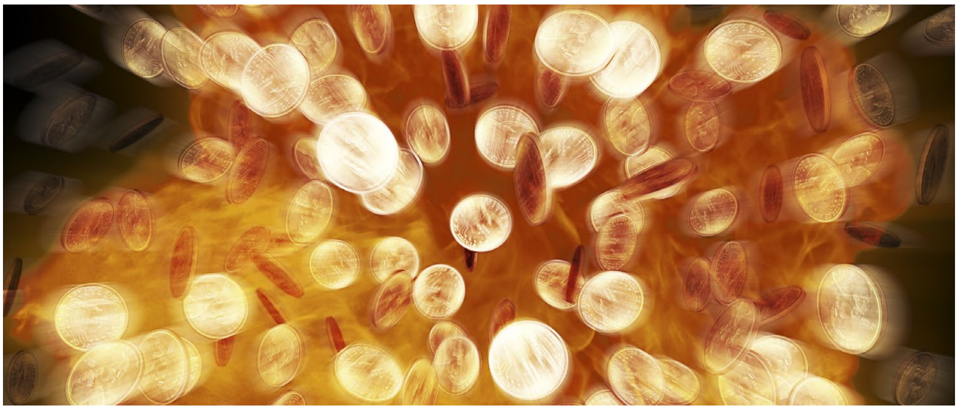
28 April 2020
Libor Benchmark reform

Libor reform

Big bang moment(s) ahead ...



The big prep continues; for the day when we morph from Ibors to the holy grail of risk free rates. Slowly but surely progress is being made, and items are ticked off as complete. But the real deal is the moment when we make the switch(es), as we still have different agendas running at different paces. The deadline is end-2021 (albeit more relaxed for Euribor). It's a race, not to the finish, but to get ready.

At some point in 2021 there will be an announcement that Libor will cease to exist. Prior to that point, all ducks need to be in a row. We know now for example that the spread from Ibors into the respective risk free rates will be set as the 5yr median, for derivatives. For cash products this is supported by some working groups, but not all, at least not yet. There is also likely to be a difference between the calculated median transitions spread and the actual spread. Also there are Covid-19 related delays to consider.

That said, and contrary to popular opinion, these strange times might just throw up a set of circumstances that maximise the odds of having a smooth conversion. Why? It is not inconceivable that one year from now we find that Libor has calmed to a more "normal" level, and that Risk Free Rates in arrears are flat to Risk Free Rates in advance, as official rates remain low and the forwards benign. If we get that, we could find, remarkably, that conversion rates are stable and close to historical medians.

But even before we get there, some important nuances are in play. US consumer loans will likely have a 1yr transition to the 5yr median spread. In contrast, typical derivative contrasts will likely gap to the new spread. Any deviations here could potentially be melted into an adjustment of credit spreads charged by banks, but this is open to question and far from certain. Important here is synchronicity between business loans and derivatives, else hedges uncover unnecessary basis risk.

Cross currency swaps is another areas of contention. While some consensus has built on convention for the mirrored Risk Free Rate swap, there is none on the re-papering of just one leg from Ibor; it's being left to the individual counterparties. Euribor will likely stay around a bit longer than Libor, increasing this risk. At the same time, the recent shutdown and systemic pressure on the Eurozone has pressured reformed Euribor more than is comfortable (therein, in fact, is a reason for Euribor to switch sooner).

Meanwhile, the UK continues to cheerlead the process. No more Libor-linked cash product after 3Q20 is the target, and the BoE will increasingly penalise Libor-linked collateral in its operations. They mean business in the land that first gave us Libor.

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SOFR – That illusive sweet spot

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- **Much of the contention surrounding the translation from dollar Libor to SOFR centres on the spread, and how to calculate it. The good news is there is agreement on how that spread will be calculated, at least for derivatives.**
- **That spread will be the 5yr median of the spread between compounded SOFR in arrears over 3mths and 3mth dollar Libor. The good news here is this is quite a smooth measure of the spread.**
- **What are the complications? First, Libor contains a bank credit spread, and that is elevating Libor. Second, SOFR is often a lagging indicator of the term risk free rate, as it is calculated in arrears. Third, changes in forwards muddy things.**
- **There have been calls for a delay in reform due to Covid-19 complications. However, it is not impossible that 2021 *could* present an environment where Libor has eased, and SOFR in arrears has converged on the term risk free rate.**
- **Add a flat forward curve and a spread close to the median, and we then have a perfect combination for translation from Libor to SOFR. Convergence to the median spread plus a flat forward curve is the perfect combo for the switch.**
- **An interesting development beyond that are efforts to develop a term SOFR rate i.e. SOFR in advance. While this is welcome in many quarters, it also has the capacity to complicate the spread translation narrative. That said, SOFR futures map that forward curve right now, although big volumes remain illusive.**

Just over a week ago the ARRC[1] rowed in behind ISDA[2] on the calculation of the spread to be applied on transformation from Dollar Libor to SOFR[3] for derivatives. That spread is calculated as the median over the 5 year period prior to a permanent Libor cessation trigger. SOFR would be compounded in arrears, and the calculated spread added to this as a means to replicating legacy Libor (at the moment of transition). One important nuance here is the ARRC recommends a 1yr transition period for consumer loans.

The spread adjustment from Libor to SOFR

The best case scenario would be for the 5yr median spread to be bang on the actual spread on the eve of the switch, as at least on that date there are indeed neither winners nor losers. Recent history shows there has been significant volatility in the actual spread between 3mth Libor and the 3mth Risk Free Rate (RFR), and moreover the past month has seen volatility elevate. This reflects a re-elevation of Libor to reflect a heightened imputed bank credit risk, but also a big fall in RFRs, including SOFR.

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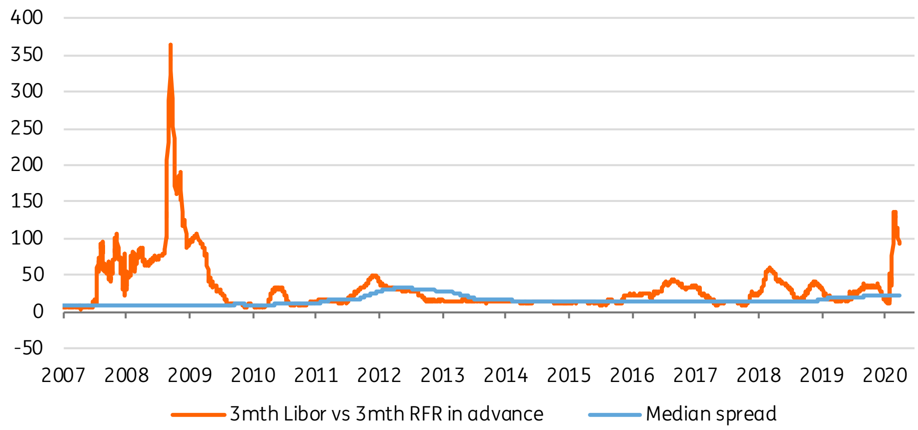
[1] Alternative Reference Rate Committee - group of private-market participants convened by the Federal Reserve Board and the New York Fed to help ensure a successful transition from U.S. dollar (USD) LIBOR to a more robust reference rate.

[2] International Swaps and Derivatives Association - trade organization of participants in the market for over-the-counter derivatives.

[3] Secured Overnight Financing Rate - broad measure of the cost of borrowing cash overnight collateralized by Treasury securities.

One of the advantages of using a median spread is it is results in quite a smooth process; by definition extremes over the 5yr period are effectively ignored. All that matters is the centre observation. The chart below illustrates the point, where we compare the daily spread between 3mth Libor and 3mth RFR in arrears alongside the rolling the 5yr median of that spread (Figure 1). Note the frequent deviations from the median, and in particular the more recent gyrations.

Fig 1 Deviation between actual 3mth Libor to RFR in arrears

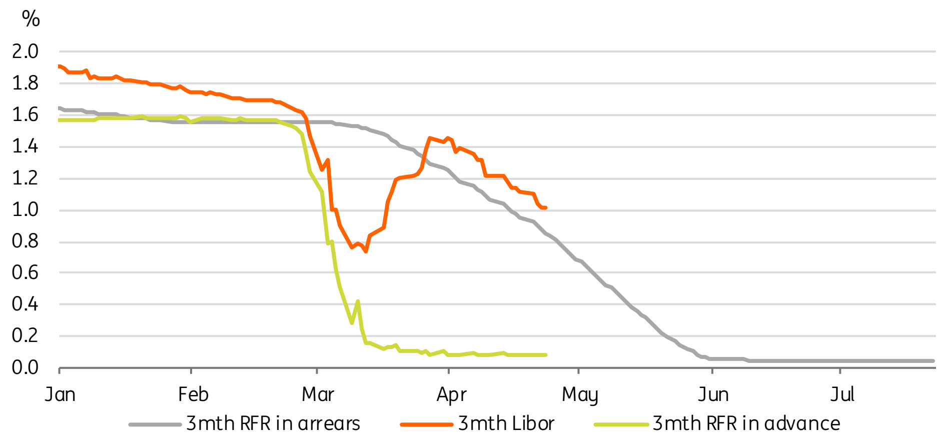


Source: Bloomberg, ING estimates

One of the complications here is the choice to be made on the 3mth Libor observation, and how that should line up with SOFR in arrears. It is not straightforward as 3mth Libor is by definition a term rate that looks to the future. So it should then be lined up as a 3mth lagged rate. But that is also not perfect as that 3mth lagged rate cannot predict the future with certainty, whereas the 3mth SOFR in arrear will by definition map out the actual rate path with complete certainty. But the complication does not stop there, as the 3mth SOFR rate in arrears reacts slowely to changes in the underlying.

The current period is a case in point where there has been a dramatic and swift 150bp cut in the risk free rate (fed funds rate), but it will by definition take full 3 months before it fully reflects the new lower rates environement. Typically the 3mth Libor rate would achieve that new lower level quicker, but that has been complicated by the domination of a bank credit risk over the pull of lower absolute rates.

Fig 2 Paths for 3mth Libor versus 3mth RFR in arrears and in advance



Source: Bloomberg, ING estimates

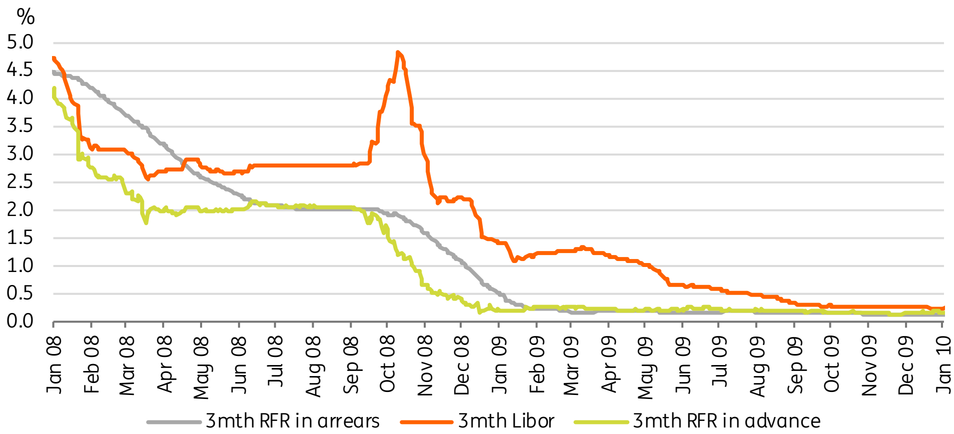
Above is an illustration of the issue graphically (Figure 2). Here we break out 3mth Libor alongside the 3mth RFR in arrears. And we add the RFR 3mth in advance, which is reflective of the actual fall in the Fed funds rate.

It is clear that Libor tracked the RFR in advance lower initially, but subsequently rose as higher bank credit risk got imputed. Meanwhile, the RFR in arrears has a much slower reaction, as it is reflective of the compounding of the daily rates in the previous 3 months. As we roll on to the future, the RFR in arrears eventually converges on the actual RFR (by June).

Looking forward, bank credit risk should be reduced as the various Federal Reserve support facilities will have fully kicked into gear. At the same time, it will be difficult for the banking sector to avoid collateral damage in the form of elevated defaults. This would need to be imputed into Libor, through relatively elevated bank re-funding costs.

To transition from Libor to SOFR in as smooth a fashion as possible, it should ideally be a moment when the rates outlook is relatively stable, where the 3mth RFR in arrears has had time to adjust to where the prevailing level of rates is. But also, where no dramatic movements in the fed funds are being anticipated. The chart below, which looks at what happened through 2008/2009, illustrates the point best (Figure 3)

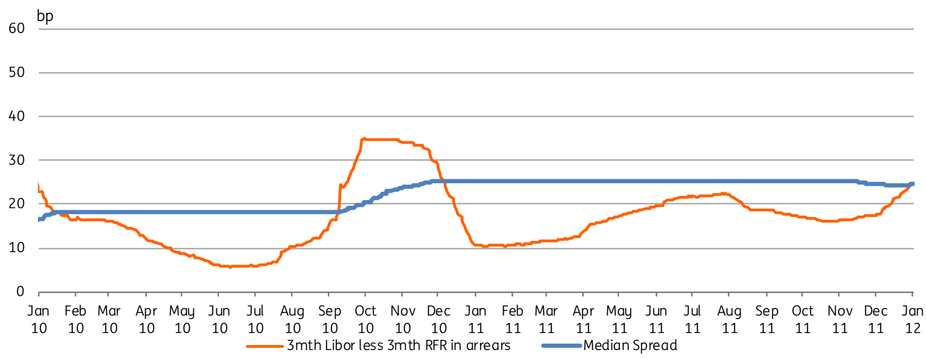
Fig 3 A snapshot of eventual convergence through 2008/2009



Source: Bloomberg, ING estimates

Here, the volatility of Libor is exceptional, but eventually gets tamed, the 3mth RFR in arrears lags the rate cutting process, but eventually converges on it. And crucially, we got to a point where there was relative calm and a convergence of all three rates.

Fig 4 Deviation between actual 3mth Libor to RFR in arrears (2010/2011)



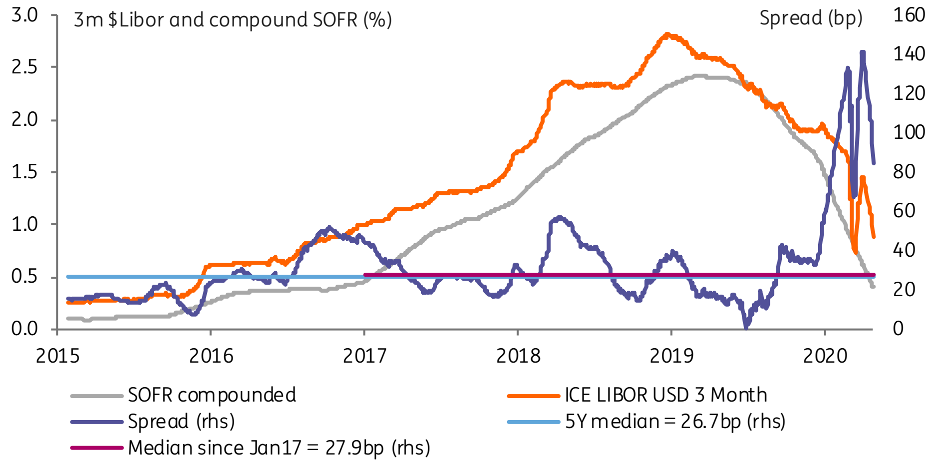
Source: Bloomberg, ING estimates

The chart above then shows how the median behaved versus the actual Libor/SOFR spread over subsequent years, and moments where they converged (Figure 4). Most of the variation here were down to Libor movements.

Therein lies the challenge as we look forward to the end of 2021. Even if we happen to transition at a point when the actual spread is flat to the median, it would ideally also have to be at a point where the theoretical RFR in advance is flat to RFR in arrears, to minimise the lag effect that is implicit in the arrears calculation.

Below is a detailed analysis graph of where we are now, together with the calculated median spread (Figure 6).

Fig 5 Calculation of the median spread versus the current spread (Libor vs SOFR)



Source: Bloomberg, ING estimates

The striking feature is the deviation between the calculated median (light blue) versus the actual spread (dark blue). Things need to calm and converge in order to minimize objection when we eventually transition from Libor to SOFR. It is a bit pointless making that spread calculation now as we really need to wait until we get to the point where a sensible transition can take place. But, theoretically, if it were now, there would be a big gap to bridge between the actual Libor/SOFR spread and the 5yr median.

The ARRC's decision to add a 1yr convergence process to the 5yr median would help to ease this. But this would still not take away objection completely a convergence process would likely prolong the occurrence of a wide spread. Libor rate payers would pay an elevated rate for longer, or at least longer than the forward discount would imply.

Best to converge first before making the switch from Libor to SOFR. In that sense, we need to see three things:

1) A calming in Libor,

2) A convergence of SOFR in arrears with the overnight risk free rate, and

3) A convergence of SOFR in arrears with SOFR in advance (flat futures curve).

It's tough to get this combination. But against the odds, 2021 could well see such a combination, with rates on the floor and possibly to stay there for some time.

The timeline ahead

The ARRC's statement of conformation with ISDA's spread calculation methodology is here, and ISDA's original advocation is here. These are important steps, ones that aid conformity between derivatives and loan transformations; the conversation continues here. In parallel, momentum has built on SOFR in arrears being the benchmark option.

The process ahead is to first set the spread, based off a compounded 5yr average of 3mth SOFR in arrears. Then that spread would be applied to documents to reflect the replication of 3mth Libor as 3mth SOFR in arrears plus that spread (currently c.30bp). Between these events there would be a pre-cessation announcement.

It should be noted too there is still a sizeable rump of market participants that opine on a need for SOFR in advance for their continued operations. The ARRC on more than one occasion noted that market participants should not wait for a RFR in advance. See here. But latest soundings point to a nod in the direction of derivation of a suitable forward looking term SOFR (Figure 6), from latest ARRC deliberations on 2020 objectives.

Fig 6 Alternative Rates Reference Committee Objectives

ARRC Objectives	2020 Priorities / Milestones	Date
Supporting SOFR Use and Liquidity	▪ Establish an RFP process and criteria for recommendations in order to select an administrator of an ARRC-recommended forward-looking term SOFR rate to be published in the first half of 2021 if liquidity in SOFR derivatives markets has developed sufficiently, and also establish recommended scopes of use for such a term rate.	▪ By 30 September 2020
	▪ Establish final recommended conventions for SOFR-based floating rate notes, business loans, and securitizations.	▪ By 31 July 2020
	▪ Work as appropriate with market participants, CME, and LCH in facilitating the use of SOFR PAI and discounting for cleared U.S. dollar interest-rate derivatives, including recommended voluntary options for conventions on the exchange of compensation in relation to legacy swaptions or discounting for new swaptions. Explore potential methods to facilitate the movement of legacy derivative positions from LIBOR to SOFR before 2021.	▪ Ongoing

Source: ARRC, New York Federal Reserve

By September, the ARRC will establish an RFP to select an administrator of a forward-looking term SOFR rate, with the aim of publishing this in H1 2021. They note that this will depend on the build of liquidity in SOFR derivatives, but we see this more of a determinant of the robustness of the rate. In all probability, a forward-looking SOFR rate will be established.

This is an important step; a nod towards those that called for it.The objectives above also note that final conventions for SOFR-based FRNs, loans and securitisations should be established by end-July.

Meanwhile, migrating the discounting and price alignment environment for cleared USD interest rate swap products (IRS) from the daily effective federal funds rate (EFFR) to the secured overnight financing rate (SOFR) is in process. This is being done in conjunction with the CME and LCH.

Fig 7 Alternative Rates Reference Committee Objectives (continued)

ARRC Objectives	2020 Priorities / Milestones	Date
Contractual Fallbacks	▪ Establish an RFP process for selection of an administrator to publish the ARRC's recommended spread adjustments and spread-adjusted rates and finalize technical details related to the recommended spread adjustments.	▪ By 30 September 2020
	▪ Publish revisions to the ARRC's hardwired fallback language (including a more permissive early opt-in trigger),recommended conventions, and supporting materials for business loans.	▪ By 30 June 2020
Consumer Products	▪ Publish recommended fallback language for new student loans referencing LIBOR and conventions for new student loans referencing SOFR, creating similar materials for other consumer products as appropriate.	▪ By 30 June 2020
	▪ Develop resource guides identifying recommended actions to support market participants' efforts to develop clear and effective programs for consumer education and outreach and consolidating materials and information sources that can aid such programs	▪ By 30 September 2020
Legal, Tax, Accounting, and Regulatory Clarity	▪ Continue to pursue potential legislative relief for legacy contracts that may be otherwise difficult to amend and that do not have economically appropriate fallbacks.	▪ Ongoing
	▪ Continue to work with tax, regulatory, and self-regulatory organizations as they finalize proposals for tax, regulatory, and accounting measures to address the LIBOR transition, encouraging the removal of unintended impediments to the transition and encouraging international regulatory coordination and fostering market understanding of the measures that are taken.	▪ Ongoing

Source: ARRC, New York Federal Reserve

Importantly, it is noted that a key next step is derivation of a methodology for translation of legacy derivative positions from Libor to SOFR before 2021. The implication here is that this happens, as a target, sometime in 2020 (i.e. "before 2021"). To be seen.

A separate RFP process centres on selection of an administrator to publish the ARRC's recommended spread adjustments, spread-adjusted rates and final technical details. The target here is to have this in place by end-September 2020 (Figure 7).

Other key objectives to be achieved by end June are revisions to ARRC's hardwired fallback language and supporting materials for business loans, consumer loans and student loans that currently reference Libor.

Fig 8 What has been ticked off as done

1) Infrastructure for futures and/or OIS trading in the new rate is put in place by ARRC members.
   - Anticipated completion: 2018 H2
2) Trading begins in futures and/or bilateral, uncleared, OIS that reference SOFR.
   - Anticipated completion: by end 2018
3) Trading begins in cleared OIS that reference SOFR in the current (EFFR) PAI and discounting environment.
   - Anticipated completion: 2019 Q1
4) CCPs begin allowing market participants a choice between clearing new or modified swap contracts (swaps paying floating legs benchmarked to EFFR, LIBOR, and SOFR) into the current PAI/discounting environment or one that uses SOFR for PAI and discounting.
   - Anticipated completion: 2020 Q1

Source: ARRC, New York Fed

Fig 9 What is planned to get done ahead

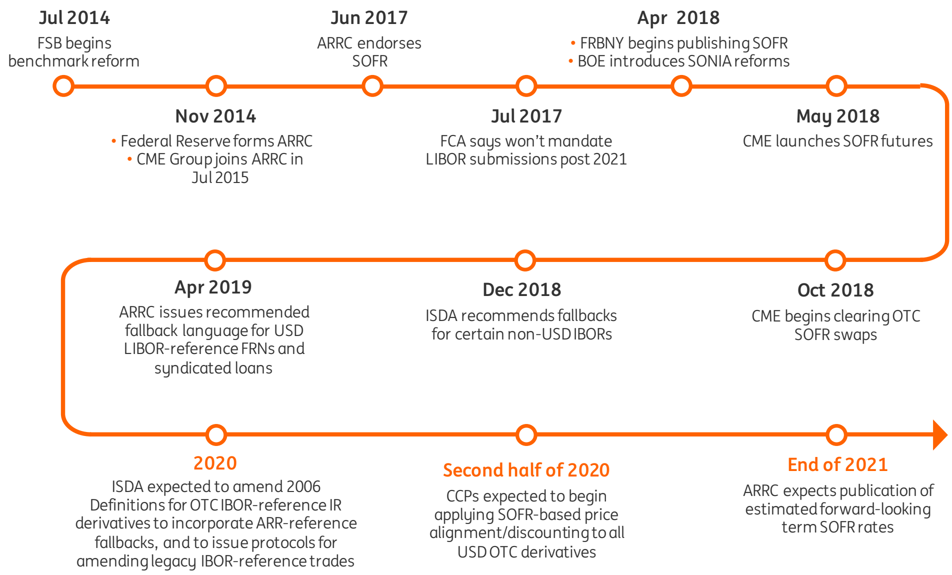
5) CCPs no longer accept new swap contracts for clearing with EFFR as PAI and discounting except for the purpose of closing out or reducing outstanding risk in legacy contracts that use EFFR as PAI and discount rate. Existing contracts using EFFR as PAI and the discount rate continue to exist in the same pool, but would roll off over time as they mature or are closed out.
   - Anticipated completion: 2021 Q2
6) Creation of a term reference rate based on SOFR derivatives markets once liquidity has developed sufficiently to produce a robust rate.
   - Anticipated completion: by end of 2021

Source: ARRC, New York Fed

And an important work in progress revolves around removal of unintended impediments to the transition, with particular reference to tax, regulatory and accounting implications. These remain not insignificant in nature.

The impact of Covid-19 is not expected to have a significant effect on these timelines The ARRC references the UK conduct authorities' statement of 25 March on this issue that re-iterates the point that market participants cannot rely on Libor being published after end 2021. See the latest statement on this matter here.

Fig 10 Timeline of key US-centric events from 2014 to 2021



Source: CME group, ARRC

A bigger picture timeline is shown above. The only real deviation from the simplified illustration is an ambition to have forward looking term rates far sooner than end-2021. This will in part be a function of success in building liquidity in 1mth and 3mth SOFR futures. From these, suitable forward looking SOFR can be derived and used to arbitrage between cash and futures..

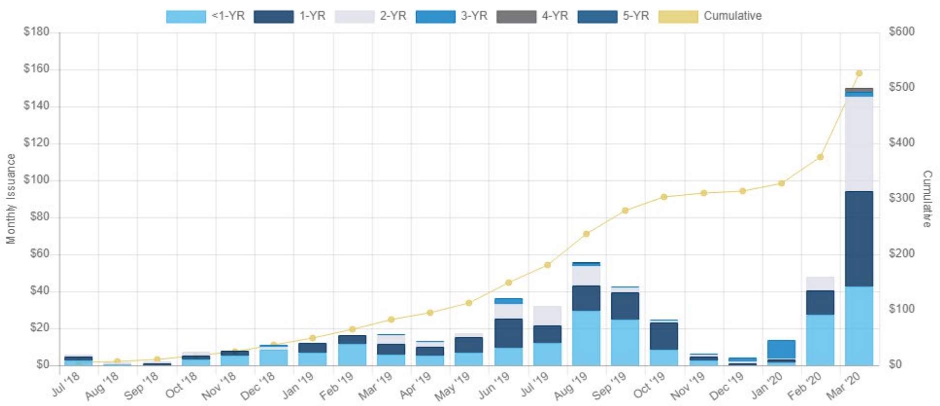
One point of contention surrounds the referencing of Libor in existing or new derivatives contracts at the point it has been announced to be no longer representative. The latest from ISDA points to a preference to include both pre-cessation and permanent cessation fallbacks as standard language in the 2006 ISDA in legacy trades. See it here.

The next big discussion point is the pre-cessation and cessation event/announcement itself. This is still something more applicable for 2021. The challenge through 2020 is to continue to accelerate the build in liquidity, and ideally bring to a conclusion the various tax, accounting and legacy language issues so that translation is optimised.

Volume developments

Issuance in SOFR has picked up, it is well up on where it was this time last year, and March was by far the largest single month of SOFR linked issuance on record (Figure 11).

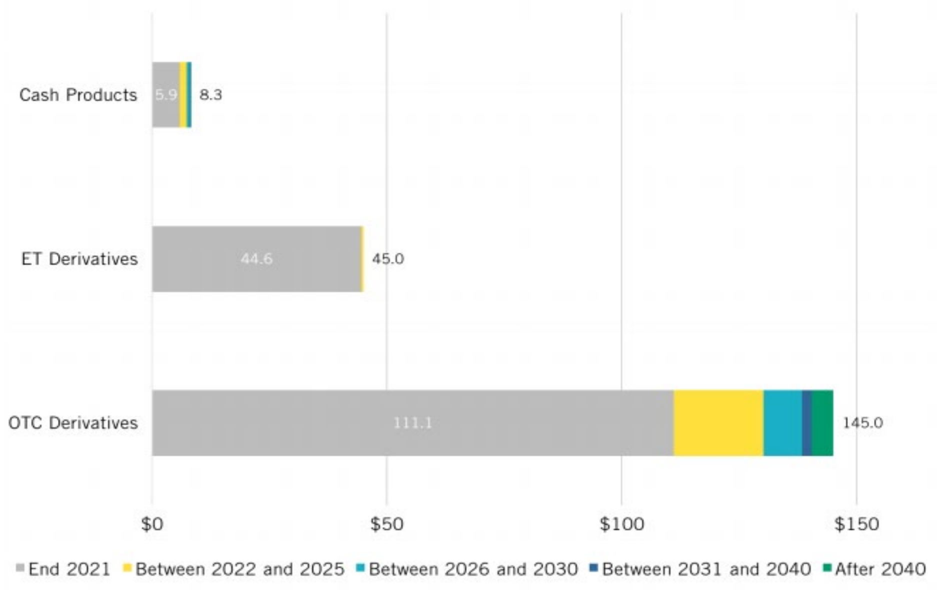
Fig 11 SOFR issuance by tenor (USDbn)



Source: CME Group, cmegroup.com

The total amount of SOFR linked issuance in March was in excess of USD150bn, and cumulative SOFR linked issuance is USD500bn. There have been some good moves here, but it is still really very early days.

Fig 12 Gross notional of all financial product referencing dollar Libor (USDtrn)

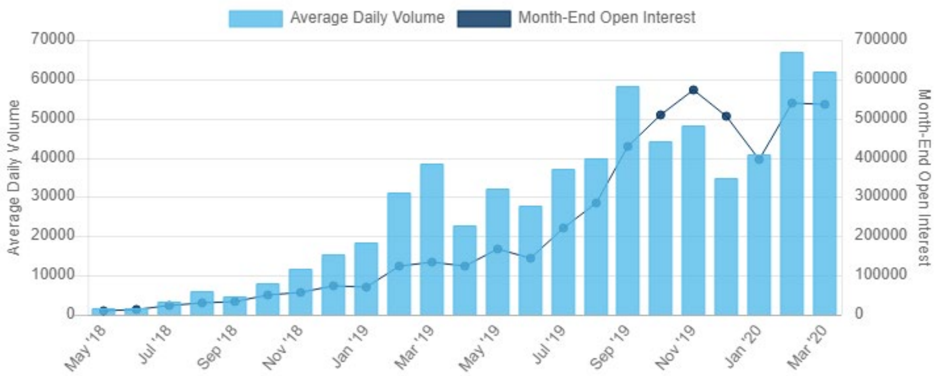


Source: ARRC, ISDA

By way of reference, financial products referencing Libor is currently in excess of USD200trn (Figure 12). But note also at the same time that some USD160trn of this has a maturity of end 2021. This illustrates the point that a switch for SOFR could very quickly build volume, just by morphing these shorter dated product to SOFR.

Volumes have also increased in SOFR futures (Figure 13). Note however that month end open interest has broadly plateaued in recent months i.e. month end open interest in March is flat to November 2019, although February did see an all time daily volume high.

Fig 13 CME SOFR futures



Source: CME Group, cmegroup.com

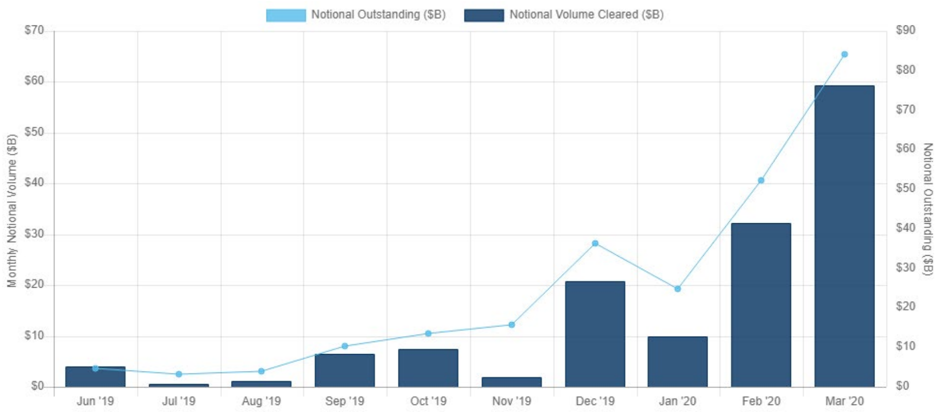
The numbers here remain low in relative terms though. For example, total open interest in 3mth SOFR futures is running at about 160k compared with 10,400k in Eurodollar futures. Open interest in 1mth SOFR futures is higher, at 355k. But that compares with open interest of 1,690,000k in the 30 day fed funds future.

There is clearly some way to go before we get to the point where SOFR futures volumes are at a level to warrant attention from the wider marketplace. Until that happens, it is unlikely that volumes going through on SOFR swaps will be substantial. It can, and in a way should, be a simultaneous volume growth effort. But easier said than done.

Latest data on SOFR swaps show that some USD60bn were cleared in March 2020, the highest on record (Figure 14). But that compares with some USD2,550bn cleared in total interest rates swaps for the same month. Cleared SOFR swaps are tiny in comparison.

This can change quite quickly. Volumes maturiting in 2021 will increasingly become a focus for attention, but for there to be a signifiacnt switch there would need to be a voluminous switch by a significant rump of derivative players.

Fig 14 CME cleared SOFR swaps



Source: CME Group, cmegroup.com

Transition from Libor to SOFR for derivatives remains far more likely as we progress through 2021, than in 2020. In all probability, volumes in SOFR futures would lead this process, alongside a build in SOFR-linked loans.

Cross Currency Swaps

Further complications surround cross currency swaps. The ARRC has set out some latest considerations on interdealer XCCY[4]. See them here. Three states are envisaged, RFR-FRF, RFR-Ibor and Ibor-Ibor. For the RFR-RFR where new benchmarks are in operation, the convention is exchange of notional, quarterly payments, compounded daily in arrears, match payment dates and re-set to the latest FX rates on a quarterly basis.

In the case of RFR-Ibor XCCY where the RFR leg has transitioned from a former Ibor, the ARRC recommends that conventions remain as is for the Ibor leg, but that settlement days should be aligned where possible. But that still leaves additional basis or convexity relflected on one leg being set in arrears versus the Ibor leg set in advance.

In the case where two counterparties are engaged in an existing Ibor-Ibor XCCY and one or both of the legs has transitioned to a new RFR, both parties to the XCCY would need to agree to either switch one leg or both, or indeed none if the Ibor was continued in some form. The ideal scenario would be a transition of both legs to the new RFRs, along with a switch into the preferred conventions.

Loans morphing to SOFR

On 1 April 2020 both Freddie Mac and Fannie Mae announced plans to mange the cecessation of their Libor linked ARMs[5], and a switch to 30 day SOFR linked ARMs. In addition they will adopt the ARRC's recommended fallback language as they transition legacy product away from Libor and into SOFR.

These are important steps for SOFR take-up. Such consumer products would fall into the 1yr transition proposal from the ARRC, which would take the holder from the last spread on the end of transformation to the 5yr median spread over a 1yr period. It remains to be seen whether such transformation proposal becomes prevalent for business loans.

An argument against such a transition is that interest rate swaps and other derivatives are likely to have a one-off immediate jump to the chosen spread, and in that sense it would make sense for underlying business loans to also have the same treatment. If not then there is a basis between the loan and potential interest rate hedge.

[4] Cross Currency Swap

[5] Adjustable Rate Mortgage

Sonia – It's happening right now

- **Not only is the UK ahead of the rest, but it has made an accelerated effort to place further pressure on market participants to make good on ambitions to transfer to Sonia, with 2020 headlining in many targets (rather than 2021)**
- **If the spot Libor-Sonia spread re-tightens from the middle of 2020, we see a decent chance of eventual Libor fallback spreads coming close to the spot. This would facilitate the transition by limiting one-off P&L impacts.**
- **One big target is the cessation of issuance of Libor-linked cash products by the end of 3Q20. This is likely very doable for FRN issuance, but presents a bigger challenge for structured products, and for other traditional loans.**
- **And the talk gets tough. The Bank of England will penalise Libor-linked cash products maturing after 2021 in its liquidity injection operations, with additional haircuts to come into effect after 3Q20, and they will increase progressively.**
- **The narrative on the volumes side has been good, as volumes have certainly built and are more impressive than elsewhere. That said, a DV01 adjustment quickly confirms the heavy front-end nature of such flows.**
- **Covid-19 is not helping, but it's still all systems go on ambitious 2020 deadlines.**

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This year is shaping up to be a critical one for the Libor transition in Sterling rates markets, but for different reasons. The UK market is well ahead of its peers having a long-established (and reformed) RFR. This means that the 'big-bang' around clearing houses discounting and PAI switch has arguably already happened. This has been reflected in a number of steps taken by central banks and regulators to precipitate the demise of sterling Libor.

Libor-OIS spread developments

The spot Libor-OIS spread has been under widening pressure since the coronavirus epidemic but the situation differs from the US and the Eurozone in two ways.

1) Firstly, there is no change of the underlying benchmark used to calculate the fallback (from Fed Fund to SOFR in the US, from Eonia to €STR in the Eurozone).

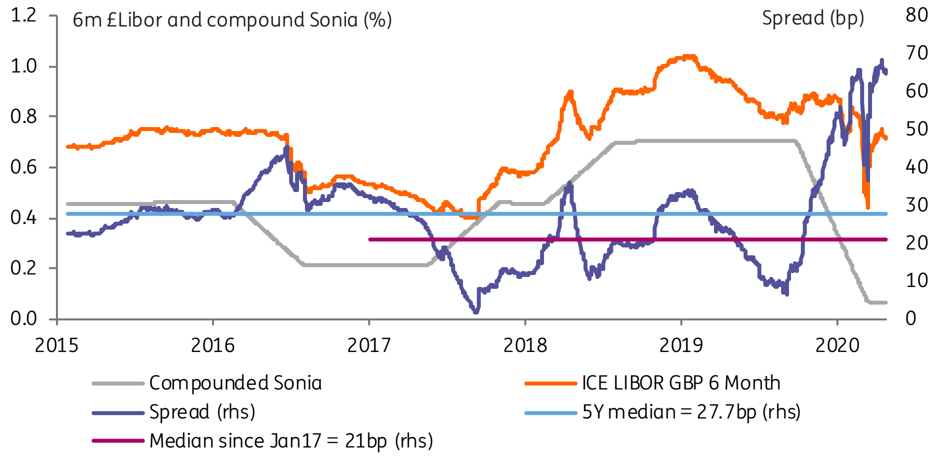
2) Secondly, the spread has understandably blown out wider with the increase in systemic risk, but it has remained free of 'idiosyncratic' factors such as the global dollar liquidity shortage, and financial fragmentation in the Eurozone.

As it was pointed out above, the Libor-RFR spread can also include a degree of 'term premium'. This stems from the fact that Sonia compounded in arrears reflects the actual changes in overnight interest rates (say after a Bank of England cut for instance) with a lag.

The Libor fixing at the start of the period on the other hand reflects expectations of what the interest rates will average over the relevant period, say 6 months.

In theory the spread between the two should be fixed. In practice, Libor fixings have a tracking error reflecting the difference between rates expectations and what they turn out to be.

Fig 15 Compounded Sonia in arrears vs 6m £ Libor



Source: ING, Bloomberg

A look at Figure 15 above illustrates this well. There has been a degree of Libor overshooting the actual Sonia outcome in periods of rising interest rates. To repeat a point made above, if the coronavirus epidemic ushers a period of stable base rates, as we expect it will, this could bring a convergence between the fallback spread and the spot Libor-OIS spread.

Our estimate of where the median 6 months fallback spread would be if calculated from Jan17 (assuming a trigger event at the end of 2021) to today is 21bp. If spot Libor-OIS returns to its pre-epidemic level around the middle of this year, we estimate the eventual fallback will be very close to that level. In an extreme scenario where the spot 6 months Libor-OIS spread remains at its current level of around 64bp until the end of 2020, we see the eventual fallback spread around 28bp.

Current state of play and key dates

To summarise the current state of play, sterling rates markets have a reformed IOSCO-compliant RFR and associated derivatives market since the first half of 2018. In consequence, participants have had ample time to build familiarity with the new RFR, and tradability has been demonstrated in a number of key areas.

This has allowed the Working Group on Sterling Risk-Free Reference Rates (WGSRFR) to give the market a number of deadlines in 2020 for the transition to occur, and for regulators to take steps that facilitate it. These were summarised in a statement issued at the beginning of 2020.

Some of them are already behind us. For instance, the FCA and the Bank of England set 2 March as the date for “market makers to switch the convention for sterling interest rate swaps from LIBOR to SONIA”, and volumes suggest the transition is well underway in the swap market.

It is unclear to us what was meant to happen at that specific date. We surmise it relates to dealers nudging clients towards Sonia swaps and assuming them to be the default instrument in case no underlying curve is specified.

Other deadlines are approaching fast. The most notable one is the aim to cease issuance of Libor-linked cash products by the end of Q3. In some markets, such as FRNs, we think this deadline should be met without difficulties. In others, such as structured products and loans, the timetable appears more ambitious and requires a significant effort from the industry. It is fair to say that Covid-19 has thrown a spanner in the works.

It is too early to make a specific call on what delays it is likely to cause but the FCA has reiterated that the end-2021 deadline for the end of Libor fixings remains in pace. The regulator acknowledged how the timeframe of the transition in some segments of the markets are lagging, which presents risks.

Another question is how to manage the transition of legacy contracts. The WGSRFR promised a framework facilitating the reduction of Libor-linked contracts by Q1 2021.

Part of the challenge here is operational. The hope is that a standard approach by product would allow the treatment of multiple contracts almost simultaneously. This sounds realistic in some standardised contracts such as cleared interest rates swaps.

But this could prove more challenging in products that are more bespoke in nature, such as loans. The WGSRFR has set up separate task forces with the aim of facilitating the transition for new loans, legacy cash products, and 'tough legacy' products (where neither conversion nor amendment is possible).

Work in progress: Term Sonia and Sonia compounded index

In some quarters, in particular in the loan market, there are hopes that the publication of a forward-looking Term Sonia Reference Rate (TSRR) will help market participants transition away from Libor.

The WGSRFR's 2020 roadmap sets out a provisional date in Q3 2020 for the publication of a term rate. Ahead of this, the four administrators were scheduled to publish a beta version in Q1. We should stress that the creation of a TSRR is only meant as a way to facilitate the transition in some corners of the rates markets. The WGSRFR's preference for most uses remains the backward-looking Sonia compounded interest rate.

In order to facilitate the adoption of compounded Sonia interest rates, which are shaping up to be the standard Libor replacement and fallback calculation methodology, the BOE is aiming to publish a Sonia compounded index in July 2020 after the results of a consultation that ended earlier this month

We have highlighted above a number of challenges and difficulties but we should stress at this point that the existence of a fairly precise timetable is a significant step in the right direction, and definitely puts the sterling market ahead of other jurisdictions in the transition, so much so that the official sector has it deemed it necessary to take steps cranking up the pressure on market participants.

Regulatory pressure: tightening up the screws

The Bank of England will for example increase the haircuts on Libor-linked cash products maturing after 2021 in its liquidity injection operations. These additional haircuts will come into effect after Q3 2020 and will increase progressively to reach 100% by end-2021.

If these are justified by risk-management considerations, they will no doubt pile pressure on market participants to discontinue the issuance of Libor-linked products. Indeed, in the same notice, the BOE said any new product referencing Libor issued after Q3 2020 will not be eligible for these operations.

The FCA's recent letter to CEOs of asset management firms is another example of a regulator moving to both enforce and facilitate the deadline decided by the WGSRFR. In short, the FCA advised asset managers not to buy new Libor-linked products maturing after 2021 past the Q3 2020 deadline.

Here too, is a sign that legacy products pose more of a challenge, the FCA stressed that asset managers must have contingency plans to wean their businesses off.

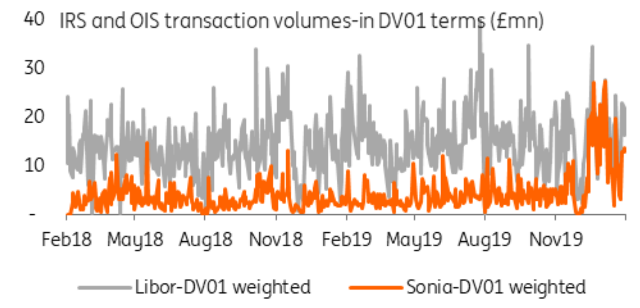
Markets in decent shape but lack of transparency for loans

Among the major markets affected by the transition, loan-type of products are conspicuously absent. Interest rates swaps are arguably the most important market for the transition to occur as it is the tool of choice to hedge interest rates risks. Liquidity in the underlying Sonia OIS is an additional argument for market participants to transition away from Libor-products.

The take off in Sonia swaps traded and cleared volume is often described as a success story. We agree, up to a point. A fairer comparison between the Sonia and Libor swaps they are meant to replace is when DV01 adjusted. Figures 16 and 17 show that Sonia volumes remain concentrated in shorter tenors. There has been an increase in Sonia volumes in January which is encouraging but we attribute some of this to (disappointed) hopes of a BOE rate cut that month.

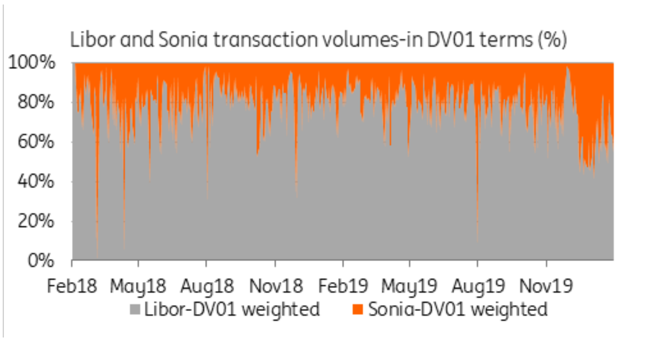
The 2 March 2020 deadline is too recent for us to confidently say whether there has been a step change in Sonia's market share of interest rates swaps. Our expectation is that this date is more symbolic than anything else and that the transition will continue to occur progressively.

Fig 16 Step change in Sonia OIS volumes (in DV01 terms)



Source: Bloomberg, ING

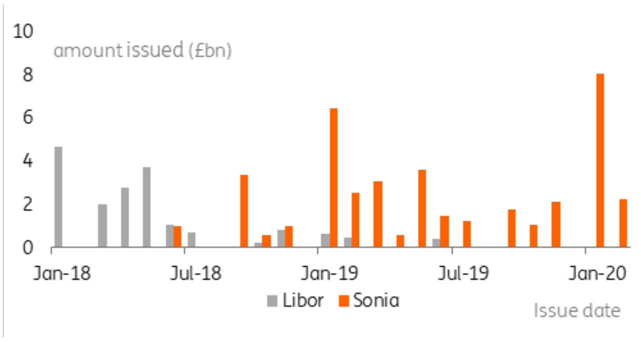
Fig 17 But they still account for at most 40% of duration



Source: Bloomberg, ING

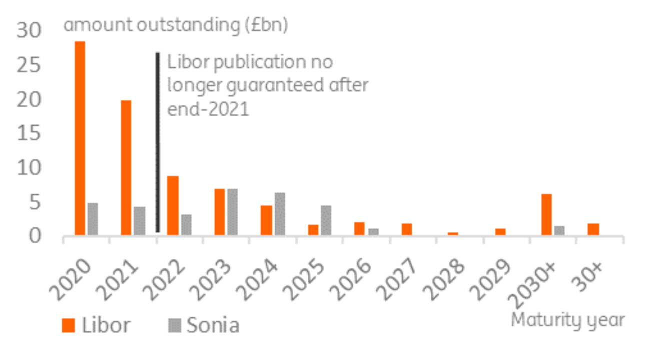
If there is one unmitigated success, we would argue it is the rapid transition away from issuance of Sonia-linked FRNs. Since the beginning of 2019, the issuance of Libor-linked bonds has reduced sharply and has all but stopped in 2020. Consequently, January 2020 saw the largest amount of Sonia FRN supply on record. As is the case for other products, the amount of legacy bonds remains an issue. We estimate that there are still £34bn of Libor-linked bonds outstanding with a maturity date past 2021.

Fig 18 Sonia FRNs issuance has picked up



Source: Bloomberg, Bond Radar, ING

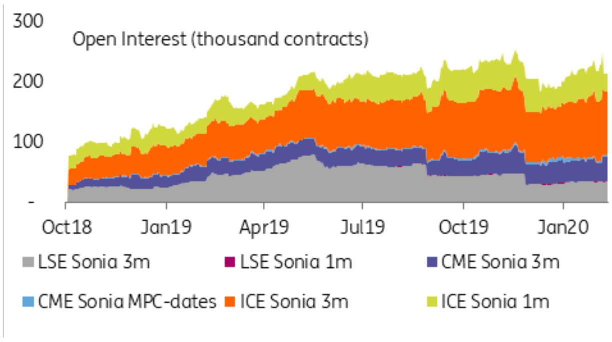
Fig 19 ...but legacy bonds are still outstanding



Source: Bloomberg, ING

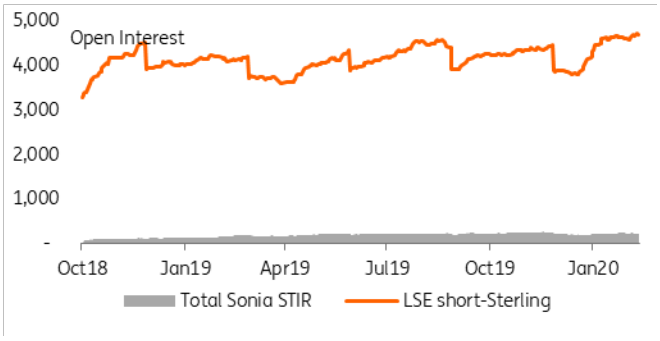
The last corner of the interest rate market we have ample data for is futures. Various exchanges have launched Sonia-linked STIRs (some with 1m, some with 3m underlying rates) but their volumes remain marginal compared to Libor STIRs (see Figures 20 and 21 adjusted for contract sizes). In a way, we think Sonia STIRs suffer from the same problem as Sonia swaps: they are mostly a front-end product. The lack of a proper term structure is limiting their use to positioning around BOE meetings.

Fig 20 Sonia STIR futures usage stable



Source: Bloomberg, Exchanges, ING

Fig 21 ...but pales in comparison to Libor futures



Source: Bloomberg, Exchanges, ING

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We wish we could present the same sort of data for the transition in loan and structured products. Data on both fronts has remained anecdotal and the FCA acknowledging the difficulty in transitioning them lead us to think it is where most of the work remains to be done.

€STR – Sitting up a bit more now

- **Since Euribor was reformed, there is no real pressure to meet the end-2021 deadline for cessation that other Ibors have been striving to meet. Reformed Euribor, the story went, was far less of a traditional Ibor – in a sense less tainted.**
- **However, the effects of the Covid-impacted shutdown and associated stresses on the system as banking systems in some peripheral centres has seen Euribor rise relative to Euro risk free rates. At the margin this is not a comfortable sight.**
- **We won't argue here that Euribor will be fast-tracked back into the end-2021 deadline for cessation, but we can at the same time see some good arguments for doing so. A simultaneous switch to risk free rates has merit.**
- **Players in cross currency swaps would see synchronicity as appealing for example, facilitating a move to RFR-RFR rather that repapering one leg to yield a RFR-Ibor outcome. Consumers and business loans may also see the appeal.**
- **Pitted against that is the temptation to maintain a rate that does contain an implied bank credit risk, or at least an echo of it. And it is already forward looking, which has natural appeal in many centres.**
- **Beyond that, the progress report is positive. The transition from Eonia to €STR has been without real issue. The re-papering here is less dramatic, but at least the way is quite clearer here as we progress onwards towards end-2021.**

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Eonia will cease to be published as of 3 January 2022. €STR swap volumes have been picking up, although March, marked by market turmoil, saw a notable setback. The market share is still relatively low - in January it was still below 2% of outstanding EUR OIS according to LCH.

As the coronavirus epidemic is proving to be a headache for the regulator and market participants working to transition, CCPs announced they were going to delay the switch from the Eonia interest rate benchmark to the €STR benchmark for discounting and price alignment interest (PAI) calculations by five weeks to 27 July.

Still, this change is anticipated to provide another push to towards €STR OIS liquidity as market participants are expected to transition their discounting hedges.

€STR – transitioning liquidity from EONIA

The Working Group has issued a number of reports over the past months to aid the transition.

1) The latest report was a supplement last month to a paper on the transition impact on cash and derivatives products published last August.
2) A report from last October touches on the risk management implications of the transition from EONIA to the €STR and the introduction of €STR-based fallbacks for Euribor.

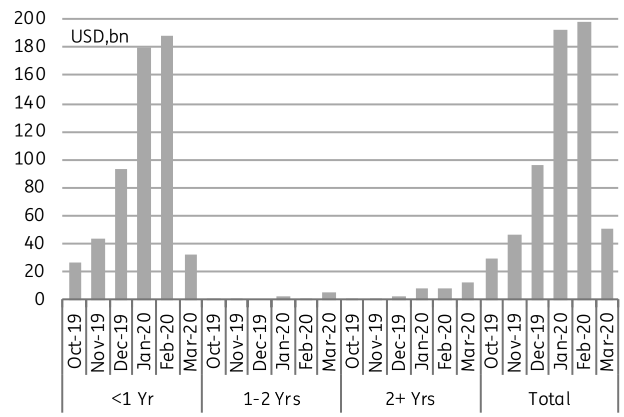
3) And a report from November focused on IFRS accounting implications of the transition and the inclusion of fallbacks for Euribor resting on a €STR-based term structure methodology.

In the end a liquid €STR derivatives market is a precondition to develop a forward-looking term structure which may also be required for some Euribor fallback solutions.

Given its robustness and the administration by the ECB, fallbacks might appear as a rather theoretical topic for €STR itself, but BMR requires that users of benchmarks have written plans for the case that a benchmark should change or cease to exist – those plans are also being reflected in contractual agreements with clients.

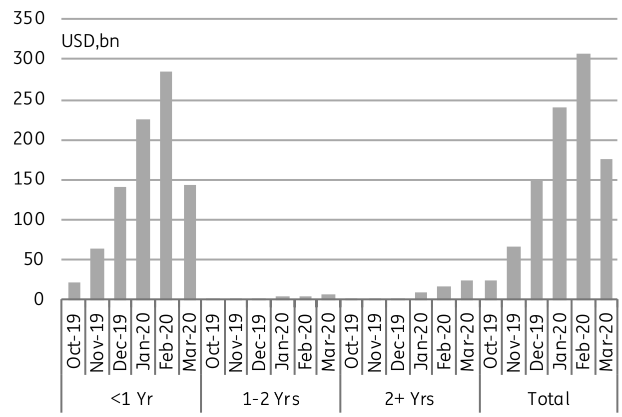
A working group (WG) report from November makes recommendations for €STR fallback arrangements. The first level fallback would be a rate (plus spread adjustment) designated by a "relevant nominating body", the second level should be to the ECB Depo Facility Rate (DFR) plus the DFR/€STR spread.

Fig 22 Monthly €STR-OIS volume (LCH cleared)



Source: LCH, ING

Fig 23 €STR-OIS notional outstanding (LCH cleared)



Source: LCH, ING

Euribor – planning for all contingencies

EMMI confirmed at the end of November 2019 that all panel banks had been phased in to the new hybrid methodology. The new Euribor is BMR compliant and should in theory ensure its existence as benchmark beyond end-2021.

This is good news to benchmark users who find a forward looking rate with a credit component more suitable for their purposes. LMA apparently considers Euribor as sufficiently robust that it plans to produce an "exposure draft" for a multicurrency facilities agreement where the benchmark rate for €-borrowings will be Euribor (and not €STR) alongside SOFR, SONIA and SARON.

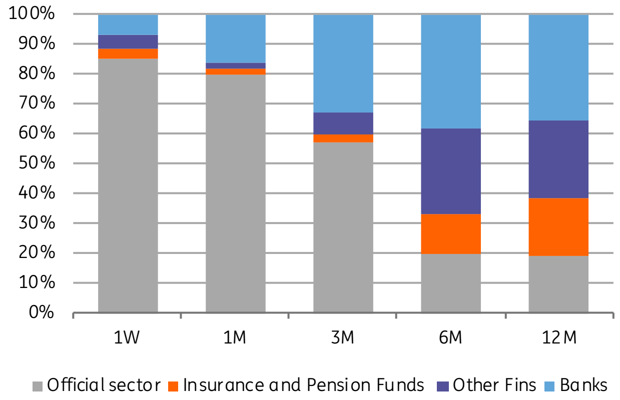
However, this is no reason to lean back. As has been pointed out by the Working Group, the long-term sustainability of Euribor will depend on the future liquidity of its underlying market, panel banks' willingness to continue supporting it and of course the administrator itself.

Users of Euribor should therefore be prepared for all eventualities, including the possible cessation of the benchmark. The current circumstances are a first real life stress test of the new waterfall benchmark determination methodology.

As we have noted in a separate publication, the pressure on Euribor has built over the past weeks which is partly reflective of the same types of pressure as seen on US Libor with the additional caveat for the Euribor rate that it is in effect a weighted compilation of money circumstances of many eurozone markets including Italy, where market rates have seen a material rise.

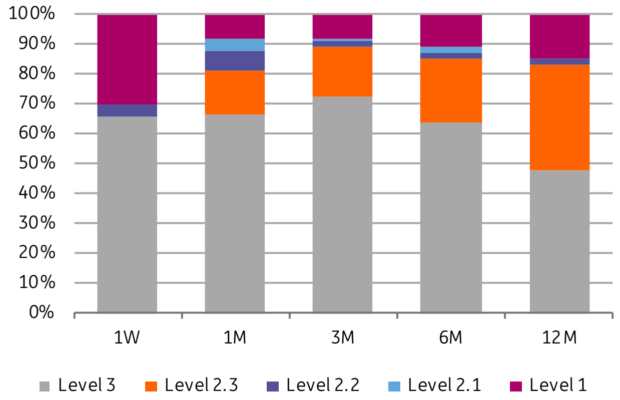
Euribor specifically is determined by a panel that now consists of 18 banks. Seven of these are from the Eurozone periphery and the countries currently most impacted by the crisis also economically. It is conceivable that periphery banks are paying higher rates, reflecting the differentiation seen in government bond and bills markets.

Fig 24 Counterparty share in used transactions



Source: EMMI, ING

Fig 25 Use of each level of the hybrid methodology



Source: EMMI, ING

Before calculating an average of the 18 contributions, the top and bottom 15% are removed, but this could still leave at least half of the peripheral contributions to be included in the final Euribor fixing.

The transparency indicators that the EMMI as administrator of Euribor releases on a monthly basis also underscores that the market liquidity underlying unsecured term rates significantly lags those of the very short tenors (i.e. overnight to one week). In the 3m and 6m tenors actual transactions underpinned only 11 to 15% of the fixings, an equivalent of €4.4bn in aggregate notional transaction volumes in February. This compares to a notional volume of €64bn underlying the 1w Euribor tenor.

Note that February volumes have dropped versus January, and March data covering the beginning of market tensions is not available yet.

In the case Euribor became unsustainable, supervisory authorities may provide a temporary backstop in the form of mandatory contributions to the benchmark or mandatory administration of the benchmark. In fact the latest European Commission public consultation also focuses on the extent of supervisory powers.

On the basis of the responses which are already available it was due to result in a report to Parliament and Council. It seeks to deal with questions surrounding the immediate cessation of critical benchmarks and the powers to compel contribution or mandate methodology changes to preserve financial market stability.

Should data increasingly show that Euribor is faring less robustly than desired in stressed scenarios, a 'one off' alignment of rates as laid out in the US section above could also prompt a rethink on the side of the EU regulator to push for a definitive switch to €STR.

The timeline ahead

The next planned steps in completing the Euribor reform will also deal with the potential cessation of the benchmark, or more precisely the Euribor fallback methodologies and the required legal work. After the high level recommendations provided last November, the WG originally envisaged two parallel public consultations already for Q2 this year. However, the WG indicated that the timelines could be pushed back in light of the Covid-19 crisis.

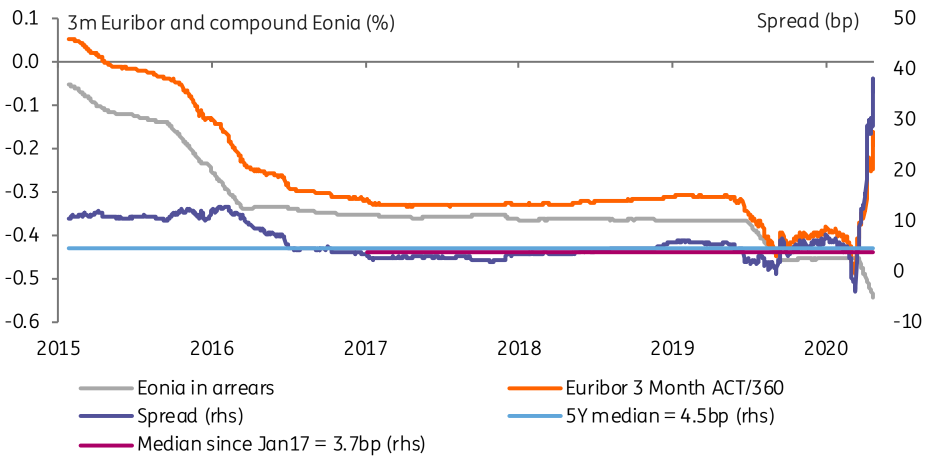
The first consultation will deal with the Euribor fallback methodologies itself and the methodologies for the credit spread adjustment and the related market conventions. It originally aimed to have recommendations by mid-year, but they are likely to be postponed until around the end of the year. Analysis on suitable fallback benchmarks for cash & derivative instruments, as well as on suitable transition/credit spreads per identified fallback which should originally be provided this quarter could now come only in September. It should also be accompanied by a consultation regarding the fallback trigger events itself.

The second consultation covers the "legal action plan" for embedding these fallbacks in the new Euribor contracts, and to the extent possible, in the legacy contracts. A consultation paper on new contracts and guidelines on legacy contracts would now also be postponed into autumn. The final methodological and legal recommendations would be released around the end of the year as well instead of the originally expected release around June this year. Separately the WG is also seeking advice on risk management & financial accounting topics in Q2.

Euribor-OIS spread developments

The ISDA methodology ensures that only the past 5 years' worth of data are relevant for spread adjustment calculations. For the Eurozone, the premium in final spread adjustment will likely be low by historical standards. This is visible in the tightening of the 3m Euribor-Eonia basis in 2016-2017 (Figure 15) as the ECB cut rates. Note that there is an 8.5bp adjustment to that to get to the 3m Euribor-€STR fallback spread.

Fig 26 Compounded Eonia vs 3m Euribor



Source: ING, EMMI, Bloomberg

Euribor is not under the same immediate transition pressure as in other regimes, but at the same time if things line up appropriately, participation in a wider co-ordination may make some sense.

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