RESEARCH PAPER

The LIBOR transition: current challenges on the long road to resolution

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The transition away from the London Inter-bank Offered Rate (LIBOR) represents one of the most fundamental changes in the history of capital markets. With a mere 14 months until LIBOR is due to be discontinued at the end of 2021, serious questions remain. In this report, Acuiti analyses the factors that might disrupt the impending transition and gauges consensus across the industry on some of the key outstanding issues.

Replacing the interest rate that underpins hundreds of trillions of dollars of financial contracts is a massive undertaking. Doing so during a global pandemic makes that challenge even more immense. Nevertheless, as the industry approaches the scheduled date for the cessation of LIBOR, capital markets have made significant strides in their preparations.

Analysing the transition away from LIBOR summons to mind Winston Churchill's description of Russian intentions as World War II began. "It is a riddle wrapped in a mystery inside an enigma," he famously remarked.

Of course, Churchill only had one country's riddle to solve. What is generally termed the "LIBOR transition" is a series of transitions away from Inter-bank Offered Rates across all major global currencies in multiple jurisdictions. Within each transition, a broad range of instruments from cash loans to derivatives are impacted, and each transition poses its own unique challenges and issues.

About CurveGlobal Markets

CurveGlobal Markets is the interest rate derivatives exchange launched by the London Stock Exchange Group (LSEG). CurveGlobal Markets operates a central limit order book and facilitates adaptive pricing, trading between the bid and offer, in the block market. It's aim is to bring meaningful competition to fixed income futures markets providing more choice and opportunity for traders, innovative products and ultimately make the market place better for all users. CurveGlobal was founded by LSEG, a number of leading dealer banks and Cboe. CurveGlobal was created to offer low cost and straightforward competition in the trading of the world's most popular interest rate derivatives contracts with no market data charges, no on-boarding charges, no trading fees* and no clearing fees*. CurveGlobal Markets products clear alongside the interest rates derivatives pool at LCH Swapclear, allowing members the option to use LCH's cross margining tools to generate significant capital efficiencies.

*No trading fees for 12 months from 1 October 2020
* No clearing fees for six months from 1 October 2020

Any report on the "LIBOR transition" risks becoming entangled in these complexities and becoming overwhelmed by the sheer scale of the global initiative. For that reason, this report will focus exclusively on some of the current issues in two transitions: the US dollar, which accounts for up to 85% of all LIBOR-referenced instruments and the UK, the regulator and historical home of LIBOR.

Within these two markets, this report will focus on four core issues:

- Current levels of preparedness and the barriers to transition
- Building liquidity in OTC and listed markets referencing RFRs
- Term rates and credit spread adjustments for the RFRs
- Fallback methodologies and challenges

The new RFRs in the US and UK markets are the Secured Overnight Financing Rate (SOFR) and the Sterling Overnight Interbank Average Rate (Sonia) respectively. There are multiple nuances between the two new RFRs but the fundamental difference in respect of the scope of this report is that the SOFR is a new rate created in order to replace LIBOR while SONIA has existed in markets for two decades.

Current levels of preparedness

UK regulators have set the end of 2021 as the deadline for a transition away from LIBOR. At that point, it is expected that LIBOR will be discontinued as an authorised benchmark rate.

To date, the end of 2021 deadline for the termination of LIBOR remains a target rather than a mandate. However, the Bank of England and the Financial Conduct Authority (FCA) are expected to finalise the timetable with a formal announcement that LIBOR will end on schedule, possibly as soon as November.

The finalisation of the International Swaps and Derivatives Association (ISDA) Fallback Protocol (see box out) released this month is a major step. The finalisation of the Protocol serves as a catalyst for much of the market to accelerate transition plans. In addition, a measure of the preparedness and openness to change will be evidenced by the number of firms signing up to the Protocol and, as importantly, the scope of that agreement (see box on page 12).

Acuiti asked respondents how disruptive the cessation of LIBOR at the end of 2021 would be to the overall market and to the respondents' businesses (Fig 1). Thirty-five percent of respondents predicted that the impact on the overall market would be highly disruptive. Only 13% said the same about the transition's impact on their businesses.

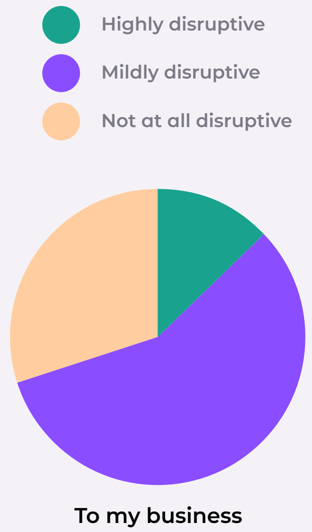
While the trend was similar across all company types, banks were most likely to indicate that the end of LIBOR in 2021 would be highly disruptive to their business with 25% of respondents holding this view. Hedge funds were also likely to view the end of LIBOR as disruptive to their business, while proprietary trading firms and brokers tended to view it as significantly more disruptive to the overall market than to their operations.

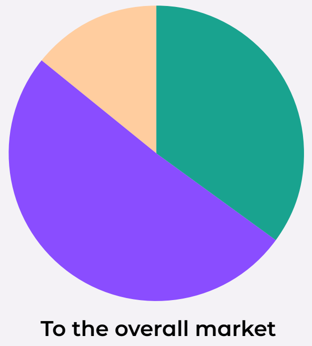
Acuiti also sought to understand how ready the industry was for the transition in terms of the various instruments it must shift over to the new RFRs. The survey found firms were significantly further along in cleared and listed derivatives than in loans, non-linear products (options, structured products etc) and non-cleared swaps (see Fig 3).

While respondents reported to have systems and processes in place to trade and clear futures and swaps, however, the survey found that a lack of liquidity in OTC and exchange traded instrument tied to the new rates were the two most significant remaining challenges to a successful transition (see box on next page).

The interconnectedness and global nature of the OTC market was cited as a particular challenge, with cross currency swaps methodology (differences between the two legs) being highlighted as the type of issue that still required further industry work.

Fig 1. If the publication of Libor stopped at the end of 2021 how disruptive do you think would that be?





The perceived Challenges to a successful transition

1. Lack of liquidity in OTC derivatives (swaps etc)
2. Lack of liquidity in exchange traded futures and options
3. Lack of agreed market convention for the pricing of loans and derivatives
4. Lack of agreement over fallback methodologies
5. Hedging uncertainty and accounting of RFR referenced exposures
6. Volatility in RFRs/increased risk of RFRs going negative

Fig 2. If any Libor cessation or pre-cessation are announced later this year, how (if at all) would that change your approach?

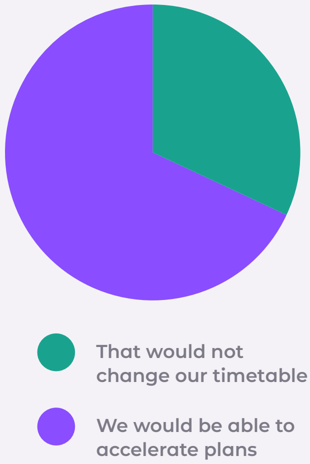
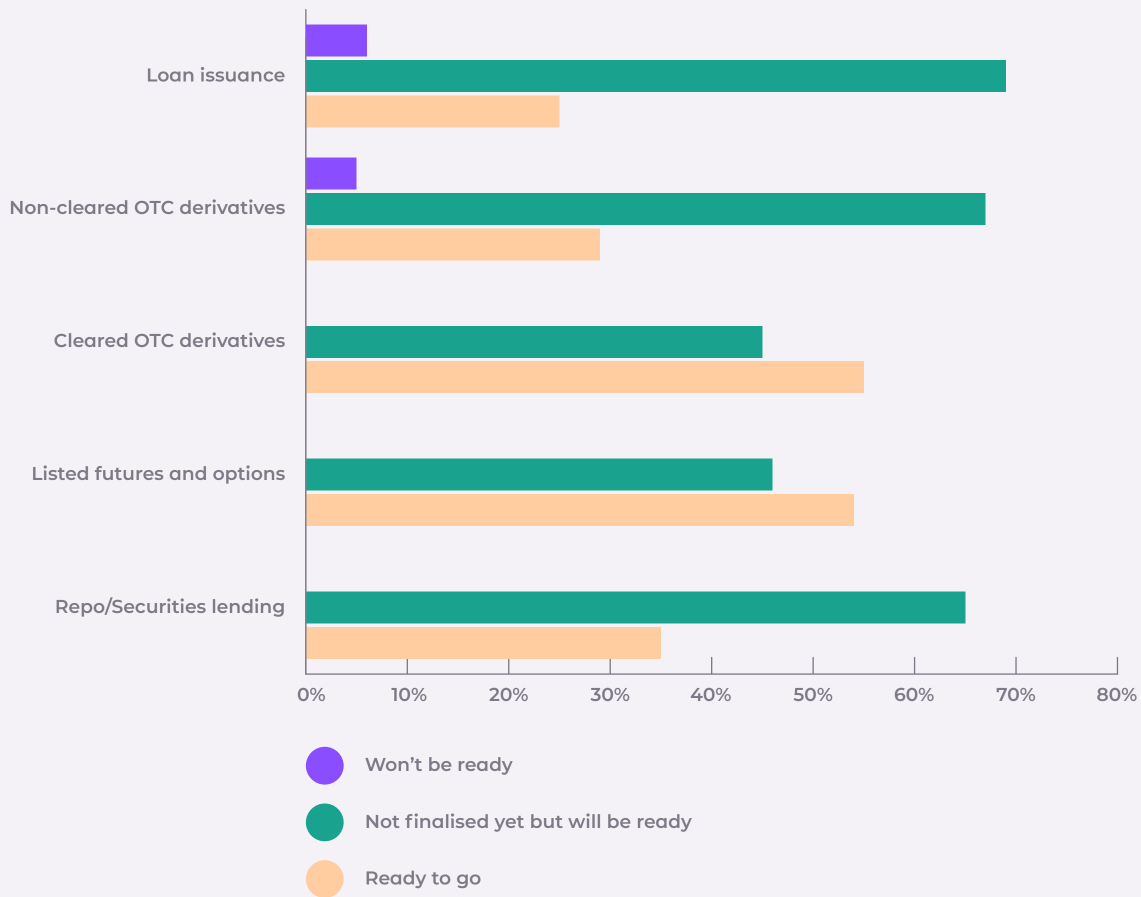


Fig 3. How prepared is your organisation for the transition at the end of 2021 in the following instruments:



Listed derivatives and OTC liquidity

Derivatives are fundamental to the transition for several reasons. Most notably, derivatives represent by far the largest market segment currently referencing LIBOR rates. More fundamentally, however, derivatives underpin hedging and pricing across the rest of the market from retail mortgages to insurance. For the overall market to transition to the new RFRs, there needs to be fully functioning, liquid listed and OTC derivatives markets in the rates.

Because of their importance, derivatives have been in focus from the outset of the transition and significant progress has been made to date. The Acuiti survey found that market participants had most commonly traded SONIA futures and swaps, followed by SOFR futures, then SOFR swaps, and finally €STR swaps (see Fig 4).

As SONIA has the advantage of being a more established rate, the OTC market is far larger in relative terms today in SONIA than it is in SOFR. According to the ISDA-Clarus RFR Adoption Indicator, 24% of sterling two-year interest rate swaps traded in sterling in August referenced SONIA compared to just 5% that referenced SOFR in the dollar market.

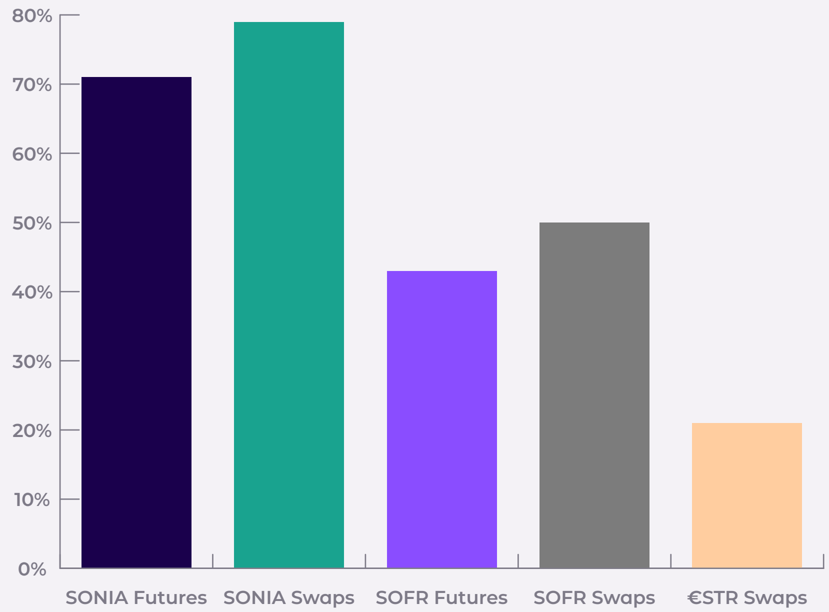
While SONIA is ahead in the OTC swaps markets in terms of liquidity, the ISDA-Clarus figures also show that the total RFR market share still lags significantly behind LIBOR.

Various significant steps are being taken to address this lag. This month, clearinghouses (CCPs) will undergo the discounting transition for US dollar cleared swaps. With the transition, SOFR will replace the federal funds rate that has, to this point, been used for price alignment interest (PAI) and discounting on all cleared USD swaps. At a recent LSEG webinar Tom Wipf, Chair of the Alternative Reference Rate Committee (ARRC) , suggested the discounting changes at CME and LCH would be “important milestones in building swap liquidity”.

Transitioning away from LIBOR

CurveGlobal Three Month Sonia Futures was the first three month futures contract launched by an exchange that referenced the reformed Sonia rate of the Bank of England. At the same time CurveGlobal made available the Cross Product Inter Commodity Spread (CP-ICS), which linked pricing with their existing Three month Sterling Future based on LIBOR. This exchange-listed strategy allows market participants to hedge their Libor based risk to SONIA-based risk – a futures equivalent of the OTCs market is represented by the FRA – OIS basis.

Fig 4. **Have you traded or facilitated the trading of the following:**



Another step towards building liquidity came from the FCA and Bank of England, which have targeted the end of October for interdealer brokers and liquidity providers to the interest rate swap markets to switch to pricing swaps in SONIA rather than LIBOR, the so called "SONIA first" strategy.

The Fed Funds-SOFR discounting transition at clearinghouses, which follows that of EONIA to €STR in Euro-denominated swaps in July, is expected to improve liquidity in the USD swaps market in two respects.

First, it will force a key aspect of the swaps market toward SOFR. Second and more fundamentally, it will boost liquidity in basis trades. As the discount risk profile of positions will change, CCPs will book swaps to each account to mitigate the rate fluctuations.

It is anticipated that the Fed Funds-SOFR basis swaps will contribute much to improving liquidity across the SOFR curve by creating large exposures to discounting risk that will need to be hedged and rebalanced on an ongoing basis.

The FCA and Bank of England initiative targeting interdealer brokers and liquidity providers will change market conventions for sterling swaps. Currently, SONIA swaps are priced by reference to a LIBOR swap adjusted by the LIBOR-SONIA basis. Following the change, SONIA swaps would be the primary pricing point, and LIBOR swaps would be priced by reference to SONIA adjusted by the LIBOR-SONIA basis.

On the listed side, the challenge is one of building up liquidity in listed futures and developing an options market. Currently, ICE and CME offer trading in SOFR futures, while ICE, CME and CurveGlobal offer trading in SONIA. As with the OTC markets, liquidity is growing rapidly but remains far below that of the LIBOR-referenced contracts.

What remains to be seen is whether the market migration will create multiple pools of liquidity or a winner-takes-all market. Historically liquidity has concentrated on one exchange in both the US and UK but with multiple pools of liquidity across swaps and futures this may change.

Acuiti asked what factors underlie the decision regarding which market to trade and found that the liquidity and depth of a bid and offer was the main factor followed by the fees and costs of transition and margin savings vs. swaps and benchmarks (Fig 5).

Block trades: trading between the mid-price

CurveGlobal Markets allows firms to find additional liquidity and P&L savings through trading blocks. The block trading mechanisms allows firms to blend block trades and trade closer to the mid of the bid and ask price. For example, a 1000 lot block trade in the new CurveGlobal 1M Three month SONIA Future at the mid-price would be worth 1000*£6.25 or £6,250. One block trade per day, priced at the mid, in 1000 lots would have the potential to save £1.5m of P&L over a year. The CurveGlobal Market is covered by a number of brokers who can trade for customers on orderbook or block.

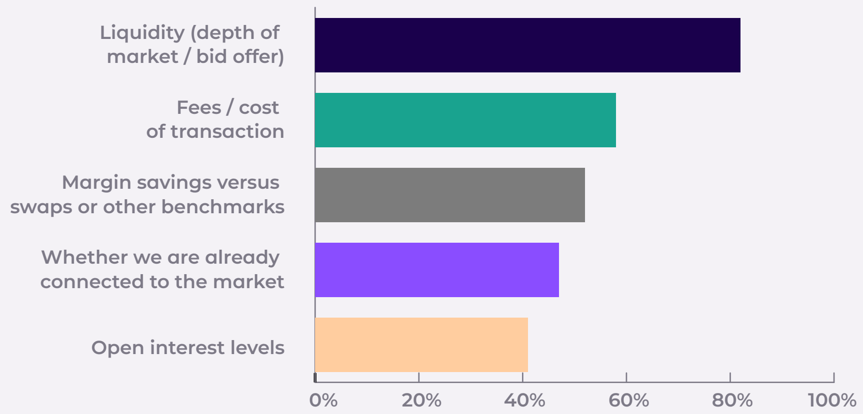
The battle for liquidity in the futures market is only in its early stages. Most executives that Acuiti surveyed for this study believed that the tipping point for the transition would come when the FCA announced a pre-cessation of LIBOR at the end of the year or in early 2021. At that stage, liquidity in the listed futures market is expected to accelerate.

As the availability of listed Inter-Commodity Spreads between products and the yield curves is facilitating a transition to the new rates and mitigating the economic difference in the two rates, the exchanges are ready for the transition.

Ultimately, the winner for the new RFR futures rates will be decided over the next 12 months, but it has the potential to achieve a once-in-a-generation transition to a new market in domestic rates trading in both the US and UK.

In summary, while listed and OTC interest rates liquidity was cited by market participants as the two most significant challenges to a successful transition, a clear pathway exists for addressing those challenges with vanilla instruments, such as OTC interest rate swaps and futures.

Fig 5. Multiple venues currently offer trading in Sonia futures, what factors impact your decision on where to trade?



Term rates and credit spread adjustments

A fundamental challenge facing the loan market and that of certain OTC instruments, such as swaptions, stems from the fact that as the new RFRs are calculated on a compounded in arrears basis, there is no term structure.

The Acuiti survey found a strong demand for a term rate in the loans market, with 91% of respondents saying that this segment would benefit from a term rate. It also found relatively strong demand for a term rate in floating-rate notes (FRNs), OTC, and cleared swaps (Fig 6).

However, the Bank of England and FCA have, to date, been reluctant to accept the need for a term rate, putting it at odds with the ARRC in the US, which is actively promoting the establishment of a term rate for SOFR.

In the UK, three administrators are working on a term SONIA rate, while in the US, ARRC is currently tendering for an administrator to oversee the term rate for SOFR. The Acuiti survey found that 93% of respondents preferred the US model of a market structure with a single, centrally endorsed term rate (Fig 7).

Still, a term rate is not a panacea since it is likely to be plagued by some of the same flaws as LIBOR. Furthermore, an established term rate for either SOFR or SONIA could introduce additional complexity into the market.

First, it could separate the reference point for cash products and the derivatives markets used to hedge exposures. In addition, if RFR term rates are not introduced uniformly across different currencies, the resulting variation will cause challenges for pricing and managing exposures on multi-currency trades, such as cross-currency swaps.

Fig 7. **Would the market benefit most from a central term rate endorsed by regulators or multiple term rates?**

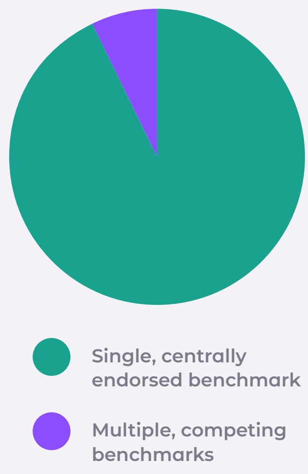
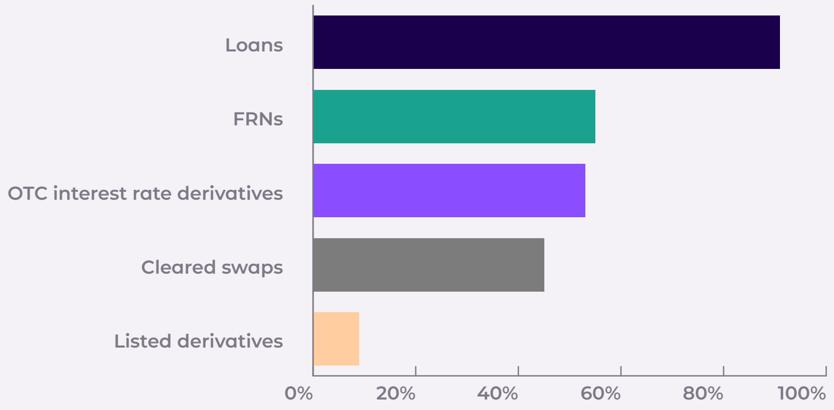


Fig 6. **Which products/markets do you think would benefit from the emergence of term rate contracts?**



Fee free at Curve

CurveGlobal Markets, the interest rate derivatives exchange launched by the London Stock CurveGlobal has gone fee free for 12 months. Until 30th September 2021, all trading fees are set to zero for all member firms across all CurveGlobal's products. Clearing fees at LCH have also gone fee free for a minimum of six months to 31st March.

These challenges will need to be overcome regardless as EURIBOR, the EU rate, will remain in place, but will become more complex if divergence increases.

Furthermore, there is concern from some market participants as to how such a term rate would work alongside the ISDA Fallback Protocol and ensuring that it didn't create further complexity or basis risk that is unknown or unhedgable.

A related structural difference between the new benchmarks is that, by nature, they do not incorporate credit risk. This fact was brought to the fore during the volatility in March, when the spread between SOFR and LIBOR blew out as SOFR fell despite the market stress and heightened credit risk.

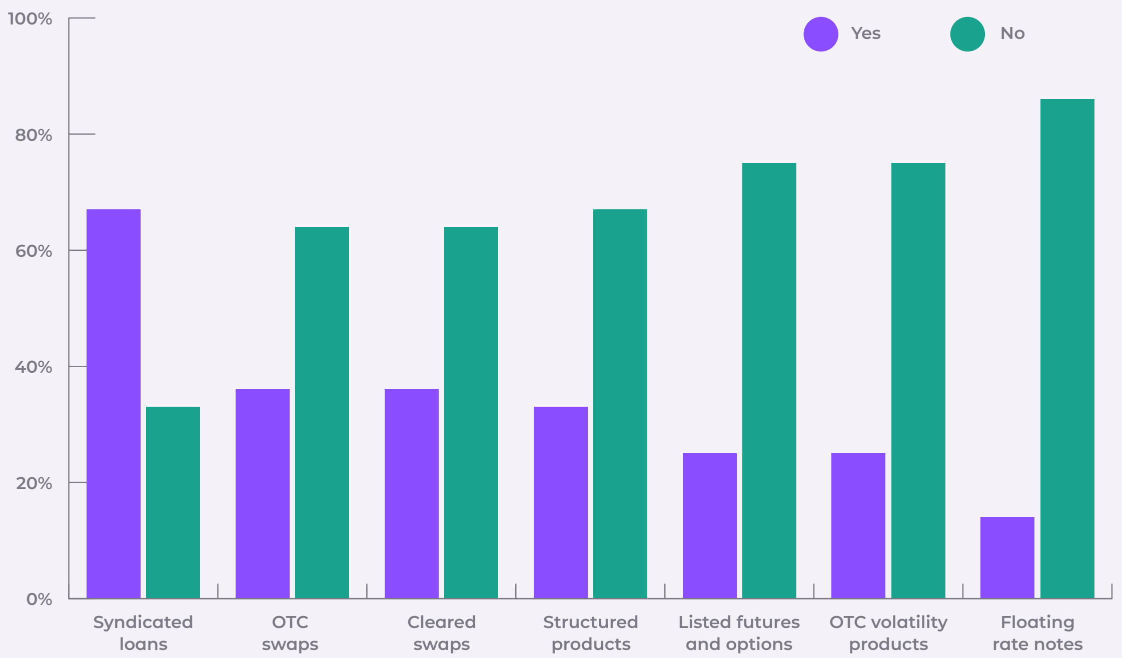
In order to develop rates with a dynamic spread that better reflects banks' real costs of funding, benchmark providers are using dynamic credit indices to bolt on to SOFR.

Risk.net has reported that IHS Markit is developing a credit spread based on its pool of CDS data, while Ameribor and ICE are also offering credit spread indices constructed using wholesale bank funding data, with the latter's Bank Yield Index closely resembling LIBOR.

Credit spread adjustments are fundamental to the discussion on fall-backs, and ISDA has done extensive work with its members in developing the best methodology to apply a credit spread to LIBOR to reflect the economic performance of the traditional rate and formulate the Fallback Protocol.

Because it has the potential to solve many of the challenges posed by the structure of the new rates, though, questions have also surfaced about the role a credit index linked to an RFR might play on a permanent basis in the loans and OTC markets.

Fig 8. Do you envisage the use of benchmarks with credit spread adjustments in addition to RFRs in the instruments you work with:



Fallbacks central to a successful transition

Fallbacks specifying what rate will apply in the event LIBOR is not published are written into everything from loan agreements to OTC derivatives. Many simply reference the last published LIBOR or switch to a fixed payment from a floating payment. However, these fallbacks were designed to mitigate negative consequences of a short-term issue with LIBOR rather than its replacement.

Thus, one of the most fundamental challenges in the transition away from LIBOR is the process of updating legacy fallback agreements to reflect the new reality. As elsewhere, progress is further ahead in the derivatives markets.

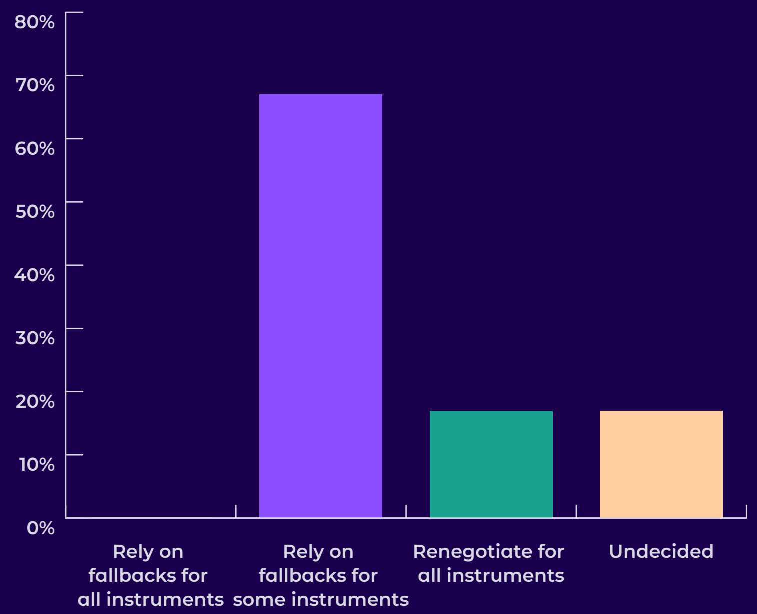
ISDA has worked with its members to develop the IBOR Fallback Protocol that is based on compounded in arrears risk-free rates plus a spread adjustment that will apply to contracts that continue to reference IBORs following the permanent cessation of that benchmark (or for sterling LIBOR at the point of a pre-cessation event).

While it is hoped that the ISDA Protocol will provide a significant boost to standardisation of fallback terms, Acuiti found that no respondents expect to accept fallbacks for all instruments, and 17% of respondents said that they intended to renegotiate all fallback agreements across cash and OTC instruments (although the survey was done before the announcement of the ISDA Fallback Protocol this month).

In many ways, this reluctance is unsurprising. Aside from the basic fact that there is the potential to gain economically from a negotiation, firms are understandably hesitant to agree to a fallback in a rate that has not yet been fully understood or, worse, to a fallback on a benchmark, such as term SOFR, that does not yet exist or has not been regulated.

Now ISDA has finalised and approved its Fallback Protocol, attitudes may change, but a major unknown variable in the transition involves how fallbacks will be adopted for vast numbers of contractual obligations relating to LIBOR.

Fig 9. Will you rely on generally agreed fallbacks or seek to negotiate alternatives with your counterparties?



Conclusion: a long road still to tread

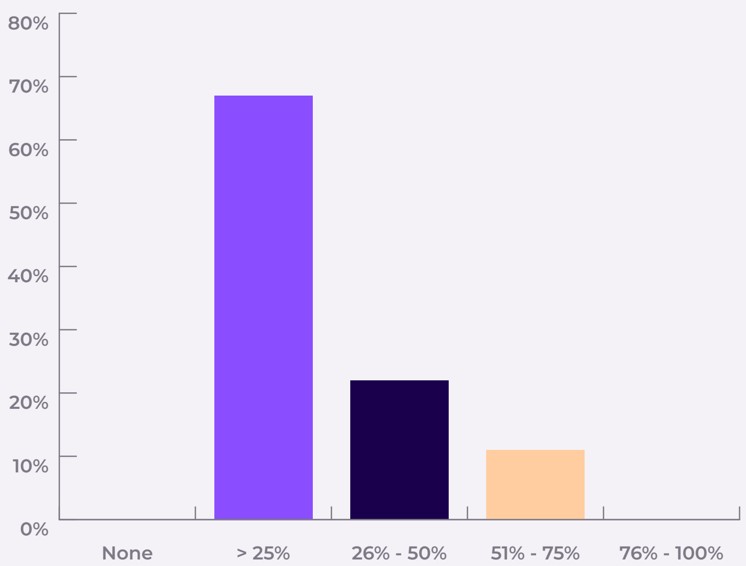
No one expected the transition away from LIBOR to be easy. At the outset, in fact, some doubted whether the transition was even possible. However, with 14 months left before the expected cessation of LIBOR, the transition certainly remains achievable on schedule.

Much progress has already been made. OTC volumes in SONIA are strong, the transition to RFR PAI and discounting is near complete at CCPs, and fallback agreements at ISDA have now been announced. All of these developments represent significant steps forward. Indeed as many respondents noted, they are well into making changes, not merely planning for the event.

The loan markets also exhibit encouraging signs. The Acuiti survey found that 75% of asset management respondents would reduce investment in LIBOR-referenced instruments over the next six months, which indicates a growing acceptance of RFRs in the crucial cash market.

However, many risks remain. Ultimately, the transition risks creating a vicious circle of inactivity. In the simplest of terms, if one or more part of the market fails to make the transition, the demand in the deriva-

Fig 10. **Approximately what percentage of your volume with clients in RFR indices vs traditional Libor indices*?**



*Asked to bank respondents

tives market will remain subdued, and other markets will not be able to move across unless there is an extensive liquidity pool in which it can be hedged. Its seen as impressive the work the ARRC and Sterling Risk-Free Reference Rates Working Group have done to help coordinate and facilitate the transition to mitigate of a vicious circle.

Breaking this circle and its replication in myriad areas of the transition will be key. The question is how. Most look to the Bank of England and the FCA for leadership. In October, the FCA all but promised a pre-cessation announcement by the of this year. Many expect this announcement to act as the catalyst to break the impasse.

Uncertainties remain such as whether term rates are a critical component of the transition to address "legacy issues". The reality of a complete migration away from LIBOR is that there will have to be compromise on terms rates - either in complex risk trade-offs between multiple rates (term and accrual) or in significant changes to some parts of the market to adopt the forward looking rates. UK regulators have now legally secured the mandate to make changes to LIBOR post-2021, which eliminates the risk of a "zombie LIBOR." In the US the view seems firmer on the need for term SOFR - and welcome signs of market alignment between the US and the UK are already apparent.

Inevitably there will also be compromise elsewhere. Ultimately, the market will decide on many of the outstanding issues. Not only will that be an efficient means of solving the challenges, it will create significant opportunities. New benchmark providers will develop indices that will co-exist with the RFRs to achieve outcomes, including term structures or credit adjustments. Liquidity in futures trading could shift venues in a once-in-a-generation opportunity to seize market share in the lucrative interest rates market.

Over the next 14 months, the pieces of the puzzle will come together, but the full picture of a post-LIBOR world will not emerge for years to come. Regulators are successfully pushing the move away from LIBOR, but the market itself is creating the post-LIBOR world. This study has found a broad consensus on solutions and direction and encouraging signs that the market is forging the road ahead.

Fig 11. **Do you expect your appetite for Libor-based credit to change over the next six months?**

Methodology: *The data in this report are based on an independent survey conducted by Acuiti between September 1 and October 2. In total, 105 responses were collected from asset managers (24%), banks (33%), brokers (7%), hedge funds (13%), non-bank FCMs (3%), proprietary trading groups (9%), insurance companies (5%), and other market participants (6%). Respondents were drawn from the UK (37%), Europe excluding the UK (17%), North America (30%), Asia (13%), and ROW (3%). Respondents received questions based on the functions they oversaw (i.e., trading, hedging, etc.) and their levels of awareness of the transition (i.e., more complex questions were only asked to respondents who said they were "very aware" of the transition).*

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