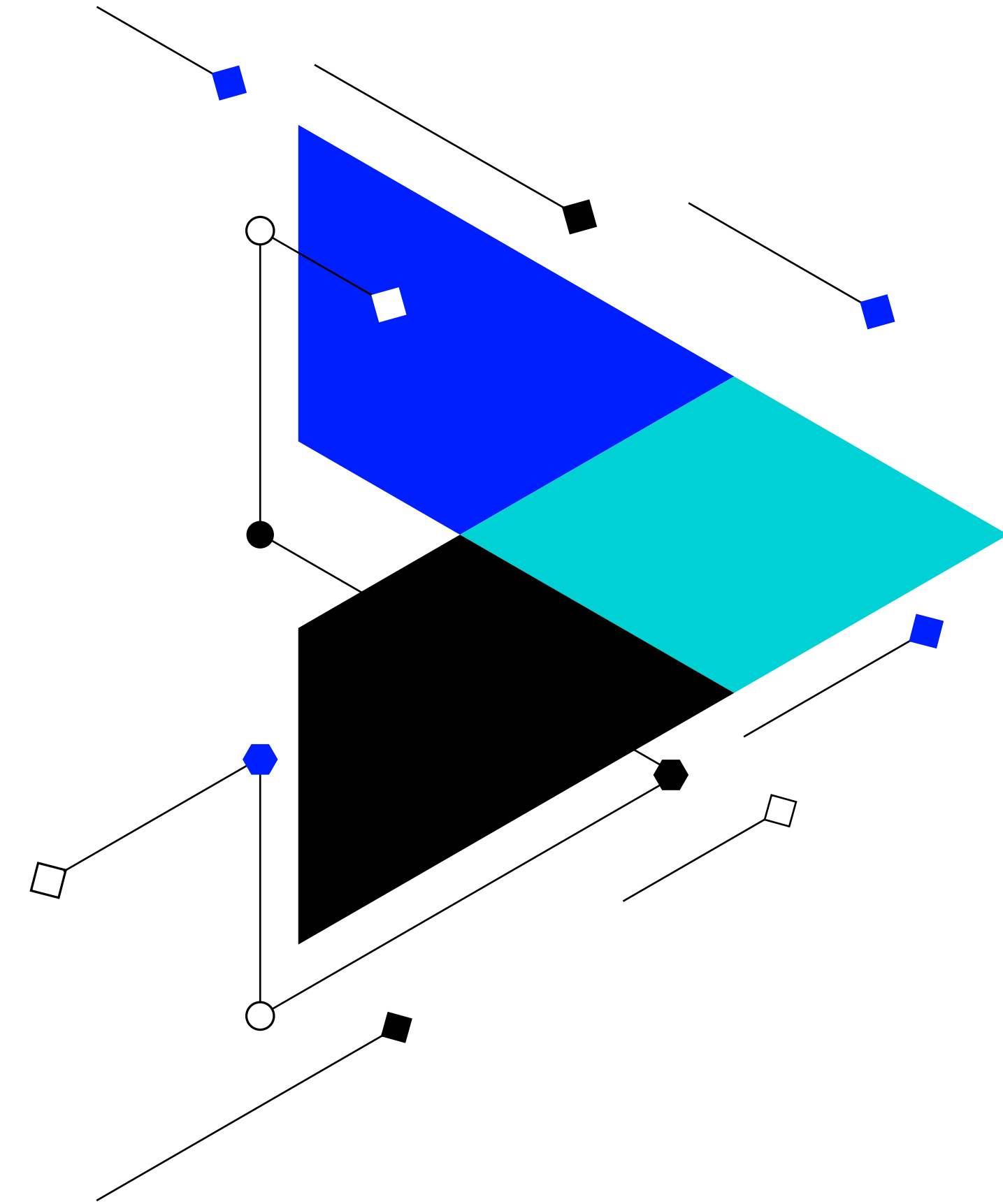


# LAST DAYS OF LIBOR: ARE YOU READY FOR TRANSITION?

Financial and non-financial institutions must consider possible doomsday scenarios by year-end before Libor ceases. Almost all new benchmark rates and tools are available to prepare for this landmark transition. This report explores the nuances of new conventions and the outstanding tasks for market participants who have little time to lose.



# ACKNOWLEDGMENTS



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# EXECUTIVE SUMMARY

The year is 2022. Financial market participants find some familiar settings they use in contracts, models and structures have gone missing from their trading screens. Systems are crashing, client messages come swarming in, court proceedings are threatened and financial losses are piling up.

All of these scenarios could come true in the event of a failed Libor transition – a mammoth once-in-a-century operation to move away from the world’s most widely used interest rate benchmark that prices and values a wide range of financial products, including corporate and personal loans, mortgages, bonds, securitisations and derivatives.

These scenarios are among the worst, but they are not impossible. Settlement for trillions of dollars’ worth of legacy instruments could be thrown into disarray unless fixes are implemented before the end of 2021 when five Libor currencies, including sterling and yen, will cease. Meanwhile, widely used US dollar settings, which were granted an 18-month reprieve, will no longer be available for new businesses. Complicated by the market volatility and operational challenges of the Covid-19 pandemic, a smooth and orderly transition from Libor could be wishful thinking.

The sheer volume, value and complexity of legacy contracts will increase the likelihood of impact on financial institutions’ litigation and regulatory risks. Those challenges can range from contractual continuity to mis-selling concerns to governance and senior executive accountability regime probes. Fortunately, the United States, European Union and United Kingdom have proposed legislative interventions to provide a level of safe harbour to counterparties that switch to a government-backed benchmark replacement (although some alternatives may be looped in).

New businesses, financial and non-financial, must make informed decisions to adopt established conventions and alternatives in the markets based on their best interests (along with their stakeholders' and clients' needs). The task will be demanding due to the economic mismatch between 'forward-looking and credit-sensitive' Libor and 'backward-looking and risk-free' rates (and any other alternatives). If firms are not ready to handle new rates, new lending may dry up.

A welcome note to the development is the creation of term reference rates, as some national working groups have identified that certain market participants and products require alternative rates. Refinitiv®, an LSEG business and a well-established benchmark administrator, publishes Term Sonia (sterling overnight index average) and US dollar Libor fallback spreads and rates for cash products, which soon will include Term SOFR (secured overnight financing rate).

The UK Financial Conduct Authority, at the end of September this year, set out plans for a narrow range of outstanding sterling and yen contracts that cannot be switched in time to use a synthetic version of Libor rates, softening the blow to the markets. However, the publication of the synthetic rates will be temporary and does not mean the widely-used US dollar Libor will follow suit after June 2023.

There is no time to lose as the tasks associated with the Libor transition are onerous and interconnected. A variety of participants must widely adopt new benchmarks; technology must be upgraded to process products linked to the new benchmarks; legal teams must amend trillions of dollars of existing contracts tied to Libor; and financial markets must model structural adjustments to integrate the economics of the new rates. In the limited time remaining, firms must keep up with the supervisory guidance, familiarise themselves with the conventions and tools and continuously communicate with counterparties and vendors.

Following the fallout of the 2008 financial crisis, the use of manipulation-prone Libor as a benchmark is destined to end. Without a deep and liquid underlying, Libor must shift to alternative reference rates – in most cases, to the risk-free rates based on actual transactions in certain markets.

National working groups' tasks with the Libor transition are in the final stages, and now is time for market participants to complete the process. "Market participants must not wait for the development of additional tools. The tools necessary to complete the transition are currently available, and have been for some time," wrote the Financial Stability Board in its latest progress report in July.<sup>1</sup>

This Risk.net report sponsored by Refinitiv reflects the above statement. It explores the status quo and challenges to the Libor transition in key markets, including a relatively patchy US dollar market, pointing to new conventions in different products and their paths of liquidity building. In addition, the report looks at the data-driven solutions that will help enterprises efficiently transition away from Libor and draws on the working groups' recommendations and timelines.

1 FSB (July 2021), [Progress Report to the G20 on Libor Transition Issues](#)

# NEW RATES AND FALLBACKS

New conventions are emerging in the markets as new transactions can no longer link to Libor and legacy contracts must include fallback language.

The Libor transition efforts worldwide have accelerated in 2021, although the coronavirus pandemic is still affecting people's lives and the real economy. Policy-makers and market participants have been keen to keep the financial market as stable as possible, and moving away from Libor is a crucial part of that plan. As Libor is used in such an extensive range of financial products and contracts, its vulnerabilities to manipulation and scarcity of underlying pose a threat to financial institutions and the larger financial stability.

On 5 March 2021, Libor administrator Ice Benchmark Administration and the UK Financial Conduct Authority (FCA) formally confirmed the dates on which panel bank submissions for all Libor settings will discontinue, after which representative Libor rates will no longer be available. Most Libor settings will cease by end-2021, while the overnight, one-, three-, six- and 12-month US dollar Libor will continue until end-June 2023 to support rundown of legacy contracts only. On September 29, 2021, the FCA announced that it will compel IBA to continue publishing one-, three- and six-month

sterling and yen Libor rates in synthetic form from January 4, 2022. The UK regulator will also decide and specify before year-end which legacy contracts are permitted to use these non-representative synthetic Libor rates for at least a year.<sup>2</sup>

In the US, regulators and authorities issued a joint statement encouraging banks to cease entering into new contracts that use US dollar Libor as soon as practicable and in any event by end-2021. New contracts this year should either utilise a new rate or have robust fallback language that includes a clearly defined alternative rate.<sup>3</sup> Existing contracts that have not considered a permanent cessation of Libor or may be impractical to implement should incorporate amended fallback language.

These developments have brought clarity to the timetables for derivatives and cash products to migrate away from interbank offered rates (Ibor) to risk free rates (RFRs) across major currencies – SOFR for the US dollar, Sonia for sterling, euro short-term rate (€STR), Swiss average rate overnight (Saron) for the Swiss franc and Tokyo overnight average rate (Tonar) for Japanese yen.

“The regulators and industry bodies have been very active in encouraging market participants to adopt the new RFRs,” said Jacob Rank-Broadley, head of Libor transition at Refinitiv.

<sup>2</sup> FCA (September 2021), Further arrangements for the orderly wind-down of Libor at end-2021, <https://www.fca.org.uk/news/press-releases/further-arrangements-orderly-wind-down-libor-end-2021>

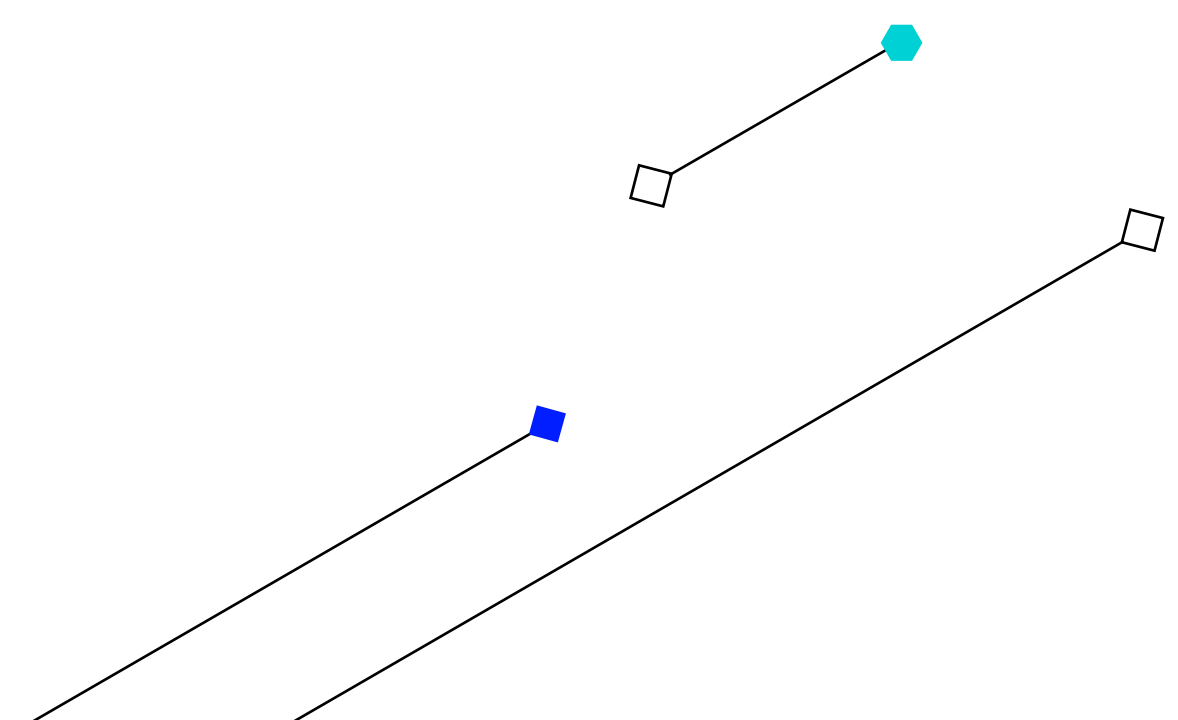
<sup>3</sup> Federal Reserve (November 2020), Agencies issue statement on Libor transition, [federalreserve.gov/newsevents/pressreleases/bcreg20201130a.htm](https://www.federalreserve.gov/newsevents/pressreleases/bcreg20201130a.htm)

Table 1: Key Ibor transition dates

Currency	Ibor setting	Permanent cessation	Cease trading new Ibor contract	Government-recommended RFR
USD	1-week, 2-month Libor	End-2021	End-2021 (All products)	SOFR (secured)
	Overnight, 1-, 3-, 6- and 12-month	June 30, 2023		SOFR (secured)
GBP	All settings of Libor	End-2021	End-1Q21 (Loans, bonds, securitisations, linear derivatives) End-2Q21 (Non-linear derivatives) End-3Q21 (Cross-currency swaps)	Sonia (unsecured)
CHF	All settings of CHF Libor	End-2021	End-2Q21 (All products where use of alternatives is possible) End-2021 (All products)	Saron (secured)
EUR	All settings of EUR Libor	End-2021	End-2021 (All products)	€STR (unsecured)
JPY	All settings of JPY Libor	End-2021	End-2Q21 (Loans and securities) End-3Q21 (Derivatives)	Tonar (unsecured)

There remain several outstanding tasks on the road to RFR adoption, which this report sorts into six categories:

1. Legacy contracts
2. Fallbacks for cash products and derivatives
3. Role of term rates
4. Enhancements to swap rates
5. Liquidity building
6. Market data and operational risk



## LEGACY CONTRACTS

While most of the current US Libor exposures will mature before June 2023, a substantial amount of around \$74tn will remain outstanding beyond the deadline, emphasising the need to find solutions for legacy Libor contracts. For derivatives, issues are mainly addressed through adherence to the International Swaps and Derivatives Association (ISDA) Protocol or central counterparties' rules. An estimated \$2tn in exposures in bonds and securitisations would have no effective means to transition away from Libor upon its cessation.

Contracts that do not have robust fallback language and may be difficult to amend before Libor ends are called tough legacy contracts. Legislative solutions are being developed to help those contracts transition to the government-backed RFRs.

In April, New York State introduced legislation to insert the fallback language recommended by the Alternative Reference Rates Committee (ARRC) in Libor-referencing contracts (governed by New York law) that have no fallback provisions or fallback to a Libor-based rate or dealer poll.

The spread adjustments published by Refinitiv will be used for market participants who have chosen to adopt the ARRC-recommended fallback language for cash products (see more details in the next section). ARRC is the Libor transition group convened by the Federal Reserve.

A federal 'tough legacy' bill is currently making its way through the US Congress. While the bill specifies SOFR as the replacement, an amended version widens the scope to alternative rates. Nevertheless, the legislation will provide protection from litigation only where contracts with non-specified or non-practicable fallbacks are flipped to SOFR-based rates.<sup>4</sup>

The UK government passed legislation that enhances the FCA's power to oversee an orderly wind-down of Libor. That includes changing the methodology used to compile the benchmark for certain tough legacy contracts, known as 'synthetic Libor'.<sup>5</sup> A latest consultation on the use of synthetic Libor in legacy contracts is now open until October 20, 2021.

<sup>4</sup> Helen Bartholomew (August 2021), Risk.net, Federal tough legacy fix gives nod to alternative rates, <https://www.risk.net/derivatives/7863026/federal-tough-legacy-fix-allows-choice-of-alternative-rates>

<sup>5</sup> FCA (June 2021), FCA consults on proposed decision to require synthetic LIBOR for 6 sterling and Japanese yen settings, <https://www.fca.org.uk/news/statements/fca-consults-proposed-decision-require-synthetic-libor-6-sterling-and-japanese-yen-settings>

## FALLBACKS FOR CASH PRODUCTS AND DERIVATIVES

A critical element in completing the process of Libor transition lies in cash products, which have been a lot slower to be linked to RFRs mainly due to the key differences between these rates and Libor. Fortunately, solutions such as credit adjustments and term rates are currently available to speed up the switch.

Libor is a forward-looking term rate, whereas RFRs are backward-looking overnight rates. In addition, Libor and RFRs reflect different elements of credit risk – Libor is an unsecured borrowing rate and includes the implied credit risk of the panel banks and a liquidity premium related to the length of the interest period; RFRs have neither.

To start using RFRs, market participants should understand their calculation methods and payment conventions. In the short term, using the 'simple interest' convention may be easier since many systems are already designed around its use. However, 'compound interest' is the more accurate convention as it reflects the time value of money, which allows for more accurate hedging and better market functioning. An 'in advance' payment structure would reference an average of the overnight rates observed before the current interest period, while an 'in arrears' structure would reference an average of the rate over the current interest period.

Borrowers will reasonably prefer to know their payments ahead of time and thus prefer 'in advance' or term rates with similar features. In contrast, lenders would prefer returns based on rates over the interest period because 'in arrears' will reflect what actually happens to interest rates and fully hedge interest rate risk. Some lenders have resisted using SOFR compounded in advance in new US dollar business loans in part due to concerns about asset and liability management.

That said, industry bodies think the distinction between these concepts is typically small at lower interest rates and over short periods. Any differences can be accounted for by adjusting the rate or margin, conducting hybrid models, providing transparency and giving sufficient payment notice ahead of time.<sup>6</sup>

The ARRC has recommended spread adjustments based on SOFR for cash products that use its fallback language. The spread adjustment methodology is based on a historical median over a five-year lookback period calculating the difference between US dollar Libor and SOFR.

Refinitiv is responsible for publishing the adjustments and spread-adjusted rates for cash products.<sup>7</sup> A family of prototype fallback rates for cash products is now live. Such fallback rates are commercially substantially equivalent to US dollar Libor by capturing a form of RFR and a fixed spread adjustment.

“The ARRC has recommended Refinitiv to publish a series of cash fallback rates constructed of various versions of SOFR plus a spread adjustment,” said Rank-Broadley. “Market participants will have access to economically comparable rates to ensure their contracts will continue to function when US dollar Libor is discontinued.”

The Refinitiv US Dollar Libor Cash Fallbacks provide the rates described in the ARRC-recommended fallback language. The fallbacks comprise adjusted SOFR (the average SOFR rate for each tenor), spread adjustment (the difference between the US dollar Libor for each tenor and SOFR compounded in arrears for that tenor) and an ‘all-in’ fallback rate (the sum of the adjusted SOFR and the spread adjustment for each tenor). These fallbacks cater to both consumer and institutional products.

For consumer products, Refinitiv’s approach is based upon compounded-in-advance SOFR plus the ARRC-recommended spread adjustment, which will be gradually introduced during the 12 months immediately following June 30, 2023. The fallbacks will be published in one-, three- and six-month tenors, both with and without a floor.

Refinitiv US dollar Institutional Cash Fallbacks, on the other hand, constitute adjustment SOFR components including SOFR compound in arrears, daily simple SOFR and SOFR compound in advance. The former two will be available with and without a lookback, observational shift and lockout. These rates will be published in up to seven tenors: overnight, one-week, one-month, two-month, three-month, six-month and 12-month and, unlike their consumer equivalent, there is no transition period.

**Table 2: ARRC benchmark replacement waterfall**

Hardwired Approach for syndicated and bilateral loans	Amendment Approach for syndicated and bilateral loans
Term SOFR + adjustment	Rate and adjustment agreed between borrower and lender
Daily Simple SOFR + adjustment	
Lender/borrower/administrative agent selected rate + adjustment	

*Source: ARRC, March 2021*

6 ARRC (February 2021), A User’s Guild to SOFR, [newyorkfed.org/medialibrary/Microsites/arrc/files/2021/users-guide-to-sofr2021-update.pdf](https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2021/users-guide-to-sofr2021-update.pdf)

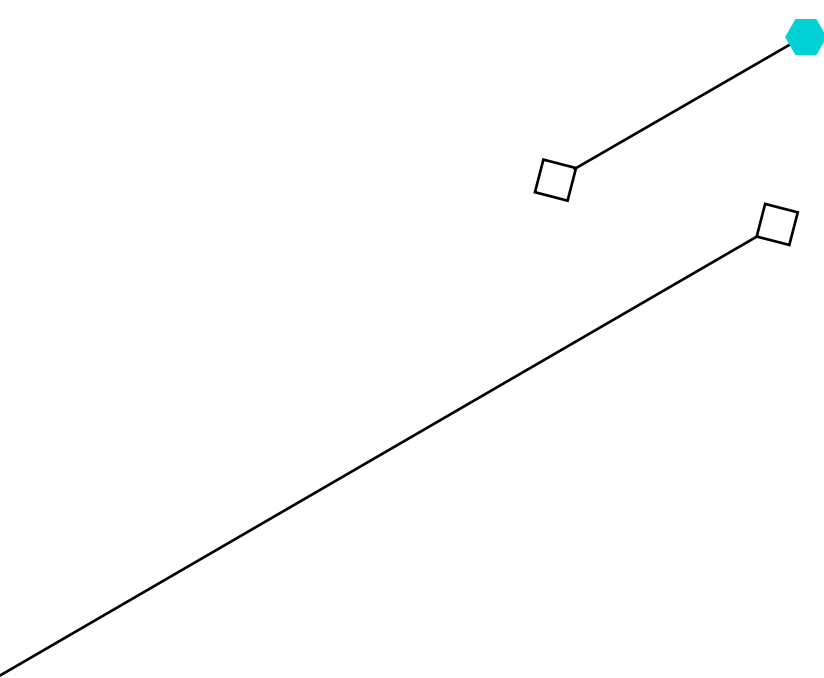
7 ARRC (August 2021), ARRC Welcomes Launch of Refinitiv’s USD IBOR Cash Fallbacks Prototype, [newyorkfed.org/medialibrary/Microsites/arrc/files/2021/20210811-arrc-release-refinitiv-prototype-rate-launch](https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2021/20210811-arrc-release-refinitiv-prototype-rate-launch)



In the derivatives market, the transition has been more straightforward. The FCA's statement on Libor cessation triggered the announcement of the 5 March fixing date for the ISDA's fallback spread adjustments. Libor derivatives among counterparties that have adhered to its Ibor Fallbacks Protocol or have entered into new derivatives transactions using the standard ISDA definitions incorporating the Ibor Fallbacks Supplement will use these fallbacks.<sup>8</sup>

Market participants have mostly moved to rates based on compounded RFRs, with a credit-spread adjustment through a combination of a voluntary ISDA protocol – in the case of uncleared derivatives – and rulebook changes – for cleared derivatives. The ISDA fallbacks came into effect on 25 January 2021, and apply to legacy derivatives. As of 15 July, more than 14,300 entities across nearly 90 jurisdictions have adhered to ISDA's Ibor Fallbacks Protocol.

In July and October 2020, central counterparties LCH, an LSEG business, CME and Eurex changed how they calculate payments associated with the interest rate swaps they clear. The adjustment includes the discounting of future cash flows and the calculation of Price Alignment Interest for euro and US dollar OTC derivatives.



## ROLE OF TERM RATES

While the regulators have been encouraging market participants to transition to RFRs rather than waiting for forward-looking term rates to emerge, the development of term rates can be an important transitional step. The use of these term rates should be in proportion to the depth of transactions in the underlying derivatives market and be limited to contracts such as business loans where transitioning from Libor to an overnight rate has been difficult.<sup>9</sup>

In the UK, while the Working Group on Sterling Risk-Free Reference Rates has recommended Sonia via a compounded-in-arrears methodology as the main alternative to the sterling Libor used in loans, it recognises that a number of corporate and retail clients for whom simplicity and/or payment certainty is a key factor may wish to consider alternative rates such as a Sonia term rate for specific funding purposes such as trade and working capital, which use discounted cash flows and therefore require a forward-looking term rate with the ability to insert mid-period dates.

Refinitiv Term Sonia is catering to this need and is a daily benchmark over the relevant forward-looking tenors as implied by overnight index swap (OIS) contracts that reference Sonia. It is available for one-, three-, six- and 12-month tenors. Since its introduction in January this year more than 600 clients have viewed the Term Sonia, which will remain free of fees until January 2022.<sup>10</sup>

In July this year, the ARRC also officially recommended the forward-looking SOFR term rates for one-, three- and six-month tenors. CME is the administrator of the term rates, the licencing for which will be available in cash market transactions and derivatives that hedge cash instruments linked to the term rates and certain securitisations with underlying assets that are themselves tied to SOFR term rates.

<sup>8</sup> ISDA (March 2021), Libor Cessation and the Impact on Fallbacks, [isda.org/2021/03/05/libor-cessation-and-the-impact-on-fallbacks/](https://www.isda.org/2021/03/05/libor-cessation-and-the-impact-on-fallbacks/)

<sup>9</sup> ARRC Best Practice Recommendations Related to Scope of Use of the Term Rate, [https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2021/ARRC\\_Scope\\_of\\_Use.pdf](https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2021/ARRC_Scope_of_Use.pdf)

<sup>10</sup> Refinitiv Term Sonia, [refinitiv.com/en/financial-data/financial-benchmarks/term-sonia-reference-rates](https://refinitiv.com/en/financial-data/financial-benchmarks/term-sonia-reference-rates)

Other than Term SOFR, the US market is seeing up to five credit-sensitive alternatives vying for a piece of the US\$200tn of contracts tied to dollar Libor. The credit-sensitive rates hope to fill the void of SOFR's lack of forward-looking term rate and embedded bank credit premium.

National working groups and regulators have not endorsed any credit-sensitive benchmark alternatives to Libor other than the RFRs, arguing that these rates could divert liquidity in derivatives and cash products and repeat many of the same flaws as Libor.

“The discussion on credit-sensitive rates has introduced some uncertainty over which Libor alternative rate market participants should select and has potentially made some firms hesitant to progress out of concern that they may choose either a non-standard or a non-optimal rate,” said Rank-Broadley.

In November 2020, the Federal Reserve, the Federal Deposit Insurance Corporation and the Office of the Comptroller of the Currency announced they would not endorse a specific replacement for Libor-based loans. Banks may use any reference rate for loans they deem appropriate for their funding model and customer needs. However, banks should include fallback language in lending contracts that ensures a robust fallback rate would apply if the initial reference rate is discontinued.<sup>11</sup>

In the multi-rate market environment, basis risk may be unavoidable but manageable. These divergent cash market conventions will be mirrored in swap markets via a new set of modular definitions designed by ISDA.<sup>12</sup>

## ENHANCEMENTS TO SWAP RATES

As part of the transition, benchmark administrators are also updating other benchmarks such as swap rates, which are vital for valuing swaptions and financial instruments. When Libor benchmarks cease to be published in their current form after 31 December 2021, market participants need to find an alternative.

For example, it is widely expected that the liquidity of the JPY interest rate swap will migrate from JPY Libor interest rate swaps (IRS) to JPY Tonar OIS. Japan Securities Clearing Corporation (JSCC) announced in March that in response to the permanent cessation of Libor, the clearing house plans to convert all IRS cleared contracts linked to JPY Libor to those referencing Tonar OIS at or before the end of 2021. Meanwhile, JSCC will also cease to accept new Libor swaps for clearing.<sup>13</sup>

ISDA's standard definitions instruct counterparties in that scenario to fall back to a cash settlement method in which the amount payable is calculated by referencing the Tokyo Swap Rate (TSR), a swap rate benchmark administered by Refinitiv.

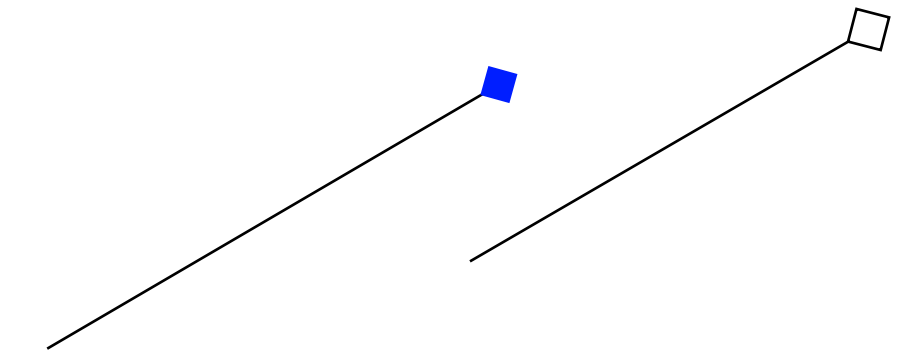
Refinitiv is currently enhancing the TSR, through the introduction of TSR (for swaps referencing TONA), which is based upon OIS quote data. A constant spread adjustment is added to TSR (for swaps referencing TONA) in order to create TSR Fallback for use in legacy contracts. These rates have settings ranging from one to 40 years.

<sup>11</sup> Fed, FDIC and OCC (Nov 2021), Statement on Libor transition, [federalreserve.gov/newsevents/pressreleases/files/bcreg20201130a1.pdf](https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20201130a1.pdf)

<sup>12</sup> Helen Bartholomew (March 2021), Risk.net, Isda plans 'modular' RFR conventions, [risk.net/derivatives/7807281/isda-plans-modular-rfr-conventions](https://www.risk.net/derivatives/7807281/isda-plans-modular-rfr-conventions)

<sup>13</sup> JSCC (March 2021), Handling of Cleared Contracts at JSCC IRS clearing service (bulk conversion to OIS) towards Benchmark Reform (Permanent Cessation of Libor), [jpx.co.jp/jsc/en/information/news/20210326\\_02.html](https://www.jpx.co.jp/jsc/en/information/news/20210326_02.html)

# LIQUIDITY AND TRADING TOOLS



Key dates are set for different RFR products to build liquidity, while market data sourcing and calculation tools are gaining traction.

Markets and broader market liquidity are interconnected, meaning that cash markets need to transition to RFRs so that the derivatives market can see sustainable growth and vice versa. The liquidity in RFR-linked derivatives is building steadily, more significantly in some markets than others, while the cash products market has some catching up to do.

## LIQUIDITY BUILDING

The use of Libor has continued to rise despite warnings from the authorities that it will cease. The ARRC estimates that US dollar Libor has \$223tn in outstanding exposures. Most of this increase comes from derivatives exposures, but the business loans referencing US dollar Libor have increased to \$4.8tn.

Although the growth of SOFR derivatives has been notable, Libor remains the dominant rate used and SOFR derivatives are still a fraction of euro-dollar and Fed funds derivatives markets. SOFR swaps are about half the size of outstanding Fed funds swaps at longer maturities, but only 1% to 2% of Libor swaps are still less than 10% of either Fed funds or Libor swaps at shorter maturities, according to an ARRC estimation.<sup>14</sup>

In the US, issuances related to securitisation and business loans remain primarily Libor-based. Meanwhile the SOFR-based floating rate notes (FRNs) have shown promise – especially for long maturities beyond June 2023.

The lack of progress in the short end of the curve can be attributed in part to the decline in interest rates to near zero, which has diminished short-term trading activity across all derivative rates markets.

On July 26, 2021, the Commodity Futures Trading Commission (CFTC) Market Risk Advisory Committee recommended interdealer brokers use SOFR as the dominant pricing curve for linear swaps and treat US dollar Libor as a basis to SOFR. The ‘SOFR First’ initiative marks a significant development to accelerate the derivatives market’s transition and thus makes Term SOFR possible.

“SOFR First is a clear push made by the regulator to urge market participants to use SOFR more than any other alternatives, which [has had] some impact on the liquidity,” said Alexandre Hardouin, head of rates at Refinitiv. “The RFR adoption in futures and derivatives is an upward trend in trading volumes; in August trading on alternative risk rates instruments reached all-time high. It is interesting to note that on the cash market, in August, FRN issuance based on US dollar Libor recorded their lowest monthly total.”

Although US dollar Libor contracts certainly did not end after the switch, SOFR liquidity slowly pushed higher. The week of 26 July saw 6.8% of US dollar swaps’ notional volume reference SOFR, up from a weekly average of 3.8% in the six weeks beforehand, according to data reported to the Depository Trust & Clearing Corporation (DTCC) swap data repository.

<sup>14</sup> ARRC (March 2021), Progress Report: the Transition from U.S. Dollar Libor, <https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2021/USD-LIBOR-transition-progress-report-mar-21.pdf>

Table 3: 1H21 vs 1H20 US interest rate derivatives comparison

	Traded notional	Trade count
USD Libor	-14.6%	-6.4%
SOFR	246.5%	419.8%
GBP Libor	-11.6%	-19.8%
SONIA	-29.7%	157.6%
CHF Libor	19.9%	8.0%
SARON	-6.5%	453.5%
JPY Libor	-14.3%	12.6%
Tibor/Euroyen Tibor	139.8%	166.7%
Tonar	-14.2%	14.8%
EUR Libor	1.2%	-53.3%
Euribor	64.7%	58.3%
€STR	926.4%	941.4%

Source: DTCC SDR

Regulators have called for the screens for interdealer pricing feeds for US dollar Libor swaps to be turned off altogether. This phase of the initiative, starting on 22 October, has caused some concerns, with brokers citing transparency issues and concerns that it could threaten the publication of Ice swap rates.<sup>15</sup> Brokers have signalled that they are likely to carry on providing market data after the deadline.

The ‘RFR First’ initiative could flip affected pairs in the predominantly Libor-based cross-currency swap market to replacements such as SOFR and Sonia. The cross-currency markets have been slow to ditch overnight interbank rates, with 95% of new trades still referencing outgoing benchmarks on both legs.

In the UK, all new sterling bond issues in FRNs and most securitisations have been referencing Sonia since June 2018. For derivatives, the share of swaps in Sonia has been greater than those linked to Libor since last August. Liquidity on more complicated products linked to Sonia has also started to grow.

## MARKET DATA AND OPERATIONAL RISK

With the divergent liquidity developments across currencies, participants should adopt different priorities to better plan for Libor’s final days and avoid any operational hiccoughs.

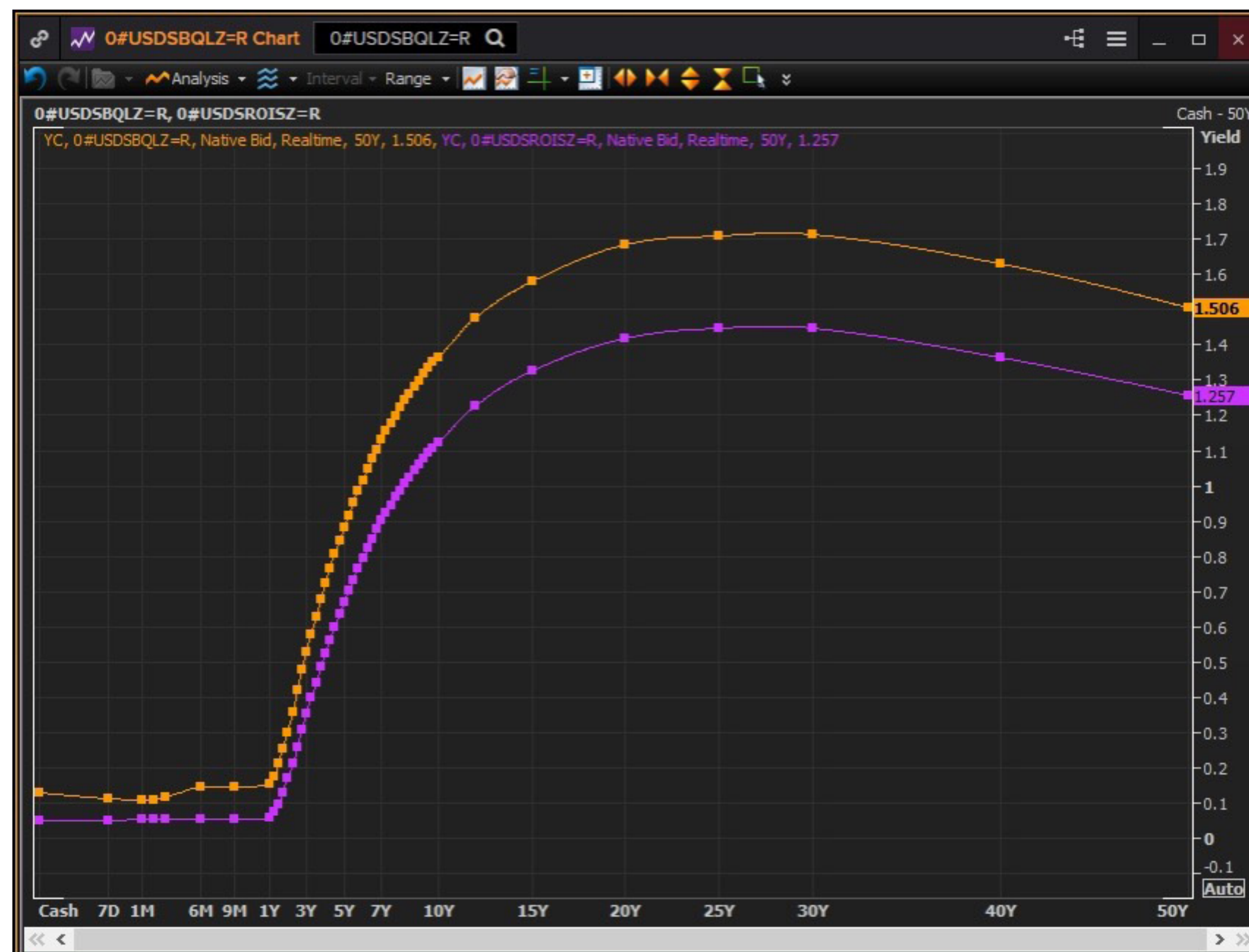
“For US dollar market participants, one of the challenges is to identify the exposures in loans, swaps and derivatives, and implement a strategy to migrate,” said Hardouin. “For users of the more advanced Sonia, Saron and Tonar, it is about implementing the changes and making sure you can price those instruments. So feed your IT systems with zero curves, and switch your discount curves or forward curves to alternative risk-free rates.”

Sourcing market reference data efficiently will drive the implementation programme of new rates (such as benchmark rates and instrument terms underpinning interest calculations). With the data at hand, enhancing interest accrual calculation capabilities is crucial to address new methodologies required by relevant instruments.

Data providers such as Refinitiv see increased usage in zero curves and growing demand for term rates. Zero curves are essential in the context of fair value valuations of rates derivatives or calculating cash flows. Libor OIS curves and RFR curves are provided separately so that users can decide the timing of their transition and where to plug those curves in their systems.

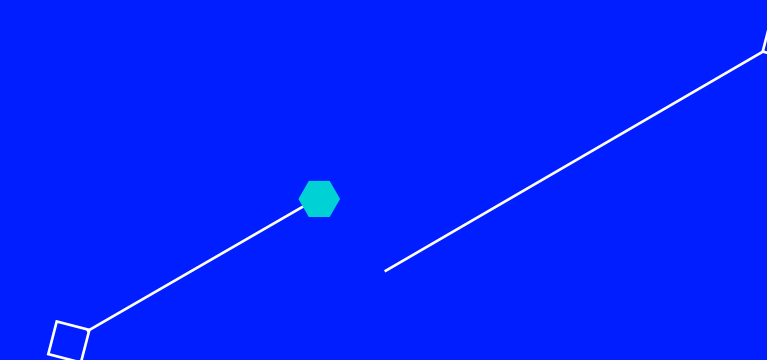
<sup>15</sup> Ben St. Clair (August 2021), Risk.net, Brokers may flout deadline to darken US dollar Libor screens, [risk.net/derivatives/7863906/brokers-may-flout-deadline-to-darken-us-dollar-libor-screens](https://www.risk.net/derivatives/7863906/brokers-may-flout-deadline-to-darken-us-dollar-libor-screens)

## OIS SOFR vs US dollar Libor 3M zero coupon-based curves



“We have multiple zero curves already based on various Libor swaps, bonds and other OTC rates instruments. But we now have zero curves based on the new RFRs and overnight interest swaps,” said Ben Scofield, director of foreign exchange, money markets and rates data management at Refinitiv. “We created these as separate data streams so customers can control when and how they want to integrate them into their infrastructure.”

The approach is essential in the current dual-rate market environment because one will have basis swap trading between an RFR and Libor. “You need two sets of data for your banking systems, front-, middle- and back-offices,” said Hardouin.



To help crunch the numbers, a useful tool is an RFR realised rates calculator. Users can determine compounded realised rates for key alternative RFRs for standard tenors and between two dates including the ability to apply a five-day, lag – the convention set by the various working groups. This is available as an Excel spreadsheet and in API format (including a popular CodeBook Python sample) in Refinitiv’s offering, for example, to enable a smooth integration into clients’ systems.

[RFR realised rate calculator](#)

REFINITIV 
RFR Realised Rate Calculator

Updated at 16:22:57

Rate:

End Date:

Tenor	Start	End	Realised	Lag	-5D Backward	Average Rates %	
			Rate %	-5D	Shift	Realised	-5D Lag
ON	03/09/2021	06/09/2021	0.049900	0.050700	0.050700	0.016633	0.016900
1W	31/08/2021	06/09/2021	0.050050	0.050667	0.050650	0.033417	0.033767
1M	06/08/2021	06/09/2021	0.050401	0.050478	0.052265	0.047181	0.047206
2M	06/07/2021	06/09/2021	0.050488	0.050518	0.051368	0.048876	0.048881
90D	08/06/2021	06/09/2021	0.050324	0.050335	0.050905	0.049212	0.049206
180D	10/03/2021	06/09/2021	0.049693	0.049664	0.049933	0.049132	0.049095
1Y	07/09/2020	06/09/2021	0.050492	0.050572	0.050294	0.050205	0.050281

### Custom Calculation

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Broken dates

Spread (%)

Rounding (dps)

Notional (£)

		Realised	-5D Backward	Average Rate %		
		Rate %	-5D Lag	Shift	Realised	-5D Lag
Rate		0.0505	0.0505	0.0519	0.0505	0.0505
Payment		78.86	78.86	81.05	78.86	78.86

Searching for fallback language is important to the Libor transition as new conventions are set and legacy contracts amended. “We are working hard to put the fallback details in our databases by improving our search capabilities for both derivatives and cash products, enabling users to find market data and fallbacks easily,” said Hardouin.

## Refinitiv Eikon® bond views

Fallback Sequence	Current Index	Fibck Replacement Index	Fibck Spread Adjust Type	Spd Adjust	Fallback Trigger	Fibck Determining Entity	Fallback Remedy	Transition Note
1	BRITISH POUND STERLING 3 MONTH LIBOR		Not Applicable		Unable to determine screen rate/index value	Paying Agent	Reference bank/contributor polling	Minimum Polk: 2 Maximum Polk: 4 Frequency: Quarterly Time: 11 AM London time
2	BRITISH POUND STERLING 3 MONTH LIBOR		Not Applicable		Unable to obtain/determine reference bank/contributor polls	Paying Agent	Index value same as on the immediately preceding coupon period	
3	BRITISH POUND STERLING 3 MONTH LIBOR	STERLING OVERNIGHT INDEX SONIA - WEIGHTED AVERAGE RATE OF ALL UNSECURED STERLING O/N CASH TRANSACTIONS BROKED IN LONDON BETWEEN MIDNIGHT AND 4:15PM, SUBJECT TO A MIN DEAL SIZE OF 25 MILLION POUNDS, AVERAGE RATE ROUNDED TO 4 DECIMAL PLACES	Adjusted Spread Is Known	0.1193	Index cessation	Issuing Entity	Sum of a) compounded risk free rate and b) adjusted spread	As per consent solicitation as of 7JUN21, on occurrence of Cessation event (expected on...

Transition Type	Current Index	Transitioned Date	Fibck Replacement Index	Replacmt Index Eff Dt	Fibck Spread Adjust Type	Spd Adjust	Transition Note
Index Amended Through Consent Solicitation	BRITISH POUND STERLING 3 MONTH LIBOR	07-Jun-2021	STERLING OVERNIGHT INDEX SONIA - WEIGHTED AVERAGE RATE OF ALL UNSECURED STERLING...	01-Jul-2021	Adjusted Spread Is Known	0.1193	Issuer transitioned from LIBOR to SONIA rate through consent solicitation on 7 June 2021, with...

In the final months leading up to the ‘Libor finale’, it is up to market participants to respond to events such as RFR First. The switch will take time, so it should not be left until the last minute.

Firms need to update all systems, input new market data to financial models and conduct internal training to mitigate operational risk. Even that may not be enough come 1 January 2022, because a large number of transactions are switched over on the same day, resulting in potential operational bottlenecks.

“Switching to a new rate may be time-consuming. The rates are completely different. You’ve got to consult your customers on the completely different rates and implement a new system accordingly,” said Scofield. “Almost every data and tool is available now. I don’t think anyone should be waiting for anything magical to come along.”

## Table 4: Libor final days checklist

- ✓ Assessing Libor exposures across businesses and functions
- ✓ Evaluating risks associated with the Libor transition
- ✓ Upgrading affected IT systems and market data, while modifying affected models
- ✓ Rolling out products linked to new rates, while reducing Libor contracts
- ✓ Communicating with customers and amending contracts with counterparties

**Refinitiv is committed to supporting you through the LIBOR transition to replacement reference rates with our leading data, products and benchmarking solutions. To learn more visit: [refinitiv.com/en/libor-transition-solutions](https://refinitiv.com/en/libor-transition-solutions)**

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