFR-CORRA transaction, having traded other SOFR-referencing cross-currency basis swaps last year.

Thomas Pluta, global head of linear rates and co-head of North America rates trading at JP Morgan, says the SOFR-CORRA cross did not present significant challenges and in future could be transacted in a larger size, since there is ample liquidity in the underlying and related products in the SOFR and CORRA markets.

Others hold a less optimistic view of liquidity in SOFR products, with trading in SOFR swaps lagging that of its US dollar Libor equivalent.

Pluta adds the trade shows "we're capable of pricing, putting it through the pipes, risk-managing it". The bank was among the earliest traders of SOFR crosses with the sterling overnight index average (Sonia) and the euro short-term rate, the respective sterling and euro risk-free rates.

Traders say it has not been challenging to price cross-currency swaps that reference Libor replacement rates, but they have been reliant on intermediating rates to establish the basis. When Citi traded a cross-currency swap referencing SOFR and Australia's bank bill swap rate last year, it used Libor as a base to price the trade.

And for the SOFR-CORRA trade, Icap used the spreads of other, more liquid rate pairs to calculate a synthetic cross-currency discount curve that it combined with the CORRA and SOFR curves to calculate the basis: first, SOFR/fed funds, then fed funds/dollar Libor and lastly three-month dollar Libor/three-month CDOR, the Canadian dollar offered rate.

The ultimate spread on the Canadian dollar leg of the swap is not known.

At the time, Payne said the cross-currency swap market's attention had turned to the SOFR/Sonia cross because UK regulators were pushing for increased Sonia adoption the following month (March).

"There's a lot of talk and not a lot of answers at the moment as to whether [pricing will go] straight to SOFR or via fed funds. The easier one would be feds obviously, but then you're just creating more spread risk. It would probably make sense to go to SOFR, but I don't know if that's going to happen any time soon," says Payne.

Canada's interest rate traders currently use two rates, CORRA and CDOR, which is calculated from a panel of bank submissions.

CORRA has been published for more than two decades and underlies more than C$1.2 trillion in financial instruments, according to the Bank of Canada. Meanwhile, CDOR underlies roughly C$11 trillion. The bank plans to publish an enhanced CORRA rate later this year, based on a larger number of transactions.

"I think that CORRA will take more space in the coming years as an index for Canadian derivatives," says Louis-Philippe Drouin, a managing director on the foreign exchange forwards desk at the National Bank of Canada. He adds the Canadian market will continue to use the two rates even as CORRA usage grows. ■

Ben St. Clair

Goldman, JPM kick off SOFR swaptions

US dealers are spearheading non-linear trading but patchy liquidity weighs on volatility market ambitions

The first swaptions linked to the new US risk-free rate, SOFR, have traded in size, with two block trades between Goldman Sachs and an end-user client hitting swap data repositories in February.

The arrival of non-linear instruments is a key milestone in transition from US dollar Libor, yet hopes for a robust volatility market linked to SOFR – the secured overnight financing rate – may be some way off, with few dealers currently quoting the instruments and patchy liquidity in underlying SOFR swaps.

"I don't think the market is nearly deep enough yet [for volatility products]," says a swaptions user at one large buy-side firm, which is yet to test the SOFR vol market due to low liquidity, particularly at the longer end of the curve.

Goldman Sachs, which transacted the first interdealer SOFR swap and a landmark all-RFR cross-currency swap, executed two SOFR swaptions with a US client on February 4 and February 5. Both trades exceeded the $170 million block threshold, which exempts large trades from certain reporting requirements, so the full notional is not public. A one-year option and a two-year option on 10-year SOFR swaps, the trades represent Goldman's first foray into SOFR vol markets and are the largest swaptions sold to date on US Libor's successor rate.

"We are looking to be front-footed in SOFR options just as we have been in SOFR swaps," says Arvind Giridhar, co-head of US rates vol trading at Goldman Sachs. "Right now we're in the very early stages of price discovery in SOFR vol but we want to be early movers in this space."

It's understood the instruments physically settle into cleared SOFR swaps if exercised at expiry – the standard format for the US Libor-based swaptions market. The one-year option carries a strike of 1.618% while the two-year is struck at 1.972%, according to swap data repository data.

JP Morgan also began trading SOFR swaptions with clients. The first trades emerged in January, though the contracts do not show up in repository records. A spokesperson for the bank confirmed it had executed the trades, but declined to comment further.

The swaptions user at the buy-side firm has seen only JP Morgan and Goldman quoting prices, while another swaptions user at a US insurer reports seeing only JP Morgan making markets in the instruments.

Others agree the market is in little more than trial mode.

"It's very early days and it's probably more of a testing phase to see how things work," says Subadra Rajappa, head of US rates strategy at Societe Generale. "Even on SOFR swaps, liquidity is not that great and the bid/offers are significantly wider than Libor-based swaps."

Swaps linked to SOFR began trading in July 2018, but even linear activity has been slow to build. SOFR swaps volume – including basis swaps – totalled $178.8 billion notional in the fourth quarter of 2019, data from the International Swaps and Derivatives Association shows. This represents just 0.8% of the US dollar swap market for the period. By contrast, swaps referencing Sonia – the next-in-line rate for sterling markets – traded $2.3 trillion-equivalent during the quarter – a hefty 51.7% of swaps activity in the currency.

"We're not seeing liquidity in SOFR swaps to the same extent as Libor swaps and over time there's a transition that needs to happen in the swap market in order for the options market to grow," says Giridhar. "The hedging costs and liquidity are definitely going to be a consideration for SOFR convexity hedgers."

Switching swaptions

A $45 trillion dollar market, options on interest rate swaps – or swaptions – are frequently traded by liability-driven investors and mortgage bondholders to manage interest rate volatility, and hedge negative convexity risk associated with mortgage assets.

The first SOFR swaptions come as regulators ramp up efforts to wean US dollar markets off Libor. The discredited benchmark faces possible extinction after 2021, when UK regulators will no longer compel panel banks to contribute to the rate.

Swaptions in the more developed Sonia market have been quoted by a handful of dealers since mid-2019. In listed markets, CME launched options on its three-month SOFR futures contract on January 6. As of February 11, open interest stood at just 21 contracts, as some participants tested the pipes.

Demand for SOFR volatility products is expected to grow as federal home loan banks are prised off Libor.

On February 5, the US Federal Housing Finance Agency, which oversees Fannie Mae, Freddie Mac and the federal home loan banks – together some of the biggest users of US dollar swaptions in the market – announced the firms will no longer accept mortgages based on Libor after the end of 2020. The government-sponsored entities will start accepting SOFR-based adjustable rate mortgages later this year.

"Ultimately it depends on demand. If the federal home loan banks issue callable bonds linked to SOFR, dealers would be quick to comply and offer swaptions liquidity, but callable issuance has been muted of late," says Rajappa.

A boost to liquidity in SOFR-referencing instruments may come in October, when clearing houses replace fed funds with the new risk-free rate for discounting future cashflows and calculating the interest paid on cash collateral – so-called price alignment interest (PAI).

CME and LCH SwapClear plan to change the discount and PAI rate on $147 trillion of cleared US dollar swaps on October 16 and 17, respectively. This will apply to all new and legacy US dollar instruments, regardless of whether they reference US dollar Libor, fed funds, inflation benchmarks or SOFR itself.

It's a potential headache for bilateral swaptions traders as the switch will trigger valuation changes on legacy Libor-based swaptions. At settlement, the instruments result in delivery of cleared interest rate swaps or a cash amount linked to the clearing house's prevailing discount curve and a change will create winners and losers in the swaptions market.

The Alternative Reference Rate Committee – the Federal Reserve-sponsored group tasked with managing the move away from Libor – is assessing demand for a standard compensation methodology for swaptions counterparties affected by the switch. In a consultation launched on February 7, the committee sought feedback on whether it should recommend a voluntary exchange of cash compensation between bilateral counterparties. The committee also sought views on conventions for new contracts traded before the discounting transition date.

Another hurdle for building liquidity in the SOFR swaptions market is the lack of a standardised settlement benchmark. Cash-settled instruments typically reference the Ice swap rate – a benchmark reflecting the mid-price for the fixed leg of an interest rate swap and published for maturities from 12 months to 30 years.

Ice Benchmark Administration is currently consulting on the development of a Sonia version of the rate. Some respondents have called for the rate to be expanded to SOFR and the euro short-term rate, or €STR – the successor for Euribor and euro Libor – although there are no concrete near-term plans. ■

Helen Bartholomew

Libor replacement jumble may hike hedging costs

Use of term rates and credit adjustments will create new basis risks that could be costly to hedge

Loan issuers are being urged to stick with standard Libor replacements and avoid the use of forward-looking term rates and credit spread adjustments, which may splinter the market and create new basis risks that could be costly to manage.

"If such consistency is achievable it would also have the potential to reduce complexity with regard to internal risk management practices and hedging purposes," said Mikael Stenstrom, senior adviser on market operations at the European Central Bank.

The landscape of new risk-free rates (RFRs) was fractured from the beginning with the selection of a secured benchmark in the US and unsecured rates in the UK and eurozone. Since then, the bond and derivatives markets have begun moving to compounded-in-arrears versions of new RFRs, while forward-looking term rates and credit-sensitive benchmarks are being developed for the loan market.

"We had a great opportunity to align all those products and geographies but things haven't really worked out that way," said Tamsin Rolls, assistant general counsel at JP Morgan. "That's unfortunate and makes the world a little more complex."

It also makes risk management more challenging, she added: "We're in the business of managing risk, and that's not an impossible thing to do, although there might obviously be costs involved."

Stenstrom and Rolls were speaking on a panel at the International Swaps and Derivatives Association's legal forum on January 30.

The UK floating rate bond market has already switched to a compounded-in-arrears version of the sterling overnight index average (Sonia), mirroring the transition plan developed by Isda for legacy Libor swaps.

Forward-looking term versions of Sonia are currently under construction and will be available for use in the loan market around the end of the third quarter, according to Rich Fox, head of markets policy at the UK's Financial Conduct Authority.

The forward-looking term rates are intended only for a narrow set of use cases, and Fox estimates they will be used by just 10% of the sterling loan market by volume.

"Overnight rates is where the liquidity will be and that will be the standard. Term rates are a niche alternative to that," said Fox, speaking on the same panel at the Isda legal forum.

Jasper Livingsmith, head of G7 portfolio management at the European Bank for Reconstruction and Development, said the risks will be manageable if term rates are used by only a small portion of the market.

"I'd envisage, given the 90–10 volume split, it would be a very tiny portion of your book, so it's a risk you should be comfortable to warehouse based on your view of central bank rates," Livingsmith said, speaking on the same panel. "If you really need to hedge it and you micro-manage your book to that extent, you just go in and trade a three-month overnight index swap."

Larger issuers may factor in the extra hedging costs when choosing between forward-looking and in-arrears rates, he added.

"You can have the in-arrears at a zero cost or have the term rate for a basis point, and that will be my cost to hedge the risk," Livingsmith said. "To a small issuer who is borrowing at a 200-plus basis point spread that's irrelevant, but to a big issuer that's meaningful and they will prefer the in-arrears rate."

The euro working group is currently analysing a variety of fallback options for Euribor, including forward-looking term versions of €STR as well as a compounded rate with a credit spread adjustment, reflecting the bank funding cost inherent in Euribor.

"There are market participants who will not want to exclude forward-looking €STR rates," said Stenstrom. "At the same time, using compounded backward-looking rates is in line with the approach we have with Isda [for swap fallbacks]."

In the US, regional and international banks are piling pressure on the Federal Reserve to consider credit-sensitive alternatives to the secured overnight financing rate (SOFR) for lending markets. Banks are concerned the repo-based SOFR rate would fall during times of market stress, meaning borrowers could draw on SOFR-based revolving credit facilities at rates far below where the lender could fund in wholesale markets.

Alternative US dollar benchmarks such as the Ice Bank Yield index, which closely tracks Libor, and Ameribor, a measure of regional bank funding rates, could find a role in the market as Libor recedes. ■

Helen Bartholomew

Regulators urge buy-side action on Libor shift

The ARRC has released a 'checklist' for buy-side firms, while the FCA assesses exposures

Regulators are turning up the heat on buy-side firms to begin preparing for the transition from Libor to new risk-free rates (RFRs).

The US Alternative Reference Rates Committee (ARRC), the Federal Reserve-sponsored group tasked with managing the move away from Libor, released a checklist on January 31 aimed at helping asset managers, pension funds and insurance companies prepare for the transition.

Some members of the ARRC are concerned about what they see as the lack of urgency on the part of smaller buy-side firms to prepare for the transition.

"The call to arms has occurred, but there are still a lot of bystanders. It's really incredible how many people I meet even in New York and other regions that think the transition will not really affect them and they will just see what happens," says a buy-side member of the ARRC. "Heightened education among smaller buy-side firms needs to happen."

This checklist comes after the UK's Financial Conduct Authority revealed it is collecting data from some buy-side firms to better understand their Libor risk exposures. In a letter outlining its asset management supervision strategy, published on January 20, the regulator warned that a failure to transition away from the benchmark "may cause harm to market integrity and poor outcomes for consumers".

Many smaller asset managers and insurance companies are concerned about the high cost of developing new systems to deal with new RFRs. This could involve tweaking proprietary systems and changing thousands of excel workbooks that reside in the middle offices of these firms. "It's going to take a lot of resources and cost a lot of money," says the buy-side ARRC member.

Buy-side firms are reluctant to overhaul platforms and systems – many of which are proprietary – until they have greater certainty over the replacement rates.

Adding to the inertia, much of the responsibility for managing the transition away

from Libor has fallen not on the shoulders of senior figures at buy-side firms but further down the ladder. As a result, these project teams are struggling to secure the resources and funding needed to make the transition.

Slow adoption in some corners of the market is also attributed to fundamental differences between US dollar Libor and its replacement, the secured overnight financing rate (SOFR). Critically, SOFR lacks a credit spread and a term structure – at least for now.

The final step of the ARRC's transition plan calls for the creation of a forward-looking term SOFR rate by the end of 2021. In a letter sent on January 28, Fed officials informed the ARRC that adding a credit-sensitive spread to SOFR for loan products could be helpful.

"Efforts to consider ways to adapt or better use SOFR, including potentially adding a credit-sensitive spread to SOFR for loan products, may be helpful in the transition, but we have no intention of slowing or prolonging the overall transition away from Libor," reads the letter, seen by *Risk.net*.

Jack Hattem, a managing director in global fixed income at BlackRock, acknowledged the need for a credit spread in some circumstances.

"I could see a scenario where the market could coalesce around a 'SOFR plus' – an added component to the rate to represent this credit risk," he said, speaking at an industry conference on January 29. "The challenge with it all is we don't want to hinder the liquidity of SOFR."

With these decisions, systems need to be flexible to account for the changing dynamics, he added.

"We need flexibility in systems because the market has not coalesced on a single solution, on a singular currency basis, so we need systems to be flexible enough to handle new solutions or market conventions as they come out. Flexibility in systems is really super important," he said.

Ahead of the game

The UK market has a key advantage in this regard, said Jason Granet, head of firm-wide Libor transition at Goldman Sachs. As Sonia has been in the market for decades, conventions have become more standardised, he said, speaking at the same conference.

"People want standardisation so they know what to do. One of the things the UK's working group has done very well is to be very prescriptive of the direction of travel, not just because Sonia has been around for so long, but that there is an agreement on the way in which it's used," said Granet. "That's one of the things that is missing about SOFR."

In its buy-side call to action, the FCA urged firms to make the move before Libor's sun sets – expected after the end of 2021, when the regulator will no longer compel panel banks to contribute to the rate.

"The FCA has made clear that firms should plan on the basis that Libor will cease from the start of 2022. Your firm should recognise its responsibilities to facilitate and contribute to an effective transition to new, more appropriate rates, such as Sonia [sterling overnight index average]," reads the letter.

The US Securities and Exchange Commission published a similar statement in July 2019, stating the regulator is "actively monitoring the extent to which market participants are identifying and addressing these risks". ■

Robert Mackenzie Smith

BoE’s new Sonia index gets a thumbs-up from issuers

Calculating coupons based on compounded Sonia was “a real nightmare” for some. By Natasha Rega-Jones

The Bank of England’s (BoE’s) decision to publish an official sterling overnight index average (Sonia) index has been hailed as an “incredibly helpful” step toward accelerating adoption of the new rate for cash products.

Corporate issuers have voiced concerns about inconsistencies in the final coupon rates calculated by different parties – such as paying agents and swap counterparties – for bonds and loans that use a compounded Sonia rate.

Announced on February 26, the BoE’s move solves the problem by establishing a ‘golden source’ for the compounded rate.

“The index is actually incredibly helpful because it will allow you to [calculate coupons] in a much more precise and simple manner as you don’t actually need to do the compounding yourself,” said Axel van Nederveen, treasurer at the European Bank for Reconstruction and Development (EBRD).

There are inherent complexities in calculating coupons based on the compounded Sonia rate – particularly with respect to the way the daily rates are weighted over holiday periods.

“I’ve dealt with a lot of issues around holidays and conventions across currencies and it’s a real nightmare,” said Shaun Kennedy, group treasurer at Associated British Ports (ABP). “It’s an issue that everyone is really struggling with across products.”

Currently, corporates using Sonia have to calculate the compounded coupons themselves, a task that can take several hours, even at a large company. “It’s one thing to say that you can code it within an IT system [but] if you’re a small treasurer in a small company with a spreadsheet, then it’s quite a big hurdle,” said Frances Hinden, vice-president of treasury operations at Shell.

Van Nederveen, Kennedy and Hinden were speaking on a panel at a benchmarks conference run by two industry associations on February 26.

Terms of use

Sonia-linked coupons are typically calculated with a five-day lag – starting the compounding a few days ahead of the interest period – to provide issuers with payment visibility. But there are different ways to account for holidays and weekends, when the daily rate is not published. The UK floating rate note market had coalesced around a so-called ‘lookback’ approach, where daily rates are weighted according to the interest period.

The EBRD ditched this approach for its latest £750 million Sonia floating rate note after finding ‘rounding errors’ in the coupon calculations for earlier issuances linked to the compounded rate. The issuer

opted instead for an ‘observation period shift ’ for weighting daily rates over holiday periods.

The Federal Reserve is also using the observation period shift to calculate its SOFR index, which it began publishing on March 2. The BoE is expected to follow the Fed’s lead for its Sonia index.

The EBRD’s latest issuance will re-hitch to the Sonia index as soon as it begins publication.

The market may shift to forward-looking term rates based on Sonia futures and swaps, which are expected to be available by the end of 2020. However, regulators prefer the compounded-in-arrears version of the rate, which is based on traded levels, not quotes.

The new Sonia index could give issuers one less reason to avoid using compounded overnight rates in the sterling market.

“The BoE’s helpful announcement that it will publish a compounded Sonia index will no doubt be a further boost to the availability of and confidence in a compounded Sonia rate,” said Edwin Schooling Latter, director of markets and wholesale policy at the UK Financial Conduct Authority, speaking at the benchmarks conference.

He noted that public issuance of Libor-referencing sterling floating rate notes has already effectively ceased and been replaced by Sonia.

“We still hear sometimes – though less often now – about loan markets needing forward-looking term rates as borrowers want to know their interest payments precisely in advance. That argument is often wrong,” Schooling Latter said. “While precise advance payment schedules are key, a fixed rate may be a better choice – most obviously, there is compounded overnight rates.”

ABP’s Kennedy agreed. “Corporates seemed to have finally stopped talking about having term rates, which is good. Now they’re actually talking about how they can use compounded rates instead,” he said. ■

SOFR discounting
Analysing the market impact

The switch to secured overnight financing rate (SOFR) discounting brings several complex issues and is impacting market practices. Ping Sun, senior vice-president of financial engineering at Numerix, discusses the key issues, such as the differences between overnight index swaps curves and SOFR curves, the dynamics of SOFR discounting risk and the impact of SOFR discounting on future cashflows

A considerable amount of secured overnight financing rate (SOFR) trading activity took place in 2019, which has helped solidify the picture of how the switch from overnight index swaps (OIS) – which are based on the daily effective federal funds rate (EFFR) – to SOFR discounting will impact the market. Awareness of the effects of this change will be central to understanding its significance for trading and risk management going forward.

The transition from OIS to SOFR discounting

The first critical issue is that SOFR has shown itself to be more volatile than the EFFR, and it is important for market participants to understand how this may affect the associated discounting. Figure 1 presents the SOFR curve and the associated OIS curve constructed on two different days. One of these is September 30, which is the end of a quarter, when the rate typically shows a noticeable spike. The second is October 2 – a normal business date.

At the front of the SOFR curve, up to two years of tenor, we constructed the curve using SOFR futures, which are the most liquid SOFR derivatives available in this tenor range – and are also, overall, the most liquid instruments across all the tenors. In the context of SOFR discounting, we used SOFR-Federal Reserve Board funds basis swaps at tenors longer than two years. Note that there are other choices of SOFR derivatives, such as SOFR-Libor basis swaps, which can result in quite different SOFR

curves, mainly due to market liquidity. Furthermore, curve construction usually involves accommodating events such as central bank meetings dates and turn effects. To keep the focus on curve behaviour, this analysis avoids these fine details, with the exception of indicating that flat forward-rate interpolation was applied at the front section of the SOFR curve.

Figure 1 shows that the SOFR rates are 2.35 and 1.85 on September 30 and October 2, respectively. The difference of 50 basis points in this overnight rate has an observable impact on the SOFR curves at the short tenor and up to around five years, as presented in figure 2. This also impacts the corresponding OIS curves, which move very closely with SOFR given the basis spread between the two doesn't change by much. This is reflected by the curves on the plot in figure 2. At the end of a quarter, the September 30 curves carry the higher rates in the front, but the October 2 curves are much lower. Comparing the curves, which represent the one-day forward rate, it can be observed that in the front end the lowest points of September 30 and October 2 differ by more than 10bp, which is a considerable difference.

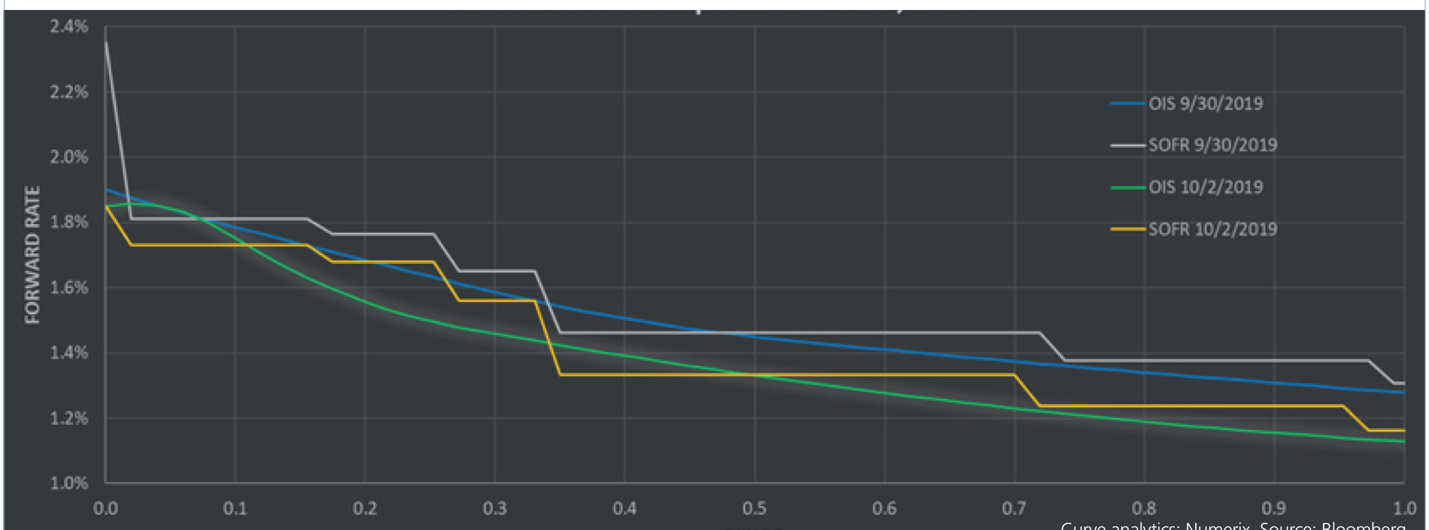
At the longer tenor range, however, the SOFR curves at the two dates merge into a single curve, partly because of the lack of liquidity of the SOFR derivatives market at that range. The OIS curves exhibit similar behaviour. This means rate fluctuation is only effective for short tenors.

Because the SOFR-fed funds basis spread is negative at the front end of the curve and turns positive at longer tenors on both dates, the SOFR curve crosses the OIS curve as the tenor increases. As a secured benchmark rate, one would usually expect the SOFR rate to be lower than the EFFR, because the latter contains minor risk components. The observed 'sign flip' of the basis spread is most likely due to supply and demand within the SOFR market.

Understanding discounting risk

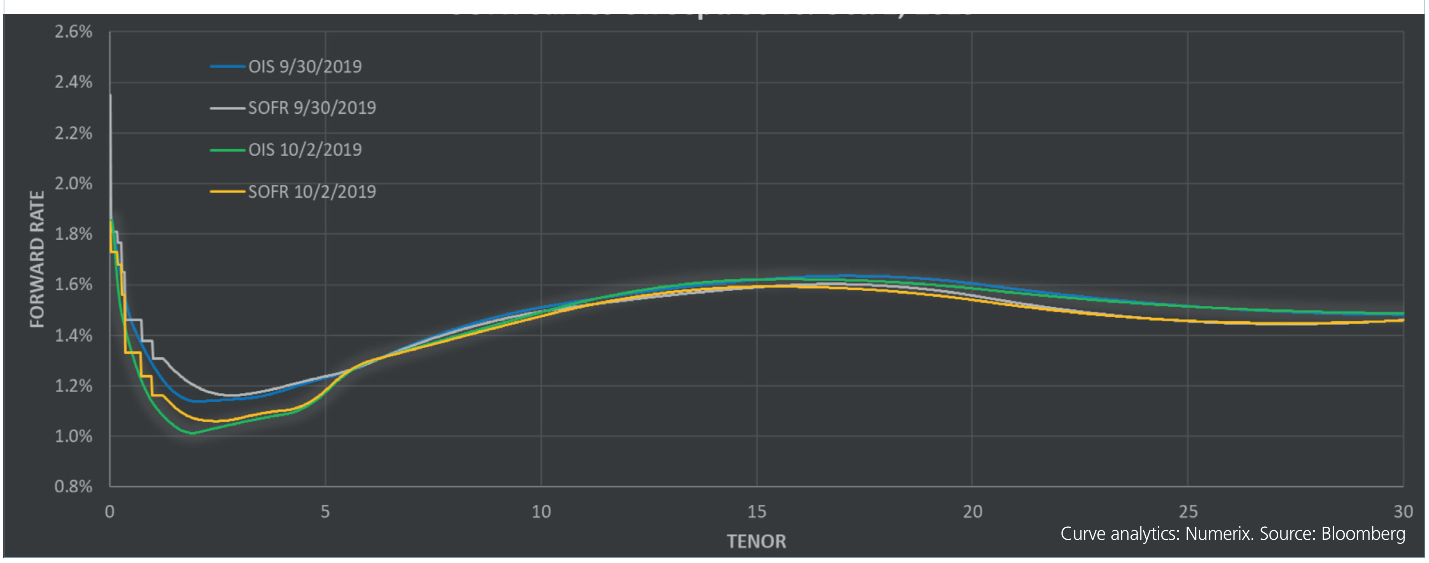
The transition to SOFR discounting means market risk will now be dependent on SOFR instead of OIS, and this could require completely different hedging vehicles. Thus, an important question market participants must ask themselves is: "Are we ready for this transition in discounting method?"

1 SOFR and OIS curves – Impact at the shorter tenor



Curve analytics: Numerix. Source: Bloomberg

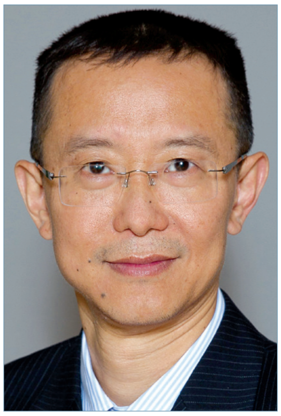
2 SOFR and OIS curves – Longer tenor behaviour



Curve analytics: Numerix. Source: Bloomberg

Figure 3 illustrates, on a set of key tenors, the one-day forward rate as of September 30 compared with the same calculation on October 2, together with the same comparisons for discount factors.

The first thing one might notice is that the forward rate difference between SOFR and OIS on the same date doesn't change by much. This is what we expect due to the market quotes of the basis spread between the two rates. However, if one compares just the OIS forward rates or just the SOFR forward rates on the two dates, one will see a substantial amount of difference at the short tenors. There are upwards of 10bp differences for the tenors up to five years. As the tenor increases from there, the spread becomes smaller. But still, even at 30 years, the SOFR rates on the two dates differ by more than 3bp, which is not a small difference.



Ping Sun, Numerix

To understand the impact on the present value of a future cashflow, one should look at the discount factors. The first observation is that SOFR and OIS discounting can differ substantially, especially at the longer tenors: the 25- and 30-year discount factor differences are greater than 30bp and 40bp, respectively. Meanwhile, even in the two- to five-year range, the difference is more than 10bp, which is not insignificant.

At the same time, the difference between the discount factors of OIS and SOFR does not change much between the two dates. However, the discount factors of the SOFR rate noticeably changes between the two dates – even larger than the difference between the SOFR and OIS discount factor. This would pose a challenge in risk management, given that the SOFR derivatives market is not liquid enough for efficient hedging.

This provides a strong indication that, as a hedge instrument, the SOFR-fed funds basis swap may be useful as it is the most relevant SOFR instrument available concerning the discounting risk. If one wants to replicate the original OIS DV01 – the sensitivity to a 1bp move in interest rates – which might already be hedged, one can use a SOFR-fed funds basis swap, cancel out the SOFR cashflow and replicate the original sensitivity on the OIS discounting. For this reason, CME and LCH will provide the risk compensation using SOFR-fed funds basis swaps when they switch from OIS to SOFR discounting in October 2020. It also explains why cash-only compensation is not preferable as long as the overnight repo market remains volatile. It would capture only a snapshot of the SOFR-fed funds market on the discounting switch date and won't be enough to follow the subsequent day-to-day market changes, which can have significant impact on profit and loss.

To recap the key takeaways from these statements:

- Understanding the full effect of SOFR discounting will be key to understanding its significance for trading and risk management.
- Market risk will now be dependent on SOFR instead of OIS, and this could require completely different hedging vehicles.
- As a hedge instrument, a SOFR-fed funds basis swap may be more useful because it is the most relevant SOFR instrument available concerning the discounting risk.

In addition, it is important to know that switching from OIS to SOFR discounting will reshape future cashflows. This is because the swap and Libor rates, which are commonly used as the underlying of the interest products, will be impacted by the SOFR discounting.

3 One-day forward rate and discount factor

Tenor	One-day forward rate: OIS (%)	One-day forward rate: SOFR (%)	One-day forward rate: Difference (bp)	Discount factor: OIS	Discount factor: SOFR	Discount factor: Difference (bp)
September 30, 2019						
1 year	1.391	1.428	-3.72	0.98606	0.98569	3.67
2 years	1.23	1.284	-5.38	0.97564	0.9746	10.38
5 years	1.166	1.2	-3.44	0.94415	0.9426	15.52
15 years	1.512	1.513	-0.15	0.81297	0.81282	1.5
20 years	1.649	1.639	1.08	0.74924	0.75047	-12.28
25 years	1.748	1.722	2.51	0.69286	0.69594	-30.76
30 years	1.83	1.796	3.38	0.64226	0.64653	-42.73
October 2, 2019						
1 year	1.511	1.551	-3.93	0.98487	0.98448	3.87
2 years	1.36	1.418	-5.82	0.97313	0.97201	11.18
5 years	1.28	1.315	-3.54	0.93901	0.93743	15.83
15 years	1.562	1.563	-0.06	0.8079	0.80784	0.59
20 years	1.696	1.684	1.19	0.74394	0.74529	-13.42
25 years	1.791	1.763	2.72	0.68767	0.69095	-32.82
30 years	1.868	1.832	3.52	0.63756	0.64195	-43.9

Curve analytics: Numerix

What SOFR discounting means for your business

When you think about the practice of SOFR discounting for your own business, the likelihood is that your practice will not be static in terms of how you produce the SOFR curve. It will depend on where market liquidity is moving at a given time and how you want to address your specific business needs as it regards curve construction. What is crucial is to ensure you always have correct valuations and appropriate risk management – particularly during the period of the Libor transition.

About the author

Ping Sun is senior vice-president of financial engineering at Numerix as well as the product manager of the Numerix CrossAsset analytics platform. He was a postdoctoral fellow at Rutgers University and earned a doctorate degree in physics from The City College of New York. Sun also received an undergraduate degree in physics from Fudan University in Shanghai.

Sign up to fallback protocol or face 'serious questions', FCA warns

The UK regulator urges derivatives users to accept Isda swap fallbacks to ensure compliance with benchmark law.
By Natasha Rega-Jones

A senior UK markets regulator has warned derivatives users to expect "serious questions" if they choose not to adopt fallback language currently being developed by the industry to future-proof legacy Libor-linked derivatives against the benchmark's anticipated demise.

Swaps fallbacks, once finalised, would re-hitch outstanding Libor-linked instruments to successor rates such as the sterling overnight index average (Sonia) on the discredited benchmark's discontinuation. The clauses will be inserted into legacy contracts en masse via a voluntary protocol, planned for later this year.

"We will be looking for wide take-up by all regulated firms," said Edwin Schooling Latter, director for markets and wholesale policy at the UK's Financial Conduct Authority (FCA).

"Not signing these protocols seems to us a huge risk to take if you have effective contracts, and any UK regulated firm with major uncleared derivatives exposures that chooses not to sign will need to be ready for some serious questions from supervisors on how they're going to mitigate the risks they face."

Speaking at a benchmark event in London on February 27 hosted by two industry associations, Schooling Latter warned that firms are required under the European Union's Benchmarks Regulation and its associated UK laws to appropriately plan for cessation or material changes in critical benchmarks such as Libor.

"It's a requirement, because not having a plan is unacceptable risk for firms themselves, their customers and the wider financial system," he said.

Existing fallback provisions in legacy over-the-counter interest rate swaps are not fit for purpose, he warned. Bilaterally negotiated sterling Libor derivatives would typically revert to dealer polling if the ailing rate were to cease publication – a distinct possibility after 2021, when panel banks will no longer be compelled to submit quotes to support the benchmark.

"Firms simply cannot rely on current arrangements for the end of Libor in uncleared swap contracts, which typically involves polling dealers for quotes. It's not going to be plausible to ring round dealers to offer substitute rates when they're not prepared to be part of Libor panels," said Schooling Latter.

Speaking on a panel at the same event, Tamsin Rolls, assistant general counsel for JP Morgan, said she anticipated high take-up for the protocol.

"It's not going to be plausible to ring round dealers to offer substitute rates when they're not prepared to be part of Libor panels"
Edwin Schooling Latter, FCA

"There are going to be situations where the fallbacks aren't appropriate or the triggers aren't appropriate, or it's not possible for the counterparty to sign the protocol. For example, some entities can only sign up to limited-recourse obligations rather than a protocol. But my hope is that that's going to be a tiny portion of contracts that fall into that category, and 90% or so can be dealt with through the protocol," she said.

Complicating adherence is the thorny issue of pre-cessation triggers, which could see contracts automatically flip to alternative risk-free rates on Libor being deemed non-representative – likely due to a wave of panel bank departures.

The International Swaps and Derivatives Association (Isda) found no consensus for inclusion of pre-cessation triggers during initial polling in May 2019 and forged ahead with permanent cessation fallbacks, which would kick in only once Libor ceases publication. Isda reopened the pre-cessation consultation on February 25 in response to regulatory pressure from the FCA, which regulates Libor, and the Financial Stability Board's Official Sector Steering Group.

With the FCA and Ice Benchmark Administration – Libor's administrator – subsequently pledging to minimise the lifespan of any non-representative, or 'zombie' Libor, and clearing houses confirming their intention to insert pre-cessation triggers into their rule books for cleared swaps, Isda hopes to find consensus at the second time of asking. In this case, the triggers would be included as standard in the protocol. If opinion remains split, pre-cessation will be offered as an option in a permanent cessation protocol.

Andy Jackson, senior counsel at Goldman Sachs Asset Management, warned the protocol is just part of a wider transition journey for buy-side firms, and urged Isda to make the current permanent cessation draft widely available before a decision is taken on pre-cessation triggers.

"The protocol itself is very long. It's 100 pages of fairly detailed stuff. The current draft should be published as soon as it's locked down, so people can start looking at it before pre-cessation gets added at a later point. We need to give people time to go through it," he said at the same event.

At the time of writing, Isda's latest consultation was due to close on March 25, with the results announced by early May. The protocol will launch shortly after publication of the new Isda definitions, its template of rules for derivatives contracts.

Rolls warned diverging approaches across jurisdictions and instruments could hamper take-up of the protocol. For example, the Alternative Reference Rates Committee (ARRC) – the Federal Reserve-backed group steering transition from US dollar Libor to the alternative secured overnight financing rate (SOFR) – has devised a waterfall of fallback options for US dollar cash products, beginning with forward-looking term versions of risk-free rates, which do not yet exist.

Rolls said that, while some clients were asking to adopt the ARRC language in their swaps fallbacks so they're aligned with cash products, it's important to use the right fallbacks for the right products.

"We're in a bit of a quandary today as we do see people asking us to follow the ARRC wording, which as a derivatives lawyer is an uncomfortable feeling because you're looking at a whole load of fallbacks but you're not sure which might be selected and the first one on the list doesn't exist, which is not ideal," Rolls said.

"If you have fallbacks that either don't work or don't match, I think there is something to be said for signing up [to the Isda protocol] and then separately dealing with the 5% of problems in the months following," she added. ■

KPMG

Operational uncertainty
An unavoidable challenge

The transition from Libor to a new risk-free rate has revealed a number of challenges for all financial markets participants – the nature and scope of what lies ahead is vast, impacting businesses, operations and support functions. KPMG's global Libor solution lead, Chris Dias, explores why firms will need to consider the impact of the transition on a number of overlapping dimensions, including strategy, risk, operations, finance, compliance, legal and clients

While the efforts to prepare for the transition away from Libor will be significant, operational readiness may be most demanding of all. The number of operational factors that must be considered grows quickly when links to clients, products, systems and legal departments are entered into the mix. Structural differences between Libor and its proposed replacements make operational uncertainty unavoidable. These challenges are further exacerbated by looming unknowns in market conventions, market structure and legal certainty – not to mention the rapidly approaching Libor end-date.

Chris Dias

The new risk-free rates (RFRs) are simply different

Libor is a somewhat homogenous rate. It comprises five currencies and seven tenors, all of which are published simultaneously every day by a single administrator with oversight from a single regulator. Going forward, there will be five new standalone RFRs to replace Libor. Each of these rates will be published daily, though at different times, by five different administrators, with oversight from five different regulators. This nominal difference will cause firms with cross-border exposure or global footprint to, as a minimum, rethink their valuation and risk measurement processes.

Libor is an unsecured rate with a credit risk adjustment built into the published rate – it is, for the most part, a rate estimated by only a handful of banks. Panel banks submit daily benchmark rates for several tenors from overnight to one year. Institutions have become accustomed to the term structure as well as the credit and term premia, hardwiring this ubiquitous rate into systems, operations and processes. This makes the task of replacing Libor very challenging.

The new rates are characterised as risk-free, with some jurisdictions, such as the US and Switzerland, opting to base the new rates on secured daily transactions, while the UK, Japan and the eurozone have elected to base the new rate on unsecured daily transactions. In addition, the new rates have started life as a daily overnight rate only, with no term structure or additional credit premium. While term structures are expected to evolve for some new RFRs, the timing is uncertain. A static credit adjustment is expected for legacy transactions, but not for new deals. This presents a unique challenge for all institutions – firms will need to deal operationally with replacing a well-entrenched rate with a term structure and a credit component with an overnight rate that currently has neither.

The front-book/back-book dilemma

Perhaps the greatest operational problem ahead will be to deal with legacy transactions, while managing new transactions using the new rates. Operational requirements for legacy or back-book trades will require firms to potentially maintain existing infrastructure for a period of time, and to have capabilities to migrate existing transactions to a rate different from Libor. This will require multiple instances of pricing, valuation, accounting and risk systems to coexist until the deals mature, expire or are converted to a market-acceptable rate. The operational problem of switching legacy trades will be further magnified as early adopters of the new RFRs feel empowered to negotiate market conventions yet to be formalised, creating myriad potential outcomes.

New transactions based on the new RFRs will require unique processes. Booking, accounting and risk systems will need to be updated. New processes will need to also coexist with legacy processes for some time, presenting resource challenges and introducing very real operational risk concerns.

Fallbacks will certainly dictate outcomes

The financial services industry – through working groups, industry bodies, individual institutions and regulators – is working intensely to develop a robust fallback language to ensure guardrails exist for transitioning Libor to a new rate. The new language is a good step forward, but the challenge will be to operationalise it.

The first problem will be assessing whether the fallback language is hardwired or relies on an amendment approach. The hardwired approach is

predicated on a fallback waterfall – for example, the language could state that parties to the contract fall back to the forward-looking term secured overnight financing rate (SOFR) plus a spread adjustment. If that does not exist, then they fall back to compounded SOFR in arrears plus a spread adjustment and, in some cases, a 'viable alternative' to be determined by the lender or agent could be used. From an operational perspective, systems will need to be capable of handling any of the outcomes. In contrast, the amendment approach relies very much on a negotiation between parties to determine the appropriate fallback, which can present a Herculean challenge in terms of anticipating what the negotiation will decide upon. Given that parties to a negotiation will angle for the best outcome possible, operational readiness becomes decidedly more complex. Although the hardwired approach still exudes uncertainty, it is a far better 'operational readiness' outcome than the amendment approach. The amendment approach simply 'kicks the can down the road' to a time when orchestrating negotiations and translating those negotiations in operations will be taxing on resources and systems.

Don't put all your faith in timely vendor solutions

Many firms have invested in vendor solutions for financial products and will expect the vendor to provide the fixes required for transition – which may or may not be the case. Vendors will have similar challenges to market participants – they will need to understand the many market conventions around pricing, accrual and settlement, and will have to accept that most RFRs are still evolving. Their reluctance to commit resources to any single solution in an environment that is still fluid is understandable, yet exasperating. However, firms investing in vendor solutions will have to address issues related to version compatibility, system upgrades and testing – all of which could prove costly and time-consuming. Vendors must, therefore, prioritise fixes, upgrades and solution patches to avoid leaving some firms without the required system enhancements until after the market has transitioned. The success of the Libor transition will be highly dependent on firms' readiness to book new RFR deals.

Dealing with operational uncertainty

The birth of a new rate requires the determination of a number of market conventions and the evolution of market structure – to date, uncertainty exists around both. SOFR pricing has yet to lock in a market-wide convention on either pricing or settlement. Questions yet to be answered include:

- Whether interest will be calculated using compounding or simple averaging. Simple averaging is easy to implement and has already been used in early SOFR issuances, whereas compounding is a truer reflection of interest but is much harder to implement – particularly when calculating in arrears.
- Whether settlement will be subject to a lock-out or lookback and, in each case, what the appropriate number of days is.

Operational uncertainty is forcing firms to make choices from the many alternatives. Given that time is quickly winding down and no clear direction has yet emerged, it may make sense to plan for all reasonable approaches.

What to do next?

The easy route is to do nothing and hope for the best, but this could be costly in terms of revenue, opportunity, relationships or any number of other problems. There is no easy solution. Understanding the impact to an operational change of this magnitude is the first step, starting with a determination of the products and systems that will be impacted. Then, developing plans or a playbook to transition considering different scenarios or outcomes and, finally, prioritising high-probability, high-impact systems and processes. Firms should engage with working groups, industry bodies, clients and vendors to better inform work effort, operational choices and, ultimately, mitigate risk. With the end of Libor rapidly approaching, hopes for extensions and reprieves should not be a first choice. In the words of *Game Of Thrones*' Jon Snow: "Winter is coming."

The author

Chris Dias is a principal in KPMG's Modelling & Valuation group, serving financial services companies as a risk practitioner and strategic adviser. He is an accomplished professional with over 30 years of international experience in financial markets and serves as the global Libor solution co-lead at KPMG.

Synthetic Libor’s legal obstacles

EU benchmark rules may thwart ‘tough legacy’ fix, reviving calls for blanket legislation. By Helen Bartholomew

A possible fix for averting chaos in financial contracts most stubbornly welded to Libor may not be permissible under the European Union’s benchmark regulations (BMRs).

A synthetic version of sterling Libor is under consideration by an industry working group as a last-ditch measure to future-proof so-called ‘tough legacy’ contracts, which cannot be renegotiated to reference successor benchmarks. Synthetic Libor would see the defunct benchmark continue publication under a formula-based methodology, likely a fixed spread over a compounded overnight risk-free rate (RFR).

According to a regulatory expert at a European bank, Libor’s regulator – the UK’s Financial Conduct Authority (FCA) – may not have the power under the EU’s Benchmarks Regulation to force the wholesale methodology changes required to provide this kind of life support for the discredited rate.

“Regulators don’t have the right to require the administrator to replace the Libor rate with the RFR rate on the screen. The European Benchmarks Regulation does not allow that,” the expert says.

A European lawmaker, speaking at a recent industry event, concurs: “I don’t think in the present BMR a regulator could go to the administrator of Libor and say ‘your Libor is no longer representative of any underlying market, the market is much too small, much too illiquid’ … and have the power to immediately replace that Libor for particular usage cases.”

This could change as part of the European Commission’s (EC’s) BMR review. In a consultation launched last October, the commission sought feedback on broader powers for national authorities to force benchmark administrators to change the methodology of critical benchmarks. The move is aimed at averting a so-called ‘zombie Libor’ scenario, in which a weakened version of rate with minimal panel bank support could limp on.

Even if broader powers are granted, a BMR overhaul could come too late for Libor reform. Significant amendments would require changes to the underlying text of the law – a process that would likely be completed only after the end of 2021, when panel banks will be free to walk away from submitting rates and the sun may already have set on the ailing benchmark.

Rising doubts over the viability of a synthetic Libor have put the spotlight back on blanket legislation, which would sweep up remaining contracts and automatically flip them to alternative RFRs on Libor’s demise. Such a fix is now gaining traction in the US market, despite legal barriers. UK regulators have warned participants not to rely on a legislative solution but have not ruled it out altogether.

“Legislation is being pushed very heavily in the US for the secured overnight financing rate (SOFR),” says Davide Barzilai, a partner at law firm Norton Rose Fulbright. “The consideration has to be that if it works in the US, why can’t it work for English law contracts? The question is whether there’s a desire to go down that line and if there’s enough time to go down that line.”

Reforming BMR

The current wording of Article 23 of BMR limits a forced methodology change to a scenario where regulators compel panel banks to continue submitting rates for a period of up to five years – a move the FCA has no intention of making. It’s a particular conundrum for synthetic Libor as securing further commitment from contributors would have the effect of keeping Libor alive, rather than replacing it with a formula-based rate.

“A lot of the BMR provisions are about the integrity of rates and preserving rates in the context of the stability of markets,” says David Wakeling, partner at Allen & Overy. “There’s the power, which may not be used, to require mandatory contributions by submitters to an index. There’s also a power to delay an administrator wanting to pull the plug on a rate which it is responsible for.”

These powers could be expanded as part of BMR reform efforts. In its consultation, the EC asks whether broader powers for competent authorities would be useful. Responses are yet to be published, but the European Securities

David Wakeling, Allen & Overy

and Markets Authority deems such power to be "very useful" in its own published reply.

"As the underlying market that a critical benchmark intends to measure may evolve over time, it is important that the methodology of the benchmark continues to be representative of the underlying market over time, to the extent that it can be made so in the prevailing circumstances," says the EU markets regulator in its written response.

The International Swaps and Derivatives Association (Isda) found strong consensus among its members for these powers to be available beyond the current narrow set of scenarios.

"The majority of responding members were supportive of broader powers than exist at the moment, but with the caveat that the circumstances in which they can be used should be made very clear and limited to situations in which failing to change the methodology is likely to lead to the benchmark permanently ceasing or prohibition of its use," says Rick Sandilands, senior counsel for Europe at Isda.

"It could be an important safeguard against such disruptive outcomes, but changing the methodology itself could also be disruptive. Among other things, when exercising the right it would be important to do so in a way that mitigates any valuation impact," he adds.

Even with an updated BMR permitting a form of synthetic Libor, there's no guarantee that Libor's administrator – Ice Benchmark Administration – would be comfortable replacing one non-representative rate with another.

"We're not sure how synthetic Libor would work because it's not clear the administrator would publish a non-representative rate. Why would you switch off one non-representative rate and replace it with another that's also non-representative?" says the bank regulatory expert. "Users might find they have to ditch it if it doesn't pass the representative test."

Others say the administrator may have no choice but to accept such methodology changes in accordance with BMR, but could notify regulators of its intention to shut down the rate, triggering a four-week notice period in which attempts can be made to patch up the benchmark.

A spokesperson for IBA declined to comment.

Toughing it out

The 'tough legacy task force', a subcommittee of the sterling RFR working group, is due to set out a range of options during the first quarter for dealing with Libor's stickiest instruments. Examples include contracts with securities involving complex registration systems, or loans and notes without adequate fallbacks – many of which are set to flip to the last available rate on Libor's demise, effectively becoming fixed until maturity.

By maintaining Libor on screen with an RFR-based formula underpinning it, regulators would hope to safeguard contract continuity. A precedent already exists. On October 2, Eonia was recalibrated as a fixed 8.5 basis point spread over the new euro short-term rate, €STR, which the European Central Bank began publishing on the same day.

"There did not seem to be an adverse reaction to the recalibration of Eonia to €STR plus a spread, but those rates are fundamentally quite similar. Libor and SOFR or the sterling overnight index average (Sonia) have more differences, so it's a more difficult change to navigate," says Sandilands.

An 'RFR-plus fixed spread' formula would change the underlying economic proposition of the benchmark, making it unreflective of its original definition as a term bank funding benchmark. One source warns of possible legal carnage as users may rush to get out of contracts, which suddenly reference a completely different methodology.

"It's better if there's a statutory approach, with legislation that says 'if you're using Libor-based contracts, here's how they should be settled on Libor cessation'," says an industry source. "That's clearer and there's no debate."

The legislative route is currently under consideration in the US for cash instruments, where changes typically require unanimous consent. In November, the Alternative Reference Rates Committee – the Federal Reserve group tasked with managing the switch to SOFR – agreed to explore a legislative solution for New York state law contracts.

Similar efforts in the UK would rely on strong political will from lawmakers currently preoccupied with Brexit issues. Moreover, UK legislative action would apply only to English law contracts.

Barzilai believes transition via legislation could be more achievable in the UK market compared to the US, with the majority of sterling Libor contracts written in English law.

"Because sterling isn't as global a currency as the US dollar, legislation would be a more comprehensive fix than the US version. Clearly, many US dollar contracts are not covered by US law so it's a much bigger issue and doesn't solve what goes on around the world. There wouldn't be a large number of, say, French and German law contracts denominated in sterling," he says.

Fallback effect

Synthetic Libor could open a new can of worms by obstructing fallbacks created with Libor's demise in mind. By keeping Libor on screen – even if only in name – there may be no termination event to trigger permanent cessation fallbacks being injected into derivatives contracts. This means vanilla swap contracts, which fall outside of the 'tough legacy' moniker, would continue to track on-screen Libor rather than re-hitch directly to Sonia.

"In derivatives, the legal language is written to look at whether the rate is available on the screen, so in a scenario in which this rate is available on the same screen, you wouldn't have a temporary or permanent cessation," says Ann Battle, assistant general counsel and head of benchmark reform at Isda.

Pre-cessation triggers, which would see the instruments flip to RFRs as soon as Libor is deemed non-representative, could be triggered by a move to synthetic Libor, depending on the statement provided by regulators and how the fallback is structured and drafted.

Isda will re-consult members later this month on whether to include pre-cessation triggers in derivatives fallbacks as standard, or whether they should be optional. Fallback language will be inserted into contracts *en masse*, via a voluntary protocol, originally planned for the second quarter of 2020, but now subject to the results of the pre-cessation consultation. ■

The price of signing the fallback protocol

As Orwell's Room 101 beckons for Libor, muRisQ Advisory's Marc Henrard warns of a potential pitfall in the fallback protocol

Need to know

- Libor discontinuation will necessitate transitions to fallback rates. For bilateral and central counterparties alike, Isda master agreements are the basis for governing these fallbacks.
- But Isda's fallback language is deemed unworkable and practitioners are currently revising it. Bilateral counterparties can then sign a protocol – a multilateral agreement – to amend outstanding contracts.
- Meanwhile, however, clearers are adopting language piecemeal as individual fallbacks are established, creating valuation differentials between cleared and bilateral contracts.
- Marc Henrard addresses how to quantify such differentials and compensate parties accordingly as they contemplate signing the protocol.

There is general consensus that Libor publication will be discontinued in the coming years. The option of last resort for existing Libor-linked derivatives is to rely on so-called fallback language, which provides alternative benchmark options, should the primary rate be unavailable.

The majority of the derivatives market is governed by International Swaps and Derivatives Association (Isda) master agreements or by central counterparty (CCP) rule books inspired by the same. But the existing fallback language in both is currently not fit for purpose and is being overhauled.

While the bilateral market will have to jump through various hoops to incorporate new fallback language into legacy trades being developed by the market through Isda, the path will be simpler for the cleared market.

Rules in the cleared market are CCP-specific, but in general the relationship between the CCPs and their members is very asymmetrical. For example, LCH rule 1.8.12 states that if the (Libor) rate is unavailable, LCH will determine a rate at its sole discretion.

But the main CCPs have already announced that if the Isda fallback language is changed, they will align their house rules to it. Those changes will apply to both legacy and new trades.

With Isda fallback language now finalised for a number of currencies – and thanks to the unilateral power of the CCPs – the cleared swap market already reflects the expected future fallback language. From a quantitative finance perspective, this convergence is understandable as the current value is the expectation of the discounted payouts.

The Libor-overnight index swap (OIS) basis has moved in line with the historical median, which is the method of calculating the basis chosen as a result of the Isda consultations. As such, the implicit inclusion of fallbacks means that valuing cleared trades is relatively straightforward.

But for non-cleared trades, this is not the case.

This is a crucial point for parties trading new non-cleared swaps or contemplating signing the protocol. What compensation should be paid for signing it (or a bilateral agreement with the same intent)? By ignoring the difference, the parties may lose or gain as much as 10 basis points for long-tenor US dollar swaps.

Spot the difference

To quantify the valuation difference between a swap with outdated and updated fallback language, we use the results described in Henrard (2019) with $L^j(\theta)$ the Libor rate fixing at date θ for a tenor j and w the payment date. The trades are under variation margin in cash with collateral interest c. The discontinuation and pre-cessation trigger dates, still unknown, are represented by (the stopping times) d and t. The insistence of regulators and CCPs on introducing pre-cessation triggers forces this extra complexity and increases market fragmentation. The trigger's announcement date is denoted a. With the current fallback language, the value in s is:

$$N_s^c \, \mathrm{E}^{\mathbb{X}}[(N_w^c)^{-1}(\mathbb{1}\{d > \theta\}L^j(\theta) + \mathbb{1}\{d \leqslant \theta\}?) \mid \mathcal{F}_s] \qquad (1)$$

The indicator reflects the fact that Libor is paid only if the fixing date is before the discontinuation date and the question mark reflects the payout uncertainty in the current language. With the new fallback language, the Libor rate would be replaced by a floating rate $FR^j(\theta)$ and an adjustment spread $S([a-l,a])$, computed as the median over a period of length l equal to five years. The value becomes:

$$N_s^c \, \mathrm{E}^{\mathbb{X}}[(N_w^c)^{-1}(\mathbb{1}\{t > \theta\}L^j(\theta) + \mathbb{1}\{t \leqslant \theta\}(\mathrm{FR}^j(\theta) + S([a-l,a]))) \mid \mathcal{F}_s] \qquad (2)$$

To be able to value formula 1 and compare it to formula 2, we have to imagine what would happen on the fixing date in absence of direct agreement with our counterparty; that is, imagine what is hidden behind the question mark. In which respect, this article could be viewed as part finance and part fiction!

The parties would go to court or an arbitrator to get an independent assessment of the amount to be paid. In the contract, they agreed to payments linked to Libor, a measure of the interbank unsecured borrowing cost, including term lending and credit risk, on specific dates.

But the Isda fallback method for US dollar swaps, based on SOFR and a fixed spread, is decided on the announcement date, and therefore does not contain any bank term lending or credit risk related to the fixing dates in the contract, which can be up to 50 years later for longer tenors.

It is not even an option that a financially literate judge or arbitrator can consider.

The proposed Isda spread is a one-off legal construction, not an economic or financial model of the actual required payout. As Isda's chief executive officer, Scott O'Malia, has said, the Isda fallback creates losers and winners. It cannot be used as a reference to fairly settle non-cleared swaps.

It seems the only fair and reasonable option would be to find a proxy for the interbank unsecured term borrowing cost. There is no guarantee that such a proxy will be available on the fixing date, but today one could use the Ice Benchmark Administration's USD Bank Yield Index (BYI) or Ameribor.

Even if such benchmarks are not allowed today as references for financial contracts – and may not fulfil EU Benchmark Regulation or International Organization of Securities Commissions principles – nothing prevents a judge from using that reference to award a payment.

The absence of a compliant benchmark that can proxy Libor in fallback language does not prevent a settlement of the claims based on a proxy.

Finding a proxy rate

Unfortunately, we cannot use standard replication arguments and associated risk-neutral valuation. Replication is based on hedging the risks with other financial instruments reflecting the same risks factors. Because the likely proxy rates, BYI and Ameribor, are not authorised today as underlying reference rates, it is impossible to create such replication dynamically. Nevertheless, we can value them using our best econometric judgement.

The current quotes for Libor swaps are related to cleared swaps and are contaminated by the new fallback as described by formula 2. They cannot be used directly for non-cleared swaps.

They contain some relevant information, but only part of the required information. Because the fallbacks now dominate the cleared Libor/OIS basis, the actual credit and liquidity spread is missing, while the discontinuation date, by opposition to the trigger date, is different. This can be incorporated in a formula with:

$$N_s^c \, \mathrm{E}^{\mathbb{X}}[(N_w^c)^{-1}(\mathbb{1}\{d > \theta\}L^j(\theta) + \mathbb{1}\{d \leqslant \theta\}\,\mathrm{OIS}(\theta)) \mid \mathcal{F}_s]$$
$$+ N_s^c \, \mathrm{E}^{\mathbb{P}}[(N_w^c)^{-1}\mathbb{1}\{d \leqslant \theta\}(\mathrm{ProxyL}(\theta) - \mathrm{OIS}(\theta)) \mid \mathcal{F}_s] \qquad (3)$$

The general level of rate for the Libor period, without including the bank credit, is traded in the market and we represent it by $\mathrm{OIS}(\theta)$. We can use the standard risk-neutral valuation to price it. For the other part, the discontinuation date and the credit/liquidity spread, we propose to use an econometric model.

The $\mathrm{ProxyL}(\theta)$ is our best estimate of the swap rate, which would be used by the judge to settle the claims. The proxy rate could be based on a non-compliant benchmark. Because we cannot use risk-neutral valuation, we have changed the probability to the physical or econometric probability ($\mathbb{P}$).

The choice of the above split is arbitrary. We could have used the physical probability on the full Libor proxy directly, without dividing it into general level and spread. As it is possible to hedge the general level of rate, we prefer to use the econometric model – which cannot be hedged and is largely uncertain – on the smallest part possible.

The development of such an econometric model is not the main goal of this article, so we keep that part very short and very simple.

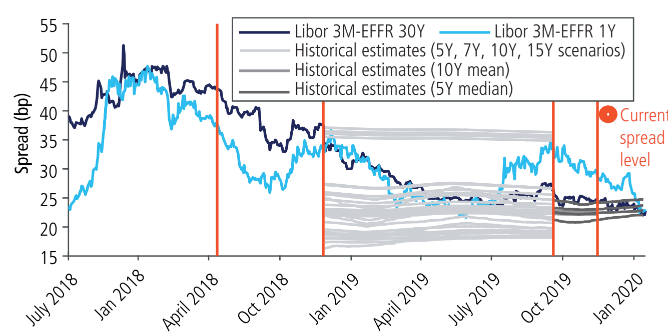
Historical inputs

Calculating a proxy swap rate for non-cleared swaps can be done with reference to historical data and realised spreads, shown in figure 1.

The vertical red lines represent dates related to the fallback consultation process: the first consultation publication in July 2018, its results publication on November 27, 2018, the publication of the parameter consultation in September 2019, and the parameter consultation results on November 15, 2019.

The dark blue line represents the time series of spread for cleared basis swaps between three-month US dollar Libor and Fed funds with a

1. Market spreads for 30-year and one-year basis swap and historical mean/median for several scenarios



Source: Author

30-year tenor. We see a sharp drop on November 27, 2018, followed by a regular decline for a couple of months up to a point where the spread has been more or less stable for the past six months. Today's spread level is in line with the historical median over a five-year lookback period.

The light blue line represents swaps with a one-year tenor not influenced by the fallback, as these positions will likely expire before Libor ceases.

Before the cleared swaps were contaminated by the fallback, the 30-year spread was above the one-year spread by an average of 5bp. Since November 27, 2018, the relationship appears to have broken. In the following days, the one-year spread went up while the 30-year spread fell. Subsequently, the difference between the two bases sat at around the same level, as they both slowly decreased up to mid-2019.

But since the middle of 2019, the one-year rate has increased by almost 10bp while the 30-year spread is largely unchanged. The one-year spread is roughly at the same level as in January 2018, but the 30-year spread is almost 15bp lower.

A possible model is to approximate the spread over SOFR of a 30-year bilateral Libor swap by taking the unpolluted one-year Libor/SOFR spread and then adding the pre-July 2018 (therefore pre-fallback discussions) 5bp spread between the one-year SOFR/Libor basis and the 30-year SOFR/Libor basis.

As of December 2019, this would put the non-cleared 30-year Libor/SOFR basis at around 35bp, and therefore 10bp above what the equivalent cleared market is showing.

The 30-year Libor cleared swap rate is around 1.95% and our estimate for non-cleared swaps is therefore around 2.05%. The difference between the two figures is not a modelling difference – the two rates refer to significantly different financial instruments. The market fragmentation feared by traders and regulators is already present. Pushes for pre-cessation triggers and early Libor demise will only increase that fragmentation.

This article's core isn't the quality of our econometric spread model – we concede it can be qualified as weak – but the claim is that such a model is required; the market quotes for cleared Libor swaps are mainly irrelevant for the pricing of a non-cleared swap with the current fallback definitions.

Customers with existing exposure to Libor should review their legacy books and perform such an estimate before signing the fallback protocol or entering new non-cleared swaps. Signing the Isda protocol will probably reduce their derivatives operational and legal costs, but its valuation impact could be in the tens of basis points; the monetary impact for large trading books could easily reach many millions of dollars.

The fallback impact could be larger than the one that appeared when market participants started to introduce OIS discounting. For the Libor fallback, the impact is not on discounting, but directly on the amounts paid.

The best of both worlds would be for parties to agree bilaterally on the signature value, reducing operational and legal costs with an explicit fallback and at the same time obtaining a fair value. ■

Marc Henrard is managing partner at muRisQ Advisory

The price is... wrong

Experts have raised concerns over IASB's Phase II plans to move on from Libor, saying the proposals are confusing and leave scope for error. By Natasha Rega-Jones

> "It would have an impact on financial institutions' profit and loss because any difference in the fair value means you have to recognise true P&L"
> May Thiem Gillen, KPMG

Preparations for moving financial contracts from Libor to alternative risk-free rates (RFRs) have kept the bean counters busy.

Global accounting rulemakers are in the midst of a two-phase mission to help financial firms adjust their accounting treatment of loans, bonds and derivatives. The second phase of guidance is expected later this year, but market participants are complaining that the proposals are unclear and leave too much scope for misinterpretation.

There are a few areas of confusion, not least whether contractual changes to instruments will prevent banks from using them as hedges. Experts are also unsure whether changing the methodology of an existing rate, such as Europe's overnight rate Eonia, breaches the new standards.

Get it wrong and banks may find that assets no longer qualify for hedge accounting and must be recognised at fair value – with costly consequences.

"If that happens, it would have an impact on financial institutions' profit and loss because any difference in the fair value means you have to recognise true P&L," says May Thiem Gillen, director in KPMG's banking accounting advisory services team.

The difficulty facing the International Accounting Standards Board (IASB) is that Libor's replacement will not be a single rate but will vary according to instrument. So, for cash products the new RFR is likely to be a forward-looking term rate, while derivatives are moving to a set of backward-looking benchmarks. Crafting a single accounting solution for this Hydra-like problem is proving tough for the IASB.

Instruments used for hedging purposes do not exist in isolation, either. Banks use groups of assets for hedging – and there is concern that these groups may cease to benefit from hedge accounting if the underlying items move from Libor to different types of rates.

The IASB has released a pair of papers, in October and December, setting out its initial thoughts on tackling hedge accounting ahead of a formal consultation expected in the summer. The broad debate centres on whether amendments to a contract's cashflows constitute a "modification" of a financial asset or a "substantial modification". In accounting speak, that single extra word makes a big difference.

In essence, any contractual change that exists purely to move from Libor to an alternative rate won't result in a discontinuation of hedge accounting. This includes new benchmarks that consist of an RFR plus a credit spread to replicate the credit risk element of Libor.

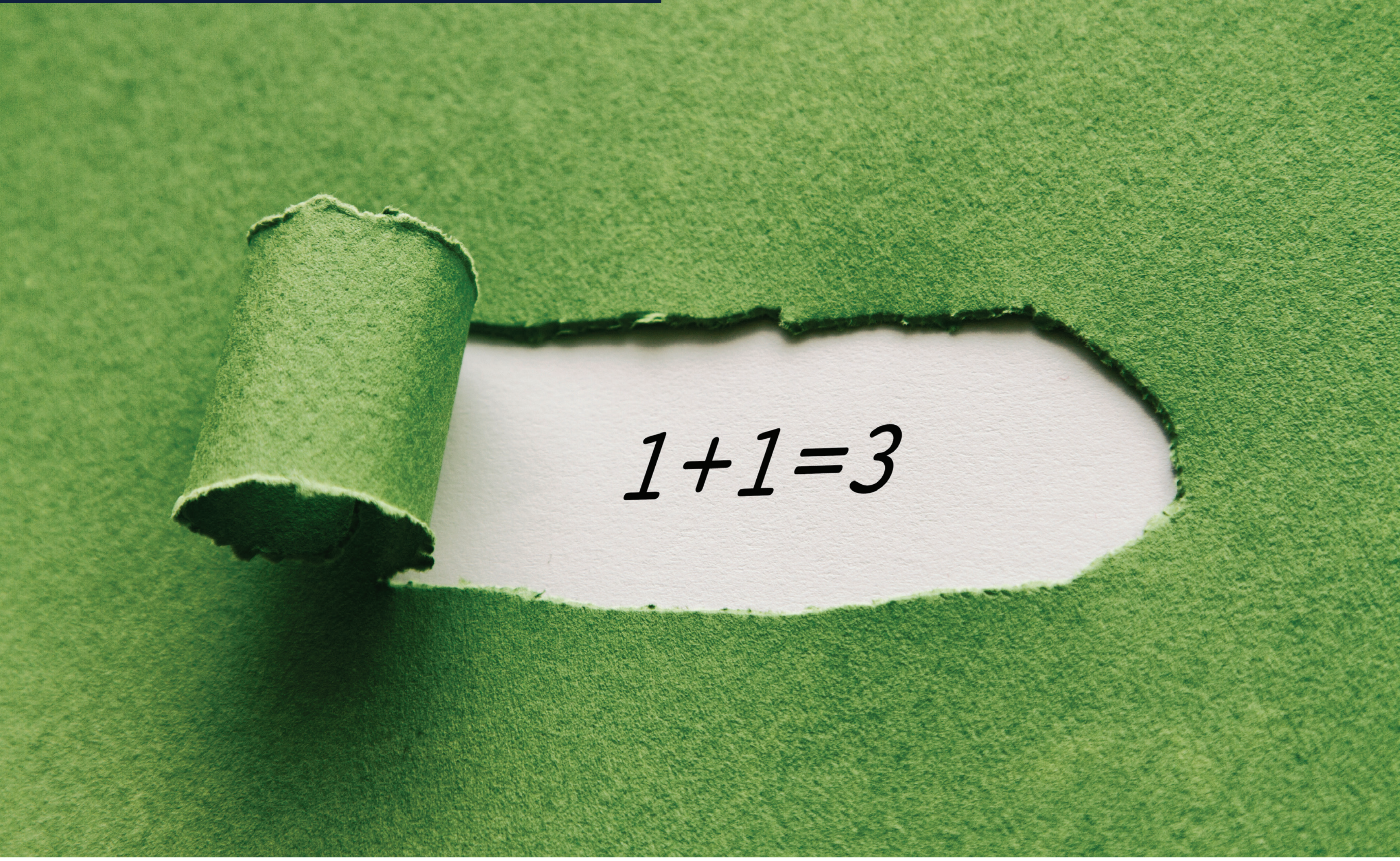
However, there is a danger that, in the course of changing the interest rate of a loan from Libor to a new benchmark, other terms of the loan are amended which would count as a substantial modification, therefore resulting in a de-recognition of hedge accounting.

For example, switching from Libor to Sonia while also extending the period of a loan or entering into new commercial changes, would likely count as a substantial modification to the contract.

Tony Clifford, partner at EY, says it's highly likely that clients would seek to amend other aspects of their contracts alongside their interest rate benchmark given that they're already at the negotiating table with their counterparties – thus creating a risk of de-recognition.

The same, or nearly the same

The IASB's Phase I and II projects map out how post-Libor hedge accounting is expected to work in the UK and European Union. The effort will result in changes to accounting standards IFRS 9 and IAS 39 – and the EU has already endorsed the first phase of the work. In the US, banks use the generally accepted



accounting principles framework, so the country's banks are on a different track for hedge accounting rules after Libor transition.

For the second phase, the IASB is expected to produce an exposure draft in June and give a 45-day period for comment – the same comment period that was given for Phase I. Observers are optimistic that enough time remains for the standard-setting body to address any major concerns.

"It's important to note that the IASB haven't finalised anything yet, they still need to go out for consultation where people will undoubtedly write back and tell them that this isn't quite how accountants would think about the issue," says Jessica Taurae, partner at PwC.

Depending on the comments the body receives and how long it takes to amend its recommendations, the IASB is expected to publish a final paper in September. The paper will then have to be endorsed by the EU before market participants can utilise the relief provided for their year-end 2020 financial statements.

A key part of the Phase II discussions hinges on the notion of "economic equivalence" in gauging whether a contractual modification is substantial. In other words, a shift from Libor to a new rate must not fundamentally change the economics of a contract in order for hedge accounting to continue.

"What the IASB indicated in that October paper isn't what we've done in practice today at all. A lot of people were struggling to understand why what they would ordinarily do was necessarily the wrong answer according to the board" Jessica Taurae, PwC

One way that the IASB proposes to measure this effect is with the so-called "10% test". If the cashflows of an asset, at discounted present value, change by more than 10% following the rate switch, then a substantial modification has occurred.

In these circumstances, the original financial asset is de-recognised while the 'new' financial asset is recognised at fair value, under paragraph 5.4.3 of IFRS 9. The 'new' financial instrument has its interest rate recalculated and any differences in the recorded cost of the asset are recognised in profit and loss as a gain or loss – potentially creating volatility in accounting statements.

Accountants are also concerned that the IASB's guidance over substantial modifications will have unintended negative consequences for contracts referencing Eonia, particularly given its recent change in methodology to the euro short-term rate (€STR) plus a spread of 8.5 basis points. Even within the IASB, there is debate over indexes that retain their name but change methodology, such as Eonia.

"I think it has to be the case that [contract] modifications include situations where you've kept the same [interest rate] name but the mechanics have changed," says Iliriana Feka, IASB technical staff member, in a voice note where IASB staff discussed their October paper. "Otherwise you could keep the name and change what it meant and then get accounting, which wouldn't reflect the underlying economics."

According to PwC's Taurae, the majority of accountants wouldn't currently view Eonia's

"I don't think the IASB view a situation like Eonia changing its methodology as a substantial modification because if it was classed as a substantial modification it would then result in de-recognition, and it would be very strange if something which has hardly any effect on the overall contract results in de-recognition"
Tony Clifford, EY

recent methodology change as a substantial modification, even though the IASB's October paper suggests that Eonia's change does constitute a modification to a contract.

"What the IASB indicated in that October paper isn't what we've done in practice today at all. A lot of people were struggling to understand why what they would ordinarily do was necessarily the wrong answer according to the board," she says.

However, EY's Clifford believes that while such a situation would count as a contractual modification, it's unlikely to signify a substantial modification – and thus is unlikely to have an impact on hedge accounting.

"I don't think the IASB view a situation like Eonia changing its methodology as a substantial modification because if it was classed as a substantial modification it would then result in de-recognition, and it would be very strange if something which has hardly any effect on the overall contract results in de-recognition," he says.

Either way, accountants are keen for the IASB to clear up any confusion surrounding the status of contracts referencing Eonia.

Group think

The IASB's guidance for groups of hedged items is a further cause for concern – with the body's December guidance placing potentially onerous extra requirements on market participants to prove that items within a hedging group have similar risk characteristics in light of Libor transition.

IFRS 9 and IAS 39 allow entities to designate a group of items as the hedged items in a hedging relationship – as it's often more practical and cost-efficient for market participants to hedge groups of items rather than individual exposures.

Under IAS 39, entities are currently required to engage in a 'proportionality test' for groups of items within a hedging relationship in order to ensure that the items share similar risk characteristics. Meanwhile, IFRS 9 only requires the test for groups of items in a cashflow hedge – that is, when hedging against the risk of a change in an asset's income. If items in a group have different risk characteristics, they need to be split into further groups of items that do share risk characteristics.

Alongside that, firms also have to define a hypothetical derivative for each separate designated group of items. The terms of the hypothetical derivative should match the terms of the hedged item so that it can serve as a proxy for measuring changes in value of the hedged item. This ensures it can appropriately capture changes in fair value due to those differing risks. Without this 'proportionality test', different risks could essentially be hidden within the same group of items. This is because the hypothetical derivative would mirror the general risk characteristics of the entire group designated as the hedged item and not a specific risk associated with one single item within that group.

As alternative reference rates are predominantly overnight rates, while Libor is available in a range of different tenors, the IASB highlights that the new rates could thus exhibit different volatility patterns to Libor – affecting the proportionality test. Therefore, it recommends amending both IFRS 9 and IAS 39 to place additional requirements on market participants for hedging groups. For instance, market participants will likely have to amend their hedge documentation to redefine a group of items into two subgroups – one that references the original Libor rate and one that references the replacement rate – and perform a proportionality test for each separate subgroup of items.

For groups that contain items transitioning to different rates, it's unclear whether these instruments would be classed as having the same risk characteristics. Accountants say the market will need to wait until the IASB publishes its exposure draft to see if hedge accounting is retained in this situation.

The industry, it seems, has a long way to go before the final guidance on hedge accounting is agreed. But PwC's Taurae believes time is on the IASB's side when it comes to further clarifying its position on cash product contract amendments. For example, she highlights that loans, bonds and other debt instruments often require a significant level of approval for contract amendments to be made – often 75% for bondholders in the UK – which will be a lengthy process in many cases.

She says: "Given the sheer number of contracts that need to be amended, progress has been really slow. As a result, the IASB has time on their hands as the cash market isn't moving as quickly to amend contracts as regulators would perhaps like it to move." ■

Managing the cost of transition and the risk of delay

A forum of industry leaders, which includes sponsors of this report, discusses key industry concerns around the transition away from Libor, including the risks investors will face once the rate is discontinued and how to manage them, whether forward-looking term risk-free rates (RFRs) will prove a long-term requirement, and when liquidity in RFR markets will be sufficient for constructing robust and compliant forward rates

>> 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

Chris Dias
Principal, Global Libor Solution Lead
www.home.kpmg

What types of risk will investors face once Libor is discontinued?
Chris Dias, KPMG: Immediate investor risk is very specific to fallback language and the operational implications of implementing specific fallback choices when triggers are initiated. Assuming investors have adopted fallback language reflecting appropriate and up-to-date regulatory guidance, the risk to investors will be focused on institutions' capability to implement the choices outlined by the fallback waterfall or the choice determined through a negotiation process. These risks are heightened by the fact that market infrastructure and market conventions are still evolving, making operational readiness uncertain.

Shaun Kennedy, Associated British Ports: Even for firms fully prepared for the discontinuation of Libor, there remains a range of legal, conduct and liquidity/demand risks for any instruments that remain using Libor and that lack a clear legal mechanism for moving to a new rate.

Barry Hadingham, Aviva Investors: Libor has been central to financial markets for a very long time. With trillions of dollars in financial products still dependent on its publication, it seems unlikely that all of these will be fully transitioned before the end of 2021. Inevitably, discontinuance is going to crystallise a number of risks – particularly for legacy Libor contracts that cannot be transitioned and remain in place beyond 2021.

There is a real risk of significant value transfer for legacy contracts falling back to new risk-free rates (RFRs) as Libor volatility is likely to increase significantly in the run-up to its demise. Firms should also be considering conduct risk because potential adverse outcomes for clients are likely to be closely watched by regulators where firms have taken insufficient action to transition prior to the end of 2021.

The proposed inclusion of pre-cessation triggers in International Swaps and Derivatives Association (Isda) contracts is also a significant risk for firms relying on the Isda fallback provisions. In practice, regulators can make a pre-cessation determination on Libor at any point post-2021, which could lead to the application of a significantly different fallback rate to legacy contracts than under the proposed Libor cessation trigger that would only come into effect once Libor publication ceases.

However, it seems inevitable that at least some market participants, through a lack of knowledge or other factors, are likely to end up in a scenario where they have no fallbacks. At that point, they will be faced with the choice between termination and renegotiation in the event of Libor's discontinuation, which is clearly the biggest risk.

Edward Ocampo, Quantile: Libor is widely referenced in contracts across the global financial markets, and most existing contractual fallback provisions are woefully inadequate. Without meticulous planning, Libor's cessation could have systemic consequences. Market participants risk facing a loss of contractual continuity, contract frustration, changes in the market value of financial instruments and tax effects – all with potentially material financial consequences.

National working groups and international authorities have worked intensively over the past five years to develop robust Libor alternatives and provide guidance on benchmark transition. Market participants should draw on this important work to ensure they are adequately prepared for Libor's cessation.

How can firms manage the risks and costs associated with the transfer of existing transactions to RFRs?
Barry Hadingham: It is important to establish robust governance arrangements at the most senior level to manage Libor transition across the business. For example, asset managers need to consider the decision-making process around the transition and whether they have discretion to do so under the client's investment management agreement. Even where they do, it can be challenging if client assets are being managed against a Libor benchmark that also needs to change. For example, insurance clients may be reluctant to amend Libor-linked benchmarks until they know what RFR-based discounting methodology the European Insurance and Occupational Pensions Authority is going to recommend under the Solvency II capital rules.

Firms also need to establish a conduct framework to manage potential conflicts of interest and best execution, and ultimately deliver the best outcome for clients. This also requires portfolio managers to understand and monitor market activity and Libor/RFR spreads to deliver a fair and cost-effective outcome for clients. The Isda fallback consultation and resulting calculation methodology

has been extremely helpful in providing broad parameters for the market to determine an expected range for the fallback and thus an appropriate trading range for transition today.

QUANTILE

Edward Ocampo
Advisory Director
www.quantile.com

Edward Ocampo: At Quantile we are working closely with our clients to facilitate the transition of over-the-counter derivatives portfolios to RFRs.

Broad-based adherence to Isda's interbank offered rate (Ibor) fallback protocol will provide a safety net for legacy swap portfolios in the event of a permanent cessation. But national working groups and international authorities have made clear that fallbacks should not be used as a primary transition mechanism – a 'big bang' conversion would entail significant operational risk.

Instead, market participants are advised to close out Libor swaps and replace these with overnight index swaps (OIS) referencing RFRs before a fallback trigger event. There is already significant liquidity in sterling overnight index average (Sonia) swap markets, and this will only improve following the recent change in GBP swap market conventions. Expect to see a significant uptick in secured overnight financing rate (SOFR) swap liquidity following the October 2020 shift to SOFR discounting for cleared swaps.

Transition of legacy swap portfolios can be implemented through two key steps: risk transfer from Libor to RFRs via traded swap markets, and termination of residual Libor cashflows via compression processes.

Quantile's multilateral compression service terminates Libor-linked cashflows, collapses Libor-OIS basis positions and rebuilds portfolios using OIS referencing RFRs. As of January 2020, our sterling compression service no longer uses Libor-referencing risk replacement trades – we only rebuild sterling exposures using Sonia-referencing swaps.

Market participants will need to transition both cleared and uncleared portfolios. Moving uncleared interest rate delta onto central counterparties (CCPs) can materially facilitate transition. That's because cleared positions are easier to trade, easier to compress and easier to transition. Quantile's multilateral risk rebalancing service can facilitate efficient margin management as uncleared risk is swept efficiently into CCPs.

UK-regulated firms now need to quantify and report their Libor exposures on an ongoing basis. This should strongly encourage firms to significantly reduce their stock of Libor-referencing contracts before the first quarter of 2021 target established by the UK RFR Working Group.

Maurizio Garro, Lloyds Banking Group: Model risk is one of the key risks associated with the Ibor transition because of a number of model changes implemented across valuation and risk models that require significant effort in model risk governance. In addition, the required model changes – for regulatory capital, for example – may require regulatory approval, the timing of which could be constrained by regulatory capacity for review of model applications.

For this reason, it is important to adopt a phased and structured approach to development and validation of model changes. The key driver is the model inventory across the enterprise. Finally, evaluating potential synergies across the model changes may help to make the process more efficient and cost-effective.

Eamonn Maguire, KPMG: The risks and costs can be considerable if not managed appropriately. Performing a comprehensive risk assessment to include operations, technology, clients and business impacts will be critical to effectively managing both outcomes and associated costs. Prioritising, sequencing and aligning activities to business as usual, as well as transformational initiatives – both in-process and anticipated – will help alleviate the burden on resources and budgets. Cost-effective transition can be influenced strongly by developing a pragmatic and strategic overlay. Combing this overlay with playbooks will help firms better understand activities and requirements, and identify synergies critical to containing costs.

Shaun Kennedy: There will inevitably be costs for managing the transition of existing transactions to RFRs. Over time, these costs will reduce as firms test new approaches and standards, and best practice is established. The trade-off remains whether these costs, combined with the risk of doing something less than perfect, outweigh the costs of staying in transactions linked to Libor.

Barry Hadingham
Head of Derivatives
and Counterparty Risk
Aviva Investors

Should fallback language currently being penned for Libor referencing interest rate swaps include pre-cessation triggers?

Barry Hadingham: The original Isda consultation on pre-cessation triggers in 2019 received a very mixed response from market participants, with some suggesting the inclusion would significantly impact the take-up of the cessation trigger protocol, which could be detrimental to market stability.

If there is to be a second Isda consultation, market participants will need further clarity on how the pre-cessation triggers would work, as well as the ability to opt out of the protocol for certain derivatives transactions. These include hedging instruments with either no fallback or a different timeline. Ideally, pre-cessation triggers for the bilateral market should align with clearing house triggers, leading to transition of legacy cleared Libor contracts and ensuring they move at the same time. This would create alignment between cleared and non-cleared markets as well as protecting the clearing house default management process.

As LCH is just beginning the consultation process, it will be hard for Isda to push ahead with a new pre-cessation trigger consultation until there is consensus and clarity for the cleared market.

Maurizio Garro: It is important to maintain consistency on this point between derivatives and the underlying assets to minimise value transfer and distortions. For example, multiple spread adjustment transitions may add an operational burden on the development, implementation and maintenance of the market data, financial library and IT infrastructure. On this basis, it is important that the market choose a consistent solution, including aligning cleared and non-cleared derivatives.

Edward Ocampo: Swap market participants are keen to ensure that fallbacks trigger uniformly across products and markets. CCPs have proposed changes to their rule books to incorporate pre-cessation triggers. If these proposals are agreed, it would be sensible to also include pre-cessation triggers in bilateral derivatives.

But the best outcome would be to avoid an unrepresentative Libor altogether. Instead, any permanent cessation of Libor should be announced well in advance, while the benchmark is still representative.

KPMG

James Lewis
Director, UK Libor Lead
www.home.kpmg

James Lewis, KPMG: Three significant developments have occurred influencing greater considerations for pre-cessation language in the context of derivatives. First, large clearing houses have signalled their intent to update their terms and conditions or rule books to include a pre-cessation trigger. Second, industry groups representing a number of cash markets participants have expressed a strong need that pre-cessation triggers be included in any amendment to the fallback provisions. To that end, the Alternative Reference Rates Committee has included pre-cessation language in its recommended fallbacks for all cash products – syndicated and bilateral loans, floating rate notes and securitisations. Third, the UK's Financial Conduct Authority and the Ice Benchmark Administration have issued statements indicating that a reasonable period, during which a 'non-representative' Libor would be published, will be minimal. Clearly, any differences in fallback language related to pre-cessation triggers between uncleared derivatives and cleared derivatives contracts or cash products could lead to market fragmentation or hedging discrepancies.

Shaun Kennedy
Group Treasurer
Associated British Ports
www.abports.co.uk

Regulators have deemed forward-looking term RFRs a requirement for transition – but are they required for the longer term?

Shaun Kennedy: In sterling markets, use cases for forward-looking term rates have been set out. Discounting-based loan instruments used in trade finance and invoice factoring are two examples that could be required in the longer term. The majority of products will, however, be able to use RFRs directly and this should be the case for new products and for the transition of legacy positions.

Edward Ocampo: Term RFR benchmarks – based on pricing in RFR derivatives markets – will be useful over the long term. These benchmarks can provide price transparency across the RFR yield curve – from overnight out to 30 years – and help reduce asymmetric information regarding the valuation of financial instruments referencing RFRs.

Barry Hadingham: As cash and derivatives markets are beginning to align closely in terms of compounding methodologies, there is a reasonable argument that forward-looking term rates are not required for new products in the long term. A decisive shift in bond and loan markets to compounding in arrears will also make it easier to hedge these products.

There is, however, potentially an argument for some parts of the market – particularly legacy Libor contracts that cannot be transitioned – to continue using some form of term structure, but not the market as a whole.

Franz Lorenz, KPMG: Forward-looking term rates are appealing, but not essential. Very few cash or derivatives products cannot be adapted or modified to function using an overnight rate. So, while a term structure is not technically necessary for the long term, it is absolutely necessary for widespread market adoption. Derivatives markets have been trading in OIS for some time with significant evident volume, and adoption of an overnight RFR may be trivial for derivatives markets dealers. Cash markets, on the other hand, have grown accustomed to having a forward-looking term structure in place and have hardwired many processes and systems to look for a forward rate. Changing these processes and systems will present a major challenge for a great number of industry participants.

Maurizio Garro
Senior Lead – Ibor Transition Programme
Lloyds Banking Group

At least four vendors are vying to provide term rates in the Sonia and the euro short-term rate (€STR) – how will users navigate this multi-rate landscape?

Maurizio Garro: Currently there are four candidates with different methodology on the table. Providers consolidating around a single term rate would be preferable for market liquidity and the evolution of hedging products – but this is for the market to decide. From an operational perspective, it may increase the burden on the IT/financial libraries as financial institutions may need to consider different methodologies to develop, implement and test the pricing and risk models and conduct all the necessary quantitative impact assessment on key market risk figures including value-at-risk, sensitivity limits and regulatory capital charges for market risk.

Finally, the potential different conventions across the four methodologies – for example, day count – may require some reconciliation activity, which presents an additional operational challenge for banks.

Barry Hadingham: Given the likely limitations on the use of Sonia and the reluctance of UK regulators to see broad market adoption of term rates post-2021, four vendors seems significant. In time, the market is more likely to coalesce around one particular vendor – potentially the current Libor administrator – which has significant experience of calculating term rates as well as access to a range of panel banks. It's also important to ensure a consistent market-wide methodology is being developed by vendors across a range of currencies.

In the eurozone, there is likely to be a broader remit for €STR-based term rates as the European Central Bank is more comfortable with their potential use, for example, as a fallback for Euribor-linked swaps. However, there are likely to be concerns around who calculates the rates, and again this could lead to the current Euribor administrator filling this role.

Edward Ocampo: Competition is healthy and should encourage the development of robust, representative and reliable benchmarks. But successful benchmarks benefit from network effects, so market participants are likely to settle on a single provider in short order.

When will liquidity in RFR markets be sufficient for constructing robust International Organization of Securities Commissions (Iosco)-compliant forward rates?

Edward Ocampo: Sonia swap markets are already sufficiently liquid to support Iosco-compliant term fixings. As RFRs become the market convention for interest rate swaps and futures in other currency areas, it should be feasible to construct Iosco-compliant term fixings in those currencies as well.

Chris Dias: For a term rate to be compliant with Iosco's principles, it requires sufficient observable market data in the swaps and/or futures markets. Liquidity is starting to build in both, albeit at slow pace. Watershed events such as the big bang – when CCPs move to Sonia and SOFR discounting – will bring a significant boost to liquidity and a step forward for term benchmarks. While these types of market events are significant contributors to it, nothing will generate more liquidity than focusing demand on a single rate. Demand for alternative rate products needs to increase in order to achieve the liquidity needed to support an Iosco-compliant term rate.

Rick Ho
Principal, US Libor Lead
www.home.kpmg

How will the switch to the SOFR discounting for US dollar swaps take place, and what impact is it likely to have on SOFR derivatives liquidity?

Rick Ho, KPMG: The two major CCPs, CME and LCH, are planning to transition to SOFR discounting and price alignment in October 2020. Market participants with US dollar interest rate swap products cleared by these CCPs will have the positions revalued, moving from the effective fed funds rate (EFFR) to SOFR. To neutralise the value transfer as a result of this change in discounting, the valuation will include a cash adjustment equal and opposite to the net present value change, and an EFFR versus SOFR basis swap to offset the risk profile.

The creation of these EFFR versus SOFR basis swaps would facilitate secondary trading of SOFR derivatives, given that a significant number of market participants do not intend to hold these swaps because of infrastructure or investment guideline restrictions. Liquidity for SOFR swaps – including SOFR versus fixed and SOFR versus EFFR – will improve following CCP conversions on SOFR discounting. The benefit will be most pronounced in the long end of the curve where current liquidity is minimal. For non-linear SOFR-based derivatives such as swaptions, caps and floors, SOFR discounting may not create immediate liquidity benefits. Additional market infrastructure, such as volatility surfaces, will be required.

Edward Ocampo: The switch to SOFR discounting provides a use case for long-dated SOFR derivatives – US swap market participants will need to use SOFR swaps to manage their discounting risk. SOFR discounting is a necessary condition for SOFR swap liquidity.

But RFR discounting may not be a sufficient condition to ensure SOFR liquidity. We will also need to see broad adoption among end-users, including those who do not actively hedge their discounting risk. That will help generate the two-way flows necessary to support a well-functioning market.

Finalising the methodologies for Isda's fallbacks should also help – leading to more stable and predictable pricing in SOFR basis swap markets and, consequently, more liquidity provision from the dealer community.

KPMG
Eamonn Maguire
Managing Director, US Libor Lead
www.home.kpmg

Given the surprise September spike in SOFR, is it the right benchmark for US dollar lending markets, or are there more suitable alternatives?

Eamonn Maguire: SOFR rose to a record 5.25% on September 17, 2019 – an increase of 282 basis points over the previous day's mark. This surge in the rate was mainly caused by an increase in demand for liquidity driven by a confluence of factors – quarter-end cash needs, treasury settlements, tax payments, broker-dealer position financing and the need for cash reserves to support capital requirements. The spike in rates was ephemeral, demonstrated by the fact that rates returned to their previous pre-demand levels the following day. Although the spike was significant, the impact becomes muted over various averaging or compounding periods. The key takeaway here is that SOFR is a market-derived rate, which is subject to supply and demand factors. This market-derived attribute is a key principle underpinning benchmark standards.

Barry Hadingham: The September spike has highlighted the potential volatility in SOFR as a result of market stresses and a lack of capacity in the US dollar overnight cash repo market when these stresses occur. The 282bp rise in SOFR on September 17 impacted a range of instruments including interest rate swaps. This has reduced confidence in SOFR. As Libor is a forward-looking rate, it is less susceptible to unexpected events as market participants can factor in foreseen moves across the relevant time horizon in advance. This is an important component of Libor highlighted clearly by the recent SOFR spike.

The other component is the role played by the repo market, which is managed through discretionary mechanisms controlled by the US Federal Reserve. SOFR is largely dependent on Fed activity and its ability to stabilise the market. Going forward, SOFR may suffer higher volatility than US dollar Libor as a result of one-off market events. If these spikes continue, it will be difficult to convince end-users to adopt SOFR and is likely to hinder the transition away from US dollar Libor. More time may be needed to observe its behaviour against legacy Libor to confirm that it is in fact a worthy successor.

Edward Ocampo: In sterling markets there is little interest in a credit-sensitive GBP Libor alternative. Loan market participants are solely focused on RFRs as replacements for GBP Libor – Sonia, base rate or a term version of Sonia. But some US market participants – including regional and mid-sized banks – are keen to explore a credit-sensitive USD Libor alternative for lending markets. A multi-rate approach in US markets could allow users to choose a rate that best meets their economic needs.

USD Libor alternatives should be welcomed as long as they are robust, representative and compatible with a SOFR-centric ecosystem in derivatives and capital markets.

KPMG
Franz Lorenz
Director, Germany Libor Lead
www.home.kpmg

€STR is a recent addition to the RFR family – how will liquidity develop alongside regulator support for Euribor reform?

James Lewis and Franz Lorenz: €STR is effectively a more robust replacement for Eonia. It is grounded in more readily available transaction data and is similar to Sonia in that it is an unsecured overnight rate. €STR is likely to become a key capital markets rate for the euro.

Euribor will continue – arguably more broken and grounded in less interbank data than Libor is today. But Euribor is used widely across the eurozone for underpinning mortgages and European regulators have decided to keep it in place, at least for the medium term. Whether this is the right decision for the robustness and reputation of the market, only time will tell.

Barry Hadingham: I would expect €STR liquidity to develop fairly swiftly, given the effective demise of the euro overnight index average (Eonia). The bigger question is what happens to Euribor and whether liquidity switches into €STR as other jurisdictions move to RFRs. It seems unlikely that in the longer term, euro-based cross currency swaps will continue to reference Euribor, and this will likely be a catalyst for the market transitioning to €STR.

Edward Ocampo: Euribor's methodology has been reformed and its administrator has received authorisation under the European Benchmarks Regulation, so I would expect to see continued widespread use of Euribor over the medium term.

But Eonia is no longer an independent benchmark – it is now pegged to €STR, and the plan is to discontinue Eonia on January 3, 2022. That should facilitate the seamless transfer of liquidity from Eonia to €STR in derivatives markets.

As RFRs are adopted as the market convention for interest rate swaps in other currency areas, expect cross-currency swap markets to move to an RFR convention on both pay and receive legs. This should further encourage the development of €STR liquidity in derivatives markets.

To aid the transition, Quantile's cross-currency compression service will allow clients to rebuild their portfolios using new swaps that reference RFRs. ■

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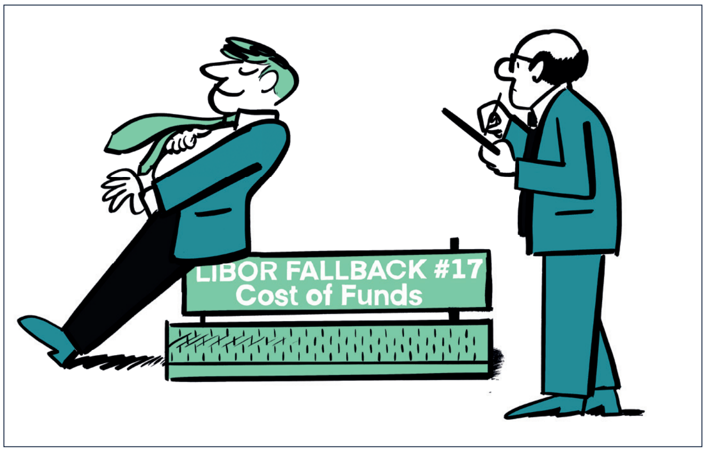


Illustration: Mark Long, nbillustration.co.uk

Secrets and Libor fallbacks

Some things are better not shared. Like shoes, *Risk.net* logins and a bank's cost of funds. Lenders may be forced to reveal this closely guarded information, however, when Libor ceases to be published.

Cost of funds is the ultimate interest rate fallback in the Loan Market Association's (LMA's) standard documentation, which is widely used for syndicated and bilateral corporate loans governed by UK and European law.

There are several problems with this. First, the LMA documentation does not define cost of funds or how it should be calculated. Given its use as a proxy for Libor, the term is generally interpreted as the cost of borrowing in the short-term interbank markets. But banks no longer fund themselves in this way. According to the Bank of England, the proportion of balance sheet assets reliant on wholesale funding dropped from more than 40% in 2008 to less than 25% in 2017.

As a result, most banks now factor in other liabilities, such as retail deposits and long-term debt, when calculating their overall funding costs for lending. Some may even argue that loan loss reserves and capital requirements should be included in the costs passed on to lenders.

Even if a common approach to measuring cost of funds could be agreed, banks want to keep that information tightly sealed. A lender with low funding costs may face a backlash from customers for charging higher rates. More worryingly, a bank that pays above the odds would face questions about its creditworthiness and find itself locked out of the funding markets altogether.

All of this means cost of funds simply isn't going to fly as a Libor fallback for loans. "I cannot ever envision individual banks publishing cost of funds," says the head of credit and lending at an international bank. "That would not happen, full stop."

Banks are now scrambling to insert alternative fallbacks into loan agreements. That's easier said than done. While derivatives will switch to a compounded-in-arrears version of new risk-free rates plus a fixed spread, the loan market is clamouring for forward-looking term rates with a spread adjustment that more closely mirrors the credit component of Libor. These may take some time to emerge.

Some are now suggesting the loan market should simply adopt the fallbacks for derivatives instead. But the International Swaps and Derivatives Association's (Isda's) fallback methodology fixes the effective bank term lending or credit component, and will create winners and losers when used as a reference rate for long-term assets. This should in theory be subject to compensation. But as Marc Henrard, managing partner at muRisQ Advisory writes, this is by no means a straightforward calculation, as shown in the non-cleared swaps market (see pages 20–22).

Using basis levels from before the Isda fallback consultations started moving the market, Henrard shows that a 30-year Libor swap rate without fallbacks should be up to 10 basis points higher than current levels. All this involves complicated modelling, which might be okay to explain to a derivatives counterparty, but perhaps not to a small business owner wondering why the bank wants to change the terms of a loan.

Banks will need to find an appropriate alternative to cost of funds in loan agreements, and quickly.

Kris Devasabai, Editor-in-chief, *Risk.net*

"Quote me"

"Cost of funds was only ever meant as a temporary measure due to market disruption. It was never designed for a long-term regulatory change"
Davide Barzilai, Norton Rose Fulbright

"The funding provisions in loan agreements haven't really changed over the past 35 years, so cost of funds isn't as appropriate a fallback as it once was"
David Campbell, Allen and Overy

"It's really now up to the market to decide which options are going to be standard"
Stephen Powell, Slaughter and May

Lenders' fallback

Banks want to replace fallback language in loan docs and avoid relying on the cost-of-funds contingency. By Natasha Rega-Jones

Need to know

- The disappearance of Libor as a reference rate necessitates a fallback to alternative risk-free rates across cash and derivatives instruments.
- For syndicated and bilateral loans governed by Loan Market Association documentation – a large proportion of loan markets in Europe, the Middle East and Africa – the specified fallback is the lender's cost of funds.
- Envisaged as a temporary stopgap for extraordinary market events only, the cost-of-funds fallback presents problems for lenders and borrowers alike.
- To amend the terms of individual loans to reflect anything but the fallback, signatories may have to undertake extensive renegotiations across their entire loan books.
- While an International Swaps and Derivatives Association protocol – a multilateral agreement mechanism – is available to amend existing derivatives contracts, no such option is yet in place for loan markets.
- The LMA is working with the industry to establish more workable fallbacks. And some market participants envisage extending the Isda protocol to loans and other cash products.

For lenders across Europe, the Middle East and Africa, the loss of Libor reference rates could have punishing consequences.

In standard Loan Market Association (LMA) loan documents, the cost of funds – the rate at which banks fund themselves – is the rate to which contracts default: the fallback rate. Envisaged as a stopgap contingency, not a longer-term transition, the cost-of-funds fallback invites a host of confidentiality and commercial issues for banks. For non-traditional lenders – and for borrowers – the fallback throws up other unintended ill effects.

"Cost of funds isn't a good fallback solution," says a Libor expert at a large US investment bank. "There really needs to be an industry solution to replace it. Although it's in contracts – including new contracts being written today – it isn't something we can rely on during the transition period. We need to amend existing contracts to have more robust fallbacks."

The sentiment is shared – more robustly – by a partner at a London-based law firm. "While the regulators are aiming for greater certainty and objectivity within benchmark reform, a huge number of loans will end up falling back onto the most subjective and dysfunctional basis of interest you can think of in the form of cost of funds," he asserts.

The pitfalls are many.

For one thing, lenders don't like to share details of their cost of funds with borrowers or their facility agents in syndicated loans – not merely for competitive purposes but also for their potential to create reputational risk. If a lender's cost of funds looks anomalous to the market, it could foster assumptions about credit quality or feed speculation regarding default.

Another major setback is that different banks use different methodologies to calculate their cost of funds on any given loan. The potential for disputes – especially if lenders' quotes appear higher than Libor would have been – and litigation over 'cost of funds' interpretations is significant.

"Cost of funds is just riddled with issues," says the law firm's partner.

So, how can participants avoid these issues?

Bye-bye, Libor

Along with its plan to cease issuance of cash products linked to sterling Libor by the fourth quarter of this year, the Bank of England seeks to significantly reduce the stock of legacy contracts by the first quarter of 2021.

While legacy derivatives contracts will have the benefit of an industry-wide initiative – an International Swaps and Derivatives Association protocol will amend contracts *en masse* through its multilateral sign-up mechanism – there are no quick fixes for cash products.

Instead, individual loan contracts will need to be renegotiated bilaterally to transition to other risk-free rates (RFRs).

> "Cost of funds was only ever meant as a temporary measure due to market disruption. It was never designed for a long-term regulatory change"
>
> Davide Barzilai, Norton Rose Fulbright

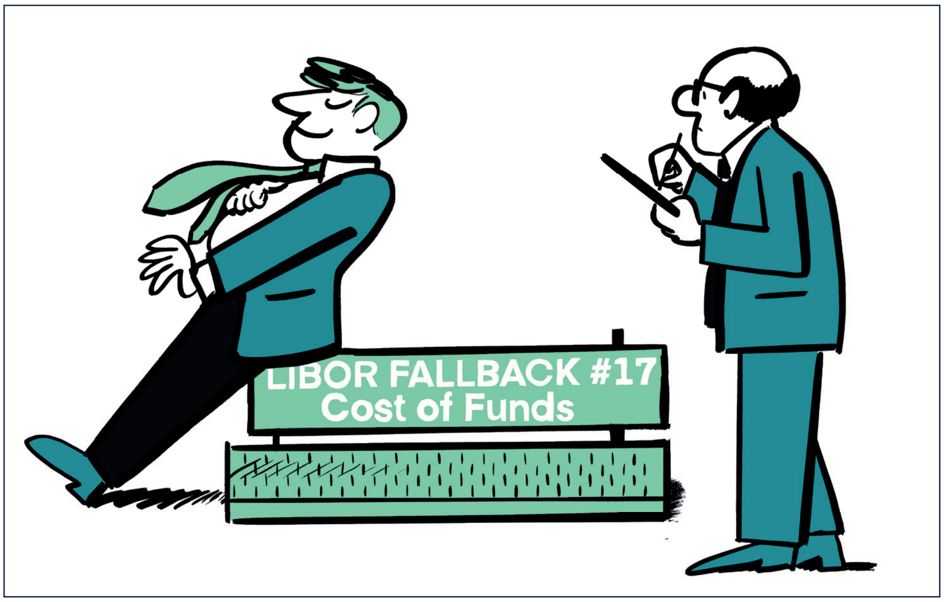
If left unchanged, standard loan documents fall back to the cost of funds. For syndicated loans, interest is calculated on a lender-by-lender basis, using each lender's individual cost of funding its participation in the loan. The banks' facility agent is then required to calculate the interest rate payable by the borrower to each lender in the syndicate by referencing an average cost-of-funds figure from each lender's quoted cost of funds.

Loan agreements that include the clause also often state that lenders can utilise any source of funding they may "reasonably" select when calculating their cost of funds – so lenders are in control when it comes to establishing a new rate. If a borrower disputes the figure, loan agreements don't typically include a mechanism for dispute resolution – nor do they impose any obligation on the lender in question to prove how it calculated its cost of funds.

"Cost of funds was only ever meant as a temporary measure due to market disruption. It was never designed for a long-term regulatory change," says Davide Barzilai, partner at Norton Rose Fulbright. "So we might see disputes over the figure presented to borrowers, which may ultimately lead to litigation."

"Cost of funds will create uncertainty and litigation because the question of what is a bank's cost of funding is a very difficult one to ask," agrees the partner at the London-based law firm.

Andrew Peterson, partner at Alston & Bird, says a lender could claim its calculation is based on any one of a wide range of possibilities, such as the cost of having a specific loan on its balance sheet, the cost of that loan not being repaid, or even a cost relating to profit or loss analysis.



"The funding provisions in loan agreements haven't really changed over the past 35 years, so cost of funds isn't as appropriate a fallback as it once was"
David Campbell, Allen and Overy

Fall guys

One of the thorniest issues with cost of funds is that banks are unlikely to want to share such information with facility agents or borrowers, given its proprietary nature. For instance, Peterson notes that if borrowers knew banks' funding costs, they could work out how much profit banks make from their lending business and potentially re-evaluate their lender of choice.

An even graver concern for banks is the worry that such proprietary information could create reputational risk if their cost of funding comes in higher than other lenders. This can lead to speculation about a bank's credit quality and the likelihood of its imminent default.

"We saw that happening during the financial crisis," says David Campbell, partner at Allen and Overy. "One of the reasons banks were not submitting accurate Libor rates was that they didn't want to be seen as incapable of borrowing at a low rate in the market. Having a high cost of funds raises questions about why people aren't prepared to lend at certain rates to the bank in question, which then fuels a vicious circle of people thinking that bank is about to default. So, banks generally are very cagey about what their costs of funds are," he says.

"This is why no bank would ever want cost of funds to be used as a fallback," says the US bank's Libor expert. "I can't imagine you ever getting specific information on what JP Morgan's or Barclays' costs of funds are, for example, because no bank wants to share that information due to the reputational issues that might arise from doing so."

Allen and Overy's Campbell says some banks are so sensitive about providing their cost of funds that they would rather a borrower just pays them a margin – not the typical package of interest rate plus margin – in order to avoid speculation about their funding costs.

"If a bank is considered to be very risky in the market, then their cost of funds is likely to be higher than a bank which isn't so risky. Disclosing cost-of-funds information on anything other than a temporary basis is a very sensitive situation, so lenders say they would rather receive no benchmark interest rate at all than have to disclose their cost of funds," he adds.

Though loan agreements often include an obligation of confidentiality when it comes to funding rates – so facility agents cannot pass on information about a specific lender's individual cost of funds – banks are anxious about sharing such information in the first place, as it could fuel speculation not only about the health of a bank, but also that of the overall market.

"Of course, every bank knows what their individual cost of funds is," says the head of credit and lending at an international investment bank. "But a lot of the information that goes into that calculation is proprietary, which is why no-one wants to rely on cost of funds as a fallback, because it would cause sensitive information to get into the market. For instance, a published rate that shows an increasing trend could signal to the market a deterioration in the financial standing of banks, which could undermine confidence in the banking system. So I can't ever envision individual banks publishing cost of funds. That would not happen, full stop."

At what cost, the cost of funds?

The problem of calculating cost of funds is also made trickier for non-bank lenders. While banks traditionally fund themselves in the interbank market – making it fairly easy for them to track down where their funding comes from – non-bank lenders such as hedge funds and debt funds will often fund loans from the equity or capital they have raised from multiple investors. This makes it harder to retrace where the funding for any given loan came from, as it is likely to have come from multiple sources.

"Non-banks have a completely different range

Illustration: Mark Long, nbillustration.co.uk of bases for cost of funds because it depends on what the cost of capital was when they raised it and how they've deployed it since then. So, for non-banks, cost of funds creates further concerns," says Alston & Bird's Peterson.

However, the number of banks funding themselves in the interbank market has decreased substantially over the past few years. In many cases, banks fund themselves with deposits and longer-term debt instead, meaning that even for banks it can be difficult to track down the funding source for a specific loan. For instance, while the proportion of banks' balance sheets accounted for by interbank wholesale funding was more than 40% in 2008, in 2017 it was less than 25%, according to Bank of England statistics.

"Loan agreements are based on the assumption that lenders fund themselves in the interbank market, and that they lend to borrowers at the rate of their lending – plus a margin which reflects the risk of the borrower not repaying the loan," says Allen and Overy's Campbell. "This is no longer the case. The number of sources banks can use to fund themselves has increased – and although time has moved on, the funding provisions in loan agreements haven't really changed over the past 35 years, so cost of funds isn't as appropriate a fallback as it once was."

"It's really now up to the market to decide which options are going to be standard"

Stephen Powell, Slaughter and May

Therefore, he says, it's highly likely there will be disputes over what lenders are basing their cost of funds on, leading to potential litigation between borrowers and lenders.

"Lenders are under no obligation to explain their cost-of-funds rate, choose the cheapest rate, or consult with the borrower on what that rate should be. The lender generally has to act reasonably in selecting the source of its funding, but apart from that, it simply says its rate is X% and that's it, so borrowers never really know whether they're being given an accurate cost-of-funds figure or are being ripped off. If I was a borrower, I'd be incredibly uncomfortable with my lenders having that kind of power when

David Campbell, Allen and Overy

it comes to determining the price of my borrowing," he says.

Litigation risk aside, cost of funds also places significant operational burdens on facility agents when it comes to calculating an average cost of funds from multiple individual lenders within a syndicate – burdens which agents are unlikely to be able to cope with in the event that cost of funds is used as a fallback on a wider scale.

"Facility agents have the administrative headaches to end all headaches when it comes to getting a cost-of-funds figure from all the lenders within a syndicate," says Campbell. "Lots of facility agents have literally hundreds or thousands of loans to administer, so if legacy contracts fall back to cost of funds, they'll have to ask all the lenders for their cost of funds, chase up people who don't reply, and calculate multiple rates of interest afterwards. They would just completely grind to a halt as they wouldn't be able to do it with their current staffing levels."

So, the cost-of-funds fallback can potentially disadvantage all parties in some way.

Springing forward to fall back

Given the issues at hand, banks are pushing for the introduction of more robust fallbacks into legacy loans. While no final recommendations have been made, the LMA recently released an exposure draft designed to serve as a guide for market participants. It outlines how such legacy contracts could be amended away from Libor and onto new RFRs, such as Sonia, instead.

Under the draft, published on October 25, parties would essentially agree the basic commercial terms of their transition to RFRs in advance of formal contract amendments. The process is designed to streamline transition and make legacy contract amendments easier, as lenders would not need to approve all the changes to the relevant facility agreement in one pass. Instead, parties would authorise agents to enter into a separate amendment agreement in order to change facility agreements and would have several pre-determined and high-level amendment options to choose from.

While the exposure draft is available only to LMA members, *Risk.net* understands these options include a number of mechanical recommendations as to what the new replacement rate for legacy loans would look like and where that rate will be sourced – as well as options for new recommended fallbacks.

"The LMA's documentation for this is helpful as it sets out most of the options on the table, so it's really now up to the market to decide which options are going to be standard," says Stephen Powell, partner at Slaughter and May.

Aside from helping the derivatives markets transition onto new RFRs, the US bank's Libor expert believes the Isda protocol could also be key to the cash market's transition. He says loan market participants are likely to adopt Isda's fallbacks into their contracts instead.

"Once the protocol is launched and garners support, the cash market will follow," he says. "It could easily be the case that, irrespective of what's written in the contract, so long as everyone is happy to use Isda's fallbacks, then those fallbacks will be used for cash contracts [as well]. Having a more holistic and market-wide approach – like the Isda protocol – is going to be a much easier and more practical solution to the cash market's problem."

The head of US rates strategy at a European investment bank agrees that the derivatives market is most likely to move the cash market along in its transition: "I imagine a lot of the cash market will eventually [move] to the Isda fallback. The credit and spread adjustment that Isda recommends could ultimately be a unifying factor among all the different cash products in their transition away from Libor."

Either way, it seems that fallback language for loans might just get caught before a fall. ■

Judgement day looms for dealers in swap shift to Sonia

The UK financial regulator is pushing a first-quarter deadline for users to adopt the sterling market's alternative risk-free rate as the norm for interdealer trades. By Natasha Rega-Jones

Grief is said to exist in five phases: denial, anger, bargaining, depression and acceptance. Derivatives users are experiencing a similar range of emotions as they switch from Libor to alternative risk-free rates (RFRs). Now, regulators have added a feeling of urgency after giving banks a deadline to shift interdealer swap activity to the alternative RFR for sterling markets, Sonia.

The move intensifies the pressure on dealers to ditch the mistrusted benchmark and adopt Sonia as the standard way of pricing new trades by the end of March. Despite a nagging sense that not all participants have made the necessary upgrades to systems and infrastructure to handle the new fixing, dealers accept the rationale for the change.

"To be able to move the balance to Sonia within the interdealer market, making Sonia the market convention is exactly the right thing to do," says a senior rates trader at a US bank.

"We always knew this would happen," adds Phil Lloyd, head of market structure and regulatory customer engagement at NatWest Markets. "It's just a question of when it would happen and what the catalyst for it would be."

The Financial Conduct Authority's Edwin Schooling Latter told an audience at *Risk.net*'s Libor Summit on November 21 that while Sonia is already the norm in new issuance of floating rate sterling bonds and securitisations, significant volumes of new Libor swaps maturing after the end of 2021 – the date at which Libor is expected to cease – are still being struck.

Year-to-date volumes of Sonia-based overnight index swaps stood at £3.55 trillion ($4.62 trillion) versus volumes of Libor instruments, including interest rate swaps and forward rate agreements, at £2.62 trillion, according to clearing house LCH's latest data.

"In sterling interest rate swap markets, we will be encouraging market-makers to make Sonia the market convention from Q1 2020," said Schooling Latter, the FCA's director of markets and wholesale policy. "That does not, at this stage, mean no more sterling Libor swap transactions for those who have a particular reason to prefer Libor, but it does mean making it standard to quote and offer swaps based on Sonia rather than Libor."

> "In sterling interest rate swap markets, we will be encouraging market-makers to make Sonia the market convention from Q1 2020"
> Edwin Schooling Latter, FCA

In a January statement, the FCA and Bank of England (BoE) encouraged market-makers to adopt Sonia as the standard from March 2. In order to further accelerate transition to the new RFR, in February the BoE announced it would start publishing an official Sonia index in July.

Sonia liquidity has traditionally been concentrated at the short end of the curve, with Libor remaining the dominant fixing for longer-dated swaps. But, anecdotally, Sonia volumes are starting to grow at the long end due to greater activity by insurers and liability-driven investment funds, particularly in the final two months of 2019. LCH was unable to provide a breakdown of sterling swap volumes by tenor.

Need to know

- A senior UK regulator has urged banks to switch interdealer swaps activity to reference Sonia, the sterling market's alternative risk-free rate, in the first quarter.
- The move is a key part of phasing out Libor before the rate's anticipated demise at the end of 2021.
- Much short-dated trading is already fixed to Sonia, but the longer end of the curve is proving harder to change.
- Observers also raise concerns that not all market participants have updated their systems and infrastructure to handle the changeover.

> "It's a case of changing the mindset of the interdealer market and getting them to accept the fact that, in the near future, they'll be delivered basis risk if they do a trade versus Libor as opposed to a trade versus Sonia"
>
> Senior rates trader at a US bank

"The short end of the sterling market is principally Sonia-based flow," says Alaistair Sharp, Credit Suisse's head of interest rate trading for Europe, the Middle East and Africa. "90% of the over-the-counter business that I do has some element of Sonia to it – whether that's Sonia only or Sonia versus Libor – so to a large degree that side of the market has already transitioned. The goal is now for the medium and long end of the market to transition to Sonia now too."

The US bank's senior rates trader says long-dated volumes are now evenly split between Sonia and sterling Libor, so dealers have little excuse not to use Sonia as the norm.

"The reality is that there is nothing stopping dealers from trading Sonia with each other, other than the fact that the market infrastructure is set up for Libor and has been for a while," says the trader. "But that infrastructure needs to change and Q1 2020 is as good a point as any other."

Full stream ahead

To hasten the shift to Sonia, interdealer central limit order books (Clobs) would need to start streaming Sonia prices, traders say. Currently, trades occur via request-for-quote protocols.

"The more people can see prices then the more people can deal on them and mitigate risk on them, which in turn will result in more Sonia liquidity," says Credit Suisse's Sharp. "Streaming Sonia prices is part of the process that will make Sonia more dominant."

To this end, the FCA is working with dealers, platforms and other infrastructure providers to move Sonia swap trading on to lit markets. Speaking on a *Risk.net* webinar in October 2019, Dan Marcus, chief executive of Trad-X, confirmed his platform already has Sonia swaps in its testing environment ahead of a planned launch of the full service in the first quarter, with a transition period that was due to start in February.

Members of the working group on sterling RFRs, convened by the BoE, have committed to stream executable quotes for one-, three- and six-month Sonia overnight index swaps from February, according to the minutes of the November meeting.

The US bank's senior trader believes Sonia streaming might pose a challenge for dealers who don't currently have the setup or capability to do so, but those parties should be in the minority.

"A lot of people are already streaming and providing pricing in Sonia swaps to clients so this isn't that big an ask in terms of the costs or technology involved," the trader says.

"It's more a case of changing the mindset of the interdealer market and getting them to accept the fact that, in the near future they'll be delivered basis risk if they do a trade versus Libor as opposed to a trade versus Sonia. That's a big change for the market to get its head around," the trader adds.

Basis risk would affect counterparties who are left holding Libor exposure in a market that is increasingly moving to Sonia.

While Credit Suisse's Sharp agrees that a reasonably liquid electronic marketplace already exists for Sonia at the short end of the curve due to a lot of activity from pension funds, bank treasuries and corporates, this is less the case for the medium end of the Sonia curve due to a lack of demand from end-users.

"Unfortunately, to get a Sonia Clob you need more than just a bunch of market-makers willing to provide prices, you also need end-user demand. That's the part which is more challenging but we're all doing our bit to make sure we can facilitate this," he says.

Swaption step

As well as helping the swaps market in particular to shift away from Libor, the streaming of firm Sonia swap prices through Clobs is also deemed

SONIA AND INVOICE SPREAD TRADING

Invoice swap spread trading – a popular interdealer trade that typically involves buying a gilt future and paying fixed on a related interest rate swap with a similar risk profile, and vice versa – could also facilitate the Sonia shift.

As the majority of such interest rate swaps are currently pegged to Libor, traders expect that a switch to Sonia in the swap leg could be a key driver of Sonia becoming the market convention.

"Invoice spread trading is quite popular in the interdealer market and again there's no reason why you'd choose to trade Libor over Sonia except for the fact that you want to manage your risk with whatever the more liquid instrument is, and right now that's Libor," says a rates trader at a US bank.

"There's a bit of a chicken-and-egg problem here as liquidity doesn't move from Libor because it's the more liquid instrument to do your hedging, and because people use Libor for their hedging it stays as the most liquid instrument. That's why this Q1 2020 goal is a step in the right direction as it will focus minds to proactively transition to Sonia," the trader continues.

a crucial step to transition other parts of the derivatives market to the RFR.

For example, swaptions and many rate-linked structured products rely on the Ice swap rate – a measure of term swap rates out to 30 years – for settlement. Ice Benchmark Administration, which manages and publishes the Ibor-based rate for sterling, US dollar and euro, currently takes live swap pricing from three multilateral trading facilities, BGC Partners' BGC Trader, Icap's i-Swap and Tradition's Trad-X.

Following an initial consultation on its planned overhaul for the Ice swap rate – partly fuelled by recent publishing failures of the rate in the US – the Ice Benchmark Administration is expected to finalise its approach for an introduction of a Sonia-based variant of the Ice swap rate to run alongside the existing Libor version. Respondents were able to provide feedback as part of the final methodology consultation until March 20.

The development of Sonia trading on Clobs would also help along the production of forward-looking term rates based on the overnight benchmark. These rates, which the FCA wants reserved for niche areas of the market only, will be based on tradable futures and short-dated Sonia swap quotes.

Swaptions have made a slower start to the switchover. In August, NatWest Markets and HSBC became the first banks to trade Sonia-linked swaptions, but little progress beyond a few token trades has been made so far.

While traders expect that a Sonia alternative to the Ice swap rate will help nudge along the uptake of Sonia swaptions, the products haven't gained much traction. This is because liquidity in swaps – which banks use as a hedge – is still concentrated at the shorter end of the curve, whereas swaptions are often used by long-dated investors like asset managers and pension funds. A lack of observable Sonia swap levels at those maturities also makes pricing the swaptions difficult, with limited liquidity meaning that Sonia swaptions are likely to be priced higher than Libor swaptions.

"Libor is still the hedging instrument of choice within the interdealer market and so the cost of a [swaptions] trade against Libor is the cheapest. That cost argument wins over the risk-free rate argument and so volume still ends up sitting in Libor," says the US bank's senior rates trader.

> "We always knew this would happen. It's just a question of when it would happen and what the catalyst for it would be"
> Phil Lloyd, NatWest

For the swaptions remaining linked to Libor, banks also aren't keen to create basis risk. For example, the trader says users will likely still want to hedge their Libor swaptions portfolio with Libor swaps.

However, a move to a world where Sonia is the interdealer standard would hugely simplify the current way banks hedge longer-dated swaps. Currently, a trader would have to hedge a fixed versus Sonia swap with a six-month Libor swap first, as it is the most liquid product. It would then need to conduct a basis swap between six-month Libor and three-month Libor, which allows it to then enter into three-month Libor versus three-month Sonia basis swaps – the most liquid Libor to Sonia instrument – as a final step.

"Essentially there are three hedge trades you have to do whenever you've got a fixed trade versus Sonia with an end-user," says the US bank's rates trader. "That's what this Q1 2020 goal is trying to move the needle on."

Carrot or stick

While helpful, the trader believes regulators could also do more to help market participants in their transition to Sonia than simply giving the market a Q1 2020 goal, suggesting they give firmer guidance or explicit targets for how they expect to see Sonia volumes develop.

"Something in that vein would be helpful and the working group obviously has a role to play here as well in terms of disseminating that message," says the trader.

NatWest's Lloyd agrees that more regulatory guidance would be helpful, pointing to the success of the FCA's Dear CEO letter in particular. "The regulatory tone in the UK market has increased a lot over the past 12 months and this most recent speech by Schooling Latter [on November 21] has continued to increase the pressure on market participants to move off Libor. The more that pressure and momentum builds – and the more things in the industry become clearer – then the more the end-user view that Libor is actually ending will harden, and more trading will be done in Sonia as a result," he adds.

Failing additional regulatory guidance, Credit Suisse's Sharp believes that regulation itself would pave the way for a greater Sonia boost – such as if leverage ratio add-on exemptions or reduced risk-weighted asset weightings for dealers trading Sonia were offered.

"That would be the single biggest boost to Sonia trading within the interdealer market and a way to incentivise early adoption," says Sharp.

Lloyd disagrees that such an extreme measure from regulators is necessary given the Sonia market is liquid and most clients are now looking to trade it. Rather than regulatory intervention in the form of capital relief, he expects regulatory scrutiny of market participants who continue to trade Libor to significantly increase instead.

As Libor nears its predicted death, users may have to reach the acceptance stage sooner rather than later. ■