

TIME TO SWITCH RATES LIBOR TRANSITION

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TIME TO SWITCH RATES EXECUTIVE SUMMARY

The familiar and ubiquitous LIBOR (London Interbank Offered Rate) may no longer be published after the end of 2021, but a huge amount of work remains to transition the 240 Trillion US Dollar LIBOR market to alternative Risk Free Rates (RFRs). Activity needs to shift from fallbacks to new product development and transition and the speed of change needs to accelerate sharply to meet this deadline, requiring action by both market participants and regulators to avoid a major market disruption.

A firm date for the discontinuation of LIBOR would likely be the biggest accelerator of change, but so far all stakeholders that could set a firm date have had strong reasons for not doing so and this is unlikely to change in the near term.

The most urgent actions include:

REGULATORS

- Remove disincentives for market participants to switch from LIBOR-based to RFR-based Derivatives, including increased initial margin requirements for entering new RFR-based trades (particularly if existing trades were grandfathered), tax liabilities from realising gains, and potentially adverse accounting effects
- Clarify whether or not credit sensitive benchmarks are a realistic alternative
 to LIBOR and RFRs banks would understandably prefer to use a credit
 sensitive rate for lending and the hope that this will be possible is holding
 back development of products based on RFRs

BANKS

- Stop procrastinating and develop loan products based on RFRs. In the near-term, backward looking RFRs are the only available option and adjustments to interest observation periods may be required to give advance visibility on cashflows and mitigate systems. If and when term RFRs or even credit sensitive rates are established, products using these rates could be added to allow customers (and banks) to choose. But banks cannot afford to wait due to the lead time to transition legacy contracts. The risk of wasted effort and investment, particularly by banks in developing RFR-based loans, needs to be seen in the context of the bigger operational and financial risks of LIBOR being discontinued before the industry has transitioned
- Begin preparations for transition of legacy transactions. Different impacts across
 different products within a single customer relationship will require integrated
 data and analytics and a consistent playbook for re-negotiation, which will take
 time to develop due to the complexity of bank systems and organisations

CCPs

 Accelerate shift to SOFR discounting and PAI on cleared derivatives to reduce dependency on Fed Funds and increase demand for - and liquidity of - SOFR swaps

BENCHMARK ADMINISTRATORS

 Accelerate development and publication of term RFRs, coordinate with trading platforms and liquidity providers to secure access to the required derivatives or futures input data

The above actions will have to happen in parallel if the mammoth task of transitioning away from LIBOR is to be completed by the end of 2021. Further delays raise the risk of a market-wide dislocation, as well as economic, conduct and operational impacts for individual market participants.

INTRODUCTION

It is almost two years since Andrew Bailey, CEO of the Financial Conduct Authority (FCA), announced that the FCA will not compel panel banks to submit to LIBOR beyond 2021, requiring transition of over 240 Trillion US Dollar of financial instruments from LIBOR to alternative Risk Free Rates (RFRs). Certainly, progress has been made since then but there is still much to do. The vast majority of new business continues to reference LIBOR rather than RFRs, particularly in the US Dollar exposures and global loan markets; new products using the RFRs are not yet mature or liquid; and few legacy transactions have been transitioned. At this rate of progress, transition is unlikely to be completed by the end of 2021. Actions need to be taken now by both market participants and regulators to accelerate progress and avoid market disruption. We also highlight a number of emerging risks which have not received sufficient attention to date and which need to be urgently addressed.

Banks with large LIBOR-based exposures have used the time since the FCA announcement to assess their exposure, develop transition plans, and begin moving certain new transactions to RFRs. Progress has been held back by uncertainties around where and whether term RFRs or alternative credit sensitive benchmarks will be available. Smaller banks with less exposure seem to be planning to rely predominantly on the existing fallback clauses in contracts to bring about the transition away from LIBOR – an approach that is, in our view, unwise and which regulators have explicitly advised against.

"We have only a little over two and a half years until the point at which LIBOR could end, and the transition needs to continue to accelerate.

The private sector needs to take on this responsibility, and we expect you to do so. The Federal Reserve's supervisory teams are including the transition away from LIBOR in their monitoring discussions with large firms."

Randy Quarles

Taking the 2021 timeline at face value, we are nearly at the halfway point of LIBOR transition since Andrew Bailey's speech. At the current rate of progress, banks' ability to make the transition away from LIBOR by the end of 2021 is unclear and the risks that arise from the transition are increasing. Without proper preparation, banks face a number of material risks that include unanticipated operational risks, potential value transfers which can lead to huge gains or losses when fallback clauses come into force, and considerable conduct risk that could result in reputational damage, fines, and lawsuits.

Non-LIBOR products have developed far slower than hoped in the cash market, largely tied to uncertainty on the availability of term RFRs. As such, LIBOR-based contracts are still being entered into at a rate little reduced from 2017. For example, in the US, most long-dated consumer variable mortgages are still being sold tied to LIBOR, despite LIBOR's likely demise at the end of 2021.

Additional risks and complexities continue to emerge through the ongoing consultative processes. For example, pre-cessation triggers for certain product fallbacks could further divide the market and make risk management more challenging.

Regulators have been re-emphasising the importance of preparing for the transition. Banks and other market participants that have not yet moved ahead strongly must act with urgency.

"The time for 'last orders' is now. Firms need to be focussed on what they need to do to be able to transact SONIA based products; and stop adding to their post 2021 Libor exposures... firms should not leave it to the last moment, relying on the efforts of others. Firms need to invest in the necessary changes now."

Dave Ramsden

PROGRESS TO DATE

The banks most affected by the discontinuation of LIBOR have initiated transition programmes and most have made progress on mobilisation activities. Common activities include:

- Creation of inventories of LIBOR-related exposures and infrastructure
- Assessment of the risks associated with the transition
- · Identification of actions to mitigate those risks
- Programme planning and mobilisation
- Some initial work to begin executing transition plans

Many now have LIBOR Transition programmes mobilised with appointed senior sponsors and programme leads in place, as well as staff dedicated to the transition. Increased regulatory scrutiny, for example in the form of the FCA and PRA's "Dear CEO" letters in the UK, have had the intended impact to galvanise efforts in the industry.

At the same time, industry groups such as the UK Sterling Risk Free Rate Working Group, the US Alternative Reference Rates Committee (ARRC), ISDA and the LMA have been working on solutions to support the transition, with a number of consultations on key transition issues. These include consultations on the nature of new fallback language for derivatives and cash contracts and the approach to developing a forward-looking term rate.

However, efforts completed to date are just the start of what is required for the full transition. Most banks have only just started to contemplate more advanced preparation activities such as:

- More formalized and quantitative strategic analysis of potential transition paths
- Extracting terms of existing LIBOR contracts and systematically analysing transition implications
- Non-LIBOR product design and associated business and infrastructure requirements
- Developing customer-focused analytics and playbook to prepare for contract re-negotiations

Banks with smaller but still material exposures to LIBOR have yet to make meaningful progress, with some not yet fully understanding the full size and location of their exposures. Furthermore, many (but by no means all) non-bank, buy-side and corporate market participants are even less advanced, lacking diagnostics and plans for the transition.

From a product and liquidity perspective, progress to date is uneven and slower than hoped across currencies and asset classes, as summarised in exhibit 1 below.

Exhibit 1: Summary of RFR liquidity across products

ASSET	ESTIMATE OF LIQUIDITY		COMMENTS
	SOFR	SONIA	
SWAPS			 Low uptake of SOFR swap volumes so far (<0.5 percent of LIBOR volume¹) High volume of SONIA swaps (~40 percent of total volume²), due to the pre-existing short-dated OIS market, but low liquidity in longer tenors
Futures & forwards			 Significant progress on SOFR futures in past few months, now ~1 percent of US Dollar rates futures cleared by CME³ SONIA futures also growing, e.g. SONIA now constitutes 4 percent of listed British Pound interest rate figures²
Bonds	•	•	 SOFR volume is increasing (>80 deals in Q1 2019 accounting for 24 percent of all USD FRN proceeds) but still 90 percent agency-driven⁴ SONIA volume is robust (>40 deals done and, in Q1 2019, 77 percent of British Pound FRN proceeds), and with more participation by the private sector⁴
Loans	\bigcirc	\bigcirc	No banks are regularly offering SOFR and SONIA loans to corporate clients

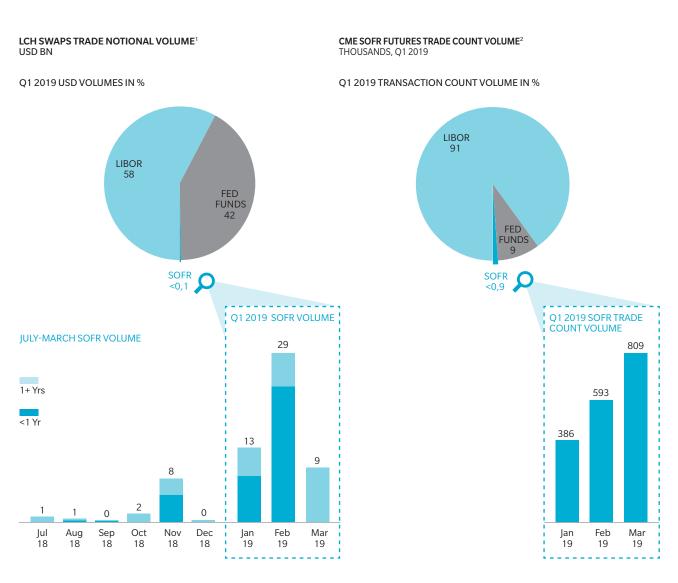
No liquidity in RFR markets

Sufficient liquidity for all activity to take place in RFR market

Sources: 1. LCH volume statistics; 2. Sterling Risk Free Working Group newsletter; 3. CME monthly volume reports; 4. Eikon by Refinitiv, Oliver Wyman analysis

In the UK, because SONIA was the existing British Pound Overnight Index Swap (OIS) benchmark, there is already a large volume of SONIA swap trades (7 Trillion US Dollar notional cleared by LCH in Q1 2019 – 40 percent of the total British Pound Interest Rate Derivative notionals¹), though weighted toward the traditional OIS short-dated market. The take-up of US Dollar SOFR swaps has been increasing, but still lags far behind when compared to British Pound (see exhibit 2). SOFR futures have made more progress with almost 1 Trillion US Dollar traded in March 2019. This is, however, still only ~1 percent of LIBOR futures trade counts.

Exhibit 2: Summary of SOFR derivative volume

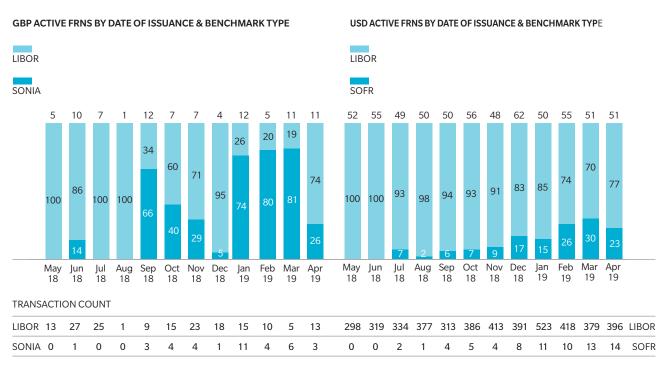


 ${\color{red}\textbf{Source: 1. LCH RFR volume statistics; 2. CME monthly volume reports}}$

¹ Source: Working Group on Sterling Risk-Free Reference Rates March newsletter

For cash products, floating rate notes (FRNs) have gained traction, particularly in British Pound. In Q1 2019, 16 Billion US Dollar of SONIA-linked FRNs were issued (compared to 7 Billion US Dollar in H2 2018), along with 4 Billion US Dollar of SOFR-priced notes. This represents 60 percent of British Pound FRN issuance, which is remarkable, but only 2 percent of US FRN issuance (see exhibit 3). In contrast, these new reference rates have gained very little traction so far in RFR-based loans (across all products, from mortgages to syndicated loans), partly because of uncertainty about whether there will be either a term RFR or credit sensitive alternative rate available.

Exhibit 3: Summary of recent British Pound and US Dollar FRN issuance (LIBOR vs. RFR) in % and total \$BN, 12 months preceding April 2019; Only active bonds as of May 15, 2019



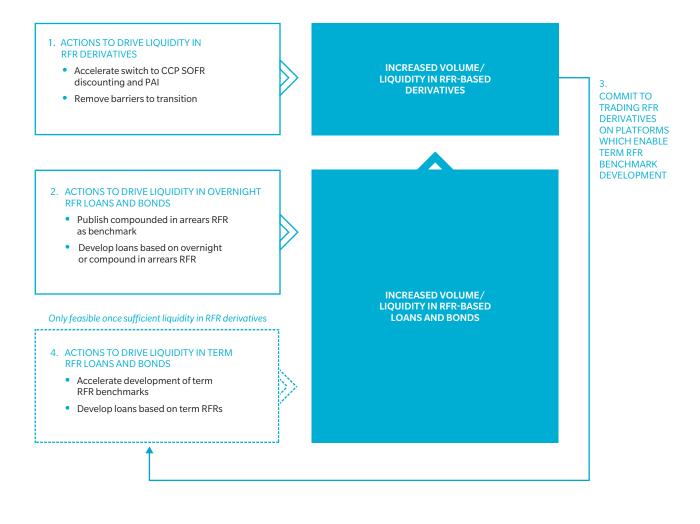
Source: Eikon from Refinitiv, Oliver Wyman analysis

Despite this progress, the fact remains that LIBOR products are still being sold across all products, currencies and jurisdictions. It seems unlikely that all LIBOR exposures will have been converted to the new reference rates by the end of 2021 or even that firms will have ceased writing new LIBOR transactions. The industry will struggle to transition legacy positions if meaningful volumes and liquidity have not developed in the alternative rate markets, significantly increasing the risk presented by discontinuation after 2021. Parties to LIBOR-priced contracts face unpredictable transfers of value, even with the adoption of new fallback clauses which aim to, but cannot guarantee to, mitigate value transfer upon LIBOR discontinuation.

HOW TO ACCELERATE THE TRANSITION

There are a number of actions which stakeholders can take to accelerate the transition from LIBOR to alternative rates. Each of these actions have their limitations in isolation – a combination will likely be required to achieve the intended result. Acceleration of the transition will likely need to be led by the market, but increased direction and clarity from regulators will serve to reduce the uncertainty which has created challenges for a market-led path to naturally emerge.

ACTIONS TO ACCELERATE TRANSITION



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ACTIONS TO DRIVE LIQUIDITY IN RFR DERIVATIVES

ACCELERATE CCP SWITCH TO SOFR DISCOUNTING AND PAI

The ARRC paced transition plan originally stated that CCPs would begin offering a choice of clearing new contracts using SOFR PAI/discounting as of Q1 2020 but now states that the move to SOFR PAI/discounting will start in H2 2020, although CCPs are considering a big bang implementation. If CCPs could accelerate this timeline, this would generate demand for SOFR-based derivatives to manage valuation and margin of cleared derivatives. Currently, given the lack of SOFR-based cash products, there is limited end-user need for hedging applications which is holding back volumes.

REMOVE BARRIERS TO TRANSITION OF LIBOR DERIVATIVES

Accounting bodies and financial regulators could remove disincentives for market participants to switch from LIBOR-based to RFR-based derivatives. Disincentives include increased initial margin requirements for entering new RFR-based trades (particularly if existing trades were grandfathered), tax liabilities from realising gains, and potentially adverse accounting effects.

BCBS and IOSCO have stated that amendments to derivative contracts in response to interest rate reform should not trigger new initial margin requirements. However, this has not yet been written into law, and it is unclear how narrowly it will be interpreted and enforced. In practice, LIBOR trades may be substituted by termination and replacement rather than contract amendment. Clarification of a broad application of initial margin relief, which would avoid initial margin requirements for RFR-based replacement trades, could see an increase in voluntary transition activity.

2. ACTIONS TO DERIVE LIQUIDITY IN OVERNIGHT RFR LOANS AND BONDS

PUBLISH COMPOUNDED IN ARREARS RFRS AS A BENCHMARK

Publication of compounded in arrears RFRs would make it easier to use these rates as references for loans and bonds, which typically pay interest on a monthly or quarterly basis. Currently, the calculation of compounded rates needs to be done by one or more parties to the transaction, rather than referencing a publicly available rate. This results in opacity and potential basis risks (e.g. if different conventions are used). Such rates are already being published by some providers for information only (e.g. ICE Benchmark Administration on its Term Rates Portal for US Dollar and British Pound and SIX, the Swiss exchange, or SARON), but these are not currently to be used as a reference rate in transactions. The Fed has also stated that it will publish compounded rates for SOFR in the first half of 2020.

Market infrastructure providers and/or the central banks which publish the overnight RFRs should accelerate publication of compounded rates which can be used directly as reference rates in transactions.

An additional complexity to consider is the divergence in conventions between cash and derivative products and between US Dollar and British Pound rates. It may not be possible to simply publish a single version of compounded RFRs to replace LIBOR term rates. If both cash and derivative markets cannot converge on a single convention (which would likely need to be the existing convention for derivatives, given the maturity relative to nascent cash RFR products), then cash products should, at least, aim to use a single convention to avoid a confusing proliferation of different rates.

DEVELOP LOANS BASED ON OVERNIGHT OR COMPOUNDED IN ARREARS RFRS

While some FRNs are now using RFRs, virtually no RFR-based loans have so far been arranged in any currency. This is due to a (perceived) lack of borrower demand for such loans, combined with paralysis in the face of uncertainty about if and when a forward-looking term RFR or alternative credit sensitive benchmark might be available. But some large, sophisticated corporates have begun considering RFR-based loans, and there may be strategic advantages for banks which develop capabilities to offer RFR-based loans to these clients. And for US Dollar where the ARRC paced transition plan currently has term RFRs only available at the end of 2021 (too late for transition) there is all the more argument to develop alternative loans now. In the US mortgage market, Fannie Mae and Freddie Mac must continue to play a catalysing role in developing standard conventions for SOFR-based mortgages, given their pivotal role in the industry.

While some have raised concerns that creating products based on overnight or compounded RFRs will bifurcate liquidity if forward-looking term-based products are also developed in the future, liquidity fragmentation is less relevant for corporate and commercial loans that are mostly held on balance sheet. The potential for forward-looking term-based products should not delay the development of loans based on overnight or compounded rates now.

COMMIT TO TRADING RFR DERIVATIVES ON PLATFORMS WHICH ENABLE TERM RFR BENCHMARK DEVELOPMENT

Forward-looking term RFR benchmarks are dependent not only on having sufficient liquidity in underlying RFR derivatives, but also on having data regarding the derivatives market available to a benchmark administrator.

In the UK, there is already significant liquidity in SONIA derivatives, but a large share is traded on a bilateral OTC basis. Given that market participants expressed a preference for SONIA term rates to be at least partially based on SONIA OIS, moving trading onto regulated platforms such as Multilateral Trading Facilities (MTFs) would enable a Central Limit Order Book (CLOB) based methodology to be used, similar to the existing ICE Swap Rate benchmark for LIBOR based swaps. This would require a critical mass of banks to commit to providing liquidity in SONIA OIS on these platforms, including in stressed conditions.

In the US, the Federal Reserve Board has published a research note with a methodology and indicative term rates based on US Dollar Futures, where volumes are significantly higher than OIS. However, it remains unclear if and when Futures-based term rates will be available as a benchmark that can be used as a reference in financial transactions.

Regulators could play an important role in enabling viable SOFR and SONIA term rates, including corraling banks to commit to market making underlying products, and could provide transparency on the depth of liquidity versus what would be required to support a robust benchmark.

4. ACTIONS TO DRIVE LIQUIDITY IN TERM RFR LOANS AND BONDS

Note that these actions are only feasible once there is sufficient liquidity in RFR derivatives to construct the forward-looking term RFR. Given the current situation and outlook for different markets, we expect this to be first for British Pound, later for US Dollar, and unlikely to happen at all for CHF.

ACCELERATE DEVELOPMENT OF TERM RFR BENCHMARKS

As noted above, uncertainty regarding the availability of a forward-looking term RFR is delaying banks and end borrowers from adopting RFR-based cash products. To the extent possible, market infrastructure providers should be encouraged to develop forward-looking term RFRs as quickly as possible, subject to the development of liquidity in the underlying derivatives market. There is a natural incentive for these institutions to do so, given the commercial opportunity of providing these benchmarks and the potential first-mover advantage in a market where there are clear benefits from having liquidity concentrated on one (or very few) such benchmarks. The Sterling Working Group has started discussions with benchmark administrators following the SONIA term rate consultation and recently announced a target date of Q1 2020 for publication of a benchmark rate. The US is lagging further behind, partly driven by lack of liquidity in SOFR derivatives, and has not yet undertaken a consultation, although the ARRC's paced transition plan does plan for a forwardlooking term rate to be available by the end of 2021. The challenge here is that if it is not available until the end of 2021, a term rate will not be available to support any transition prior to that date. If transition of loans is to occur before then, market participants will either need to begin transitioning to overnight RFR or compounded RFR loans, or the development of a forward-looking SOFR term rate will need to be accelerated.

DEVELOP LOANS AND BONDS BASED ON FORWARD-LOOKING TERM RFRS

While loans and bonds based on forward-looking term RFR benchmarks can only be provided once the benchmarks themselves are available, preparatory work can be done in advance to develop the product and systems capabilities. Market participants will naturally only want to invest in these product capabilities once there is a high likelihood that forward-looking term RFRs will be available – reiterating the benefit of increased transparency on feasibility and timing of forward-looking term RFR benchmarks, Again, Fannie and Freddie could play a role in creating a market for mortgages based on forward-looking term SOFR if and when it becomes available.

CLARIFY TIMELINES AND MILESTONES

While the end of 2021 target for transition is clear, there are only high-level milestones and timelines, such as those in the ARRC "paced transition plan". Some timelines are difficult to predict, given uncertain growth in demand and development of liquidity. However, given the inter-dependencies between markets, it would be helpful to work back from the end of 2021 to clarify the latest time at which transition elements need to be in place.

For example, if there is a desire for at least some loans to transition from LIBOR to a forward-looking term RFR by the end of 2021:

- Transition will need to start by H1 2021 at the latest, given the large number of bilateral and syndicated loans
- Transition is only likely to start once the use of forward-looking term RFRs is well established for new loans. It will take time for demand to grow for forward-looking term RFR loans and so they will likely need to be available by H1 2020 at the latest
- Term RFR loans can only be offered once forward-looking term RFR benchmarks are available, so these also need to be available by Q4 2019 or H1 2020 at the latest
- Term RFR benchmarks can only be developed once there is sufficient liquidity in RFR swaps and futures, with data available to one or more benchmark administrators. It will take time for a benchmark to be developed, tested and authorised (in the EU) and so there will need to be sufficient liquidity by early H2 2019 – just a month away

This timeline is aggressive and remains very tight, even for British Pound where there is already significant liquidity in SONIA derivatives. For US Dollar the challenge is much greater. As mentioned previously, liquidity in SOFR derivatives remains low and the ARRC paced transition plan has a planned date for forward-looking term SOFR at the end of 2021 compared to H1 2020 indicated above. This implies that transitioning US Dollar cash products to a forward-looking term SOFR by the end of 2021 is not an option, so the industry should plan for – and start executing – the transition to overnight or compounded SOFR.

Several market participants have highlighted that increased transparency over the timing of LIBOR discontinuation would accelerate the transition, as it would provide a hard stop and force those market participants who are still hoping/expecting LIBOR to continue for some time to act. However, we see this increased clarity as unlikely in the near-term because of conflicts and challenges for the key stakeholders:

- IBA could announce a timeline for discontinuation but IBA has an interest in continuing to publish LIBOR for both financial stability and commercial reasons
- Panel banks could give notice of intent to stop submitting to LIBOR. This would reduce the cost and conduct risk associated with submitting. However, this would need to be traded off against the potential reduction in cost and effort associated with transition for the same banks, since the continued availability of LIBOR would allow for more gradual transition and run-off of legacy transactions
- In theory, regulators could withdraw authorisation of IBA, which would prevent
 usage of LIBOR for EU entities under European Benchmark Regulation. However,
 given that IBA was only authorised last year, this would likely require a change
 in market conditions resulting in reduced representativeness of LIBOR to justify
 withdrawal of authorisation. Additionally, authorisation would not directly impact
 usage by non-EU entities, although it may have a significant knock-on impact

CLARIFY VIABILITY OF ALTERNATIVE CREDIT SENSITIVE BENCHMARKS

As well as uncertainty over timing of forward-looking term RFRs, the potential for the use of alternative credit sensitive benchmarks in loans and bonds is also holding back development of RFR-based products. As an example, IBA recently started publishing the ICE Bank Yield Index, which provides credit sensitive rates for US Dollar – similar to LIBOR – although it is currently for illustrative purposes only and not for use as a benchmark. Many banks would prefer to use such a benchmark for lending as it maintains the ability to pass on increased funding costs in time of stress. Borrowers may also prefer a credit sensitive rate in the absence of term RFRs. The absence of a credit sensitive spread in either term or overnight RFRs will have a real-world impact as the cost is either moved upfront to the borrower or alternatively absorbed by the banks, which will impact capacity.

However, credit sensitive benchmarks face many of the same challenges as LIBOR in terms of volume and quality of underlying transactions. It remains unclear whether these rates can be sufficiently robust to provide a long-term alternative to LIBOR and meet the IOSCO Principles for Financial Benchmarks.

A concerted effort by the industry, providers such as the IBA, and the regulators is needed to clarify what is feasible regarding the use of these rates. It would be helpful for the industry to have early clarification from regulators on whether such benchmarks are a real possibility. For now, given the tight timescales, most institutions should plan based on a transition to existing rates.

POTENTIAL REGULATORY PRESSURE ON THE MARKET.

If the above actions are not sufficient, regulators may get increasingly tough on the market to force transition by the end of 2021. We have already seen 'Dear CEO' requests from the UK regulators, as well as supervisory requests in the US, Switzerland, Singapore, Hong Kong and several other markets. Such requests and follow-ups may increase in frequency and intensity. Regulators could even eventually take stronger measures, such as increased capital requirements for entities with significant LIBOR exposure.

AN ALTERNATIVE TO ACCELERATION

Alternatively, regulators may decide that certain markets simply cannot or will not move faster (e.g. mortgages, bonds, lending). To avoid the risk of LIBOR ending prior to a transition, they may decide to extend LIBOR's life, encouraging or requiring continued panel bank submissions to the IBA, at least to support legacy products so they can mature rather than rely on fallbacks.

However, there is a risk that this further slows the adoption of alternative rates for all products, or there will be legacy products that are based on a "zombie LIBOR" with no or limited ability to hedge. Nor is it clear how any restriction on new transactions would be implemented and enforced if LIBOR publication continues, particularly outside the scope of the EU's BMR.

Further clarity from regulators on the feasibility of this delay mechanism and conditions under which a delay would be allowed is needed to ensure there is no interpretation that the market is being "rewarded" for lack of progress.

FOUR EMERGING RISKS AND AN OPPORTUNITY TO RE-THINK

While there is uncertainty, and progress has been slow, banks and industry groups are continuing to work to prepare for a transition from LIBOR. As these efforts progress, we see a number of new emerging risks which have not been sufficiently addressed to date and are becoming urgent.

1. OVER-RELIANCE ON FALLBACK CLAUSES

Some market participants are planning to rely on updated fallback clauses to transition from LIBOR when it becomes unavailable. This creates major operational risk, from needing to process new and different fallback formulae, to needing to calculate new interest payments, valuations, margin and collateral requirements for tens or hundreds of thousands of contracts on a single day. We are not aware of any institution that can readily perform these activities at such scale today.

Reliance on fallbacks also creates the risk of unexpected value transfers between the counterparties. Lastly, the over-reliance on fallbacks is likely to reduce pre-transition liquidity in alternative rates in advance of end 2021 and further slow transition progress.

Regulators have warned that fallbacks should be viewed as a "seatbelt" and not a transition mechanism.

Recommendation: It is imperative that banks and other market participants proactively re-negotiate LIBOR contracts to reference an alternative rate wherever possible to minimise the use of fallback clauses in case of a LIBOR discontinuation. At the same time, there will likely be a sub-set of transactions where proactive re-negotiation is simply not possible (e.g. public securities requiring unanimous approval from all investors); it is imperative that market participants understand what is required to implement fallbacks and be prepared to test implementation in advance.

2. INCONSISTENCY IN FALLBACK TERMS AND TRIGGERS THREATENS RISK MANAGEMENT INTEGRITY

While current fallback language in contracts is inadequate because it may result in unintended consequences (e.g. floating rate notes fallback to the last LIBOR fixing and thus effectively become fixed rate notes), it is at least reasonably consistent in terms of the fallback trigger (i.e. the non-publication of LIBOR) and the actual fallback rate itself within each asset class.

While new fallback language being developed by ISDA and other industry bodies is a positive step forward, differences in fallback language for sub-sets of transactions could result in increased basis risk. For example, a portfolio of offsetting transactions could be risk neutral under LIBOR but generate material risk if only a portion of the transactions are triggered or move to a fallback. Adopting new fallback language therefore needs to be timed and implemented in a way which minimises the risk of different sub-groups having different fallbacks.

One specific example relates to pre-cessation triggers, which would trigger a change of reference rate even if LIBOR is still published (e.g. if a regulator deems LIBOR to be unrepresentative). In this case, contracts with the pre-cessation trigger would move to the fallback, while other contracts without the pre-cessation trigger would not.

Hardwiring a pre-cessation trigger into contracts is understandable in cash markets, particularly floating rate notes and securitizations, where it is difficult to obtain the required approval from bondholders or lenders to make amendments should the LIBOR rate continue to be published but no longer representative. However, this was not previously considered for the derivatives market.

Regulators have now asked ISDA to include a pre-cessation trigger in the bilateral derivatives market, and ISDA is conducting a consultation on whether to include a pre-cessation trigger in its new LIBOR fallbacks. Any such pre-cessation fallbacks would apply to new derivatives trading under the standard ISDA 2006 Definitions and to legacy LIBOR derivatives between market participants that choose to adhere to the ISDA protocol.

Since adhering to ISDA's protocol will not be mandatory (except for regulated dealers), there is a risk that legacy derivatives will split into two markets – one that falls back to new rates upon the pre-cessation trigger and one that stays on LIBOR until cessation. Contracts that previously offset each other could stop doing so during the period between trigger and cessation. This divergence could lead to large risks or losses in banks' non-cleared derivative books, which often comprise a large share of the overall interest rate risk.

Recommendation: Market participants should analyse the potential impact of inconsistent fallback terms and triggers and proactively feed conclusions into consultation processes, as well as carefully plan for adoption of new fallbacks if agreed by the industry.

Further clarity from the regulators and ICE Benchmark Administration on the relationship and time lag between pre-cessation and actual cessation of LIBOR would also be useful to understand and ideally minimise the potential extent of a bifurcated market and limit the associated risk management challenge faced by market participants. This would be consistent with the EU BMR, which says that a rate's administrators should cease publication "within a reasonable period of time" from its being deemed unrepresentative.

CONDUCT RISK AND DATA COMPLEXITY IN THE REPAPERING PROCESS.

Negotiations to "re-paper" existing transactions will be challenging. Banks require a complete view of their exposures to each customer/counterparty and the estimated economic impact of transition across products and currencies, including the differences in fallback terms. This is particularly challenging when products are booked across different businesses and will require significant lead time. To mitigate the conduct risks of transition, banks will need to develop standardised treatments, decision trees and playbooks with appropriate governance to ensure a defensible position when selecting replacement rates. A fragmented approach could negatively impact customer relationships and lead to reputational damage, economic loss, conduct fines or legal action.

Recommendation: Banks should select a sample of clients and develop analytics to understand cross-currency and cross-product exposures by client. Banks should also develop a re-papering and negotiation strategy to define explicitly what will be required to prepare and manage the transition process end-to-end across client types to minimise conduct risk. The findings of this sample can then be used to determine the time and resources that will be required to apply the defined approach across all clients and exposures.

4. IMPACT ON EARNINGS OF USING A RISK-FREE RATE FOR LENDING

With so many variables still unknown, most banks have not yet begun to formally and quantitatively analyse the economic, balance sheet, and P&L impact of various transition scenarios, nor analyse the potential impact of future stress scenarios once the industry has transitioned to RFR-based products.

In particular, there is a potential material impact to Net Interest Income (NII) on lending products that needs to be understood in order to feed into new product design and pricing. LIBOR-based loans have historically enabled banks to pass increased funding costs during times of severe financial stress onto borrowers through the embedded bank credit premium in LIBOR. Without this "natural stabiliser," some banks may face a material reduction of NII in stressed market conditions. While liabilities will also be shifting away from LIBOR, the impact on stressed NII is still likely to be negative since aggregate liabilities generally re-price more rapidly than assets. The potential reduction in NII is likely to run into the hundreds of millions or billions of dollars for the larger banks.

If reflected in stress-testing, this could in turn lead to increased bank capitalisation requirements before transition and regardless of whether a stressed credit environment materialises although in practice the benefits of the natural stabilisation effect are not reflected in at least some regulatory models which are often the binding constraint. The risk is especially serious for non-US banks (e.g. European & Japanese) that use wholesale funding to lend in US Dollar. This risk could potentially be mitigated if a credit sensitive benchmark were used as an alternative to LIBOR, but there are challenges with credit sensitive benchmarks as highlighted earlier.

Some argue that a risk-free rate is a fundamentally more appropriate loan benchmark because banks are better positioned to manage the risk of changes to their funding costs than corporate or retail borrowers. Nevertheless, the cost of the shift in risk will need to be passed through to end users.

Recommendation: Banks should develop the analytics to quantify the impact on NII and capital in stress periods and use these findings to inform the design of their lending products and their market strategy (see next page). "What if" scenarios focused on changing level and sensitivities of cash flows is a central piece for such analytics at the bank, line of business, product, client, and transaction levels.

AN OPPORTUNITY TO RE-THINK CUSTOMER PRICING AND PROPOSITION FOR NEW BUSINESS.

Besides these risks, the transition away from LIBOR provides banks with a once-in-a-lifetime opportunity to reprice a large portion of their loan book and examine the customer proposition for new business.

To be economically neutral, lending margins would need to increase to reflect the LIBOR vs. RFR spread, plus a premium for the risk of increased funding cost in a crisis – that is, to compensate for the transfer of risk from the borrower to the bank.

Banks can also take the opportunity to iron out wrinkles in previous product development and pricing policies and processes. This will require considerable discipline, however, in the face of distributed pricing powers within the bank since and the potential for reckless pricing behaviour from competitors. Achieving discipline in redefining bank pricing will require a combination of pricing tools, performance analytics, and sound governance and processes (including test-and-learn). Applying a conduct risk lens will also be critical, particularly for any margin changes when legacy loans transition from LIBOR to an alternative rate.

Historical examples of repricing in the context of dislocations in other markets reveal a huge difference in outcome between market participants that plan and execute pricing changes effectively and others that do not. For LIBOR, the difference could add up to hundreds of millions of dollars in annual profit for the larger banks.

Recommendation: If they haven't already, banks should start preparing a customer proposition and repricing strategy and its implementation now. If loans based on new reference rates are to be launched in the next 12 months and the back book requires transitioning before the end of 2021, there is no time to lose.

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