WHITE PAPER

A WORLD AFTER LIBOR

Operational Implications for Commercial and Syndicated Lending

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EXECUTIVE SUMMARY

The imminent transition away from LIBOR (London Interbank Offered Rate) to new risk-free rates (RFRs) has the potential to be a highly disruptive event in lending markets. Trillions of dollars of instruments are priced using the rate – and the administrative burden of referencing both LIBOR and other rates during the transition is just one of the issues with which lenders will have to grapple.

The new RFRs, of which there are many, will likely be rolled out in an uncoordinated manner, and there are complexities around terms and interest calculations. New rates may also necessitate dynamic credit spread adjustments, which can be difficult to manage operationally. There are issues around accommodating multiple currencies, the need for new fallback language – and an imperative for careful communication with clients as each loan agreement linked to LIBOR needs to be redrafted.

As the leading provider of the technology that governs the servicing of syndicated loans, Finastra is working with clients to ensure they are prepared. For example, we are actively assessing how **Fusion Loan IQ** solution will manage multiple rates and terms, while helping borrowers and lenders communicate more effectively. We are also working with the industry to evaluate and manage the impacts of the many changes that the shift to RFRs introduces.

Regulators worldwide are actively sponsoring the various working groups set up to oversee the transition to RFRs. And firms are taking proactive steps to make the necessary changes before LIBOR ends. However, there is no question that institutions need all the support they can get in their efforts to minimize the disruption this change presents.

LIBOR Remains the Most Relied-Upon Global Benchmark for Short-Term Interest Rates

As the phase-out of LIBOR approaches, multiple new benchmarks are jockeying to be the default global rate. Whatever the outcome, Chief Credit Officers, Chief Risk Officers and operations leaders need a transition strategy to minimize business disruption.

“In the US, 97% of syndicated loans reference LIBOR, with an outstanding volume of approximately $3.4 trillion.”

Source: ISDA

How We Got Here

LIBOR comes in various durations and is denominated in five currencies: USD, EUR, GBP, JPY, and CHF, which makes it easily transferable across jurisdictions.[1] Since it was first published in 1986, LIBOR has become entrenched into global lending markets, and is hardwired into everything from financial derivatives, bonds and mortgages to consumer, commercial and syndicated loans.[2] Not surprisingly, LIBOR has often been referred to as the “world’s most important number”. [3]

The transition away from LIBOR accelerated after a 2012 investigation revealed a widespread plot by multiple banks to manipulate LIBOR for profit.[4] The scandal brought calls for deeper reform of the entire LIBOR rate-setting system. The UK parliament passed legislation that called for “fundamental reform of financial regulation in the UK” and reform of the LIBOR system in particular.[5] The newly created Financial Conduct Authority (FCA) declared the way LIBOR was set was no longer “fit for purpose”.[6]

LIBOR is used to price trillions of dollars of financial instruments but is based on the expert judgement of a small group of individuals, informed by a relatively insignificant number of unsecured interbank transactions. On July 27, 2017, the FCA announced a phase-out of LIBOR by 2021, stating that the market supporting LIBOR was no longer “sufficiently active” and called for a transition to transaction-based benchmarks.[7]

The transition from LIBOR is expected to be disruptive, simply because of its pervasiveness in the market. In the US, 97% of syndicated loans reference LIBOR, with an outstanding volume of approximately $3.4 trillion.[8]

1. www.theice.com/iba/libor
2. www.oliverwyman.com/content/dam/oliver-wyman/v2/publications/2018/February/LIBOR-transition-POV-FINAL.pdf
3. www.bloomberg.com/view/articles/2018-04-03/the-world-s-most-important-number
4. www.cfr.org/backgrounder/understanding-LIBOR-scandal
5. www.gov.uk/government/news/financial-services-bill-receives-royal-assent
6. www.bbc.com/news/av/business-19212801/LIBOR-scandal-review-finds-system-no-longer-viable
7. www.ft.com/content/529f8553-4edd-337a-8046-ad49e578a138
8. www.isda.org/a/g2hEE/IBOR-Global-Transition-Roadmap-2018.pdf

Potential for Disruption:
For agent banks and lenders in the syndicated loan market, the disruption will be particularly acute due to the potential administrative burden that will result from having loans referencing both LIBOR and the new rates, which will be calculated differently from each other.

Another consideration is the change in standard operational procedure. For most credit agreements linked to LIBOR, the borrower provides a three-day notice of loan principal and loan tenor, which in turn is relayed to lenders by the agent banks. After that, an interest rate setting notice is provided two business days prior, just after the LIBOR settings. How these practices will need to change with the new rates is yet to be determined but will certainly impact operational workflows

And for firms who are not yet aware, not yet engaged, and without plans to address their LIBOR-related dependencies, I warn you again of the risks.”

Andrew Bailey
Financial Conduct Authority,
Chief Executive

Excerpt from speech Interest rate benchmark reform: transition to a world without LIBOR – London, July 12, 2018

As the Phase out Approaches, Lenders Need to Familiarize Themselves with the Leading Benchmark Rates Poised to Fill the Void

At the time of this paper, it appears there will be multiple risk-free rates taking LIBOR's place, comprised of benchmark rates originating from five primary jurisdictions.

> "A post-LIBOR world will introduce many operational challenges for the commercial and syndicated loan markets."

Christine Scaffidi
Senior Principal Product Manager, Corporate and Syndicated Lending, Finastra

The Replacement Rates

The replacement rates include the US (Secured Overnight Financing Rate or SOFR), the UK (Sterling Overnight Index Average or SONIA), Europe (still to be confirmed), Switzerland (Swiss Average Rate Overnight or SARON) and Japan (Tokyo Overnight Average Rate or TONAR). Each has unique characteristics in currency, posting timing, security and underlying sources of data. This will ultimately lead to complexity for banks that have various loan instruments on their books.

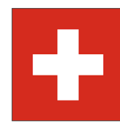
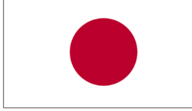
RFRs at a Glance:

Currency	RFR
Sterling (£)	**SONIA (Sterling Overnight Index Average)** • Introduced in March 1997 • The Bank of England became its administrator in April 2016, and made a series of reforms in April 2018 • Supported by an average of 370 transactions per day, compared with 80 before the reform and does not rely on submissions based on expert judgment. • Unsecured rate

RFRs at a Glance:

Currency	RFR
Euro (€)	**To be Determined** • The ECB's Governing Council announced that in 2019 it would publish an overnight euro rate, called ESTER based on wholesale unsecured overnight borrowing transaction data collected by the eurosystem. • ESTER is one of 3 candidates that could be chosen by the euro RFR Working Group as its preferred rate.
US Dollar ($)	**SOFR (Secured Overnight Financing Rate)** • The Federal Reserve Bank of New York and US Treasury Department's Office of Financial Research introduced the Secured Overnight Financing Rate, or SOFR, in April 2018. • The Alternative Reference Rates Committee (ARRC), the entity tasked with developing and implementing LIBOR's US replacement, has been following a SOFR transition plan. • The committee has released proposed fallback contract language for dollar-LIBOR floating-rate notes and syndicated business loans • Secured rate

RFRs at a Glance:

Currency	RFR
Swiss Franc (CHF) 	**SARON (Swiss Average Rate Overnight)** • The national working group on Swiss franc reference rates, which combines representatives of private-sector banks and the Swiss National Bank recommended SARON as alternative to the Swiss franc LIBOR in October 2017. • Based on actual market transactions and prices in the Swiss repo market • Secured rate
Japanese Yen (¥) 	**TONAR (Tokyo Overnight Average Rate)** • Following studies by Japanese and international banks, it was announced in December 2016 that TONAR would be the relevant Japanese risk-free rate. • There does not appear to be any public commitment on transition timelines. • Unsecured rate.

Prepare for Inconsistent Rollout and Publication Timing Across Benchmark Rates

A post-LIBOR world will introduce many operational challenges, particularly for lenders that operate in different currencies.

> "The new risk-free rates (RFRs) will not launch simultaneously to the market because the transition process is not being coordinated globally."

Managing the Transition Period
Banks must prepare for a period where some deals remain linked to LIBOR while others will have transitioned to a new RFR, depending on the jurisdiction of the instrument. This challenge is particularly applicable to commercial and syndicated lenders that operate cross-border.

Further compounding this transition is the timing for the publication of each rate. Today, LIBOR is published as of 11:00 GMT across each currency; however, other RFRs are published at different times throughout the day, which may cause complications.

Finastra is actively reviewing how this transition may impact **Fusion Loan IQ.** The existing rate table structure within Fusion Loan IQ is well positioned to allow configuration of multiple index rate and currency combinations, however banks will need to consider how and where they source and load the new rates into Fusion Loan IQ.

Figure 1: Publication Times, Administrators and Working Groups

Currency	RFR	Publication Time	Administrator	Working Group
	SONIA	09:00 GMT T+1	Bank of England	Working Group on Sterling Risk Free Rates
	SOFR	08:00 ET T+1	Federal Reserve Bank of New York	Alternative Reference Rates Committee (ARRC)
	SARON	08:00 ET T+1	SIX Swiss Exchange Ltd.	National Working Group on Swiss Franc Reference Rates
	TONAR	10:00 JST T+1	Bank of Japan	Cross-Industry Committee on Japanese Yen Interest Rate Benchmarks
	EURO	TBD	European Central Bank	Working Group on Euro Risk Free Rates

Differences in How Rates are Calculated Could Bring Operational Challenges

A key feature of LIBOR is that it is a forward-looking term rate, which helps provide certainty and ensure future cash flows are transparent.

"It is important for banks to consider the potential impact to operational costs in processing loans should credit agreement wording begin to introduce complex operational processing impacts."

Robert Downs
Senior Principal Product Manager,
Corporate and Syndicated Lending

Differences between Term and Overnight Rates
Moving away from LIBOR to an overnight RFR will create financial and operational challenges for borrowers, lenders and agents. For example, an overnight RFR does not compensate the lender for bank credit or term risk, whereas LIBOR includes a premium on longer-dated funds.[9] If funds are made available to a borrower for a longer term, the lender must be compensated through the margin, which is less transparent for borrowers.[9]

Furthermore, moving to an overnight RFR would require treasurers to keep additional cash reserves to respond to movement in the interest rates.

An Example
To illustrate how an overnight rate would be calculated, take the proposed US replacement benchmark, SOFR. As an overnight rate, interest payments are made quarterly, but the reset period is daily. Interest is calculated by multiplying the principal amount of the notes by an accrued interest factor (which is each day's (SOFR+spread)/360), then totaling the interest factors for all the days in the interest period. This equals the average daily rate.

Thus, at the end of the interest period, the borrower has paid the real daily rate of interest during the preceding period at the end of the interest period. Lenders and borrowers do not know the specific amount owed at the start of the period, which creates a challenge. For example, as shared by the **LSTA**, the indicative three-month SOFR ranged between 1.9% and 2% during May and June 2018. At the same time, three-month LIBOR ranged between 2.3% and 2.35%, a difference of roughly 30 to 40 basis points.

9. www.treasurers.org/node/350533

Looking Ahead

Finastra encourages a coordinated global effort to create standardized term RFRs across multiple currencies. Nevertheless, Finastra is studying the impact of transitioning loan markets to different backward-looking (and/or daily compounding) rates that fluctuate daily and exploring how **Fusion Loan IQ** can help manage potential impacts to: rate set notices, treasury internal funding (match/gap funding), secondary trading delayed compensation calculations, cash and liquidity management, month end processes and workflow, loan documentation and daily operations processes.

It is important for banks to consider the potential impact to operational costs in processing loans should credit agreement wording begin to introduce complex operational processing impacts and allow for examples such as a transition period where both rates are in effect. Finastra is actively considering the potential system impact of such a scenario/transition period.

It is expected that various term rates will ultimately become available for use. However, given the anticipated timing of this (mid-2020), Finastra expects the market will already have made a significant move away from term rates towards overnight T+1 rates for a large portion of the portfolio's managed by banks on Fusion Loan IQ.

Finastra is engaging with market-wide infrastructure working groups and assessing the impact of potential accrual methodology changes being discussed - such as fixed-rate windows at the end of accrual cycles, or an accrual "date shift" similar to what the bond markets have proposed - and considering solutions for ensuring **Fusion Loan IQ** can process such accruals within a nearer-term timeline than the regulatory deadline of 2021.

Credit Spread Adjustments Will Capture the Difference Between LIBOR and the New Rate

The adjustment is meant to capture the credit and liquidity premium already baked into the LIBOR curve.

In the current LIBOR structure, interest rates are calculated using two components: LIBOR (which is given) and the LIBOR margin (which is outlined in the given credit agreement between the lender and borrower). However, under potentially different models, whether it's SOFR or SONIA, a Credit Spread Adjustment (CSA) may need to be added to the RFR and margin, which would capture the difference between LIBOR and the new rate being used.

A CSA Example

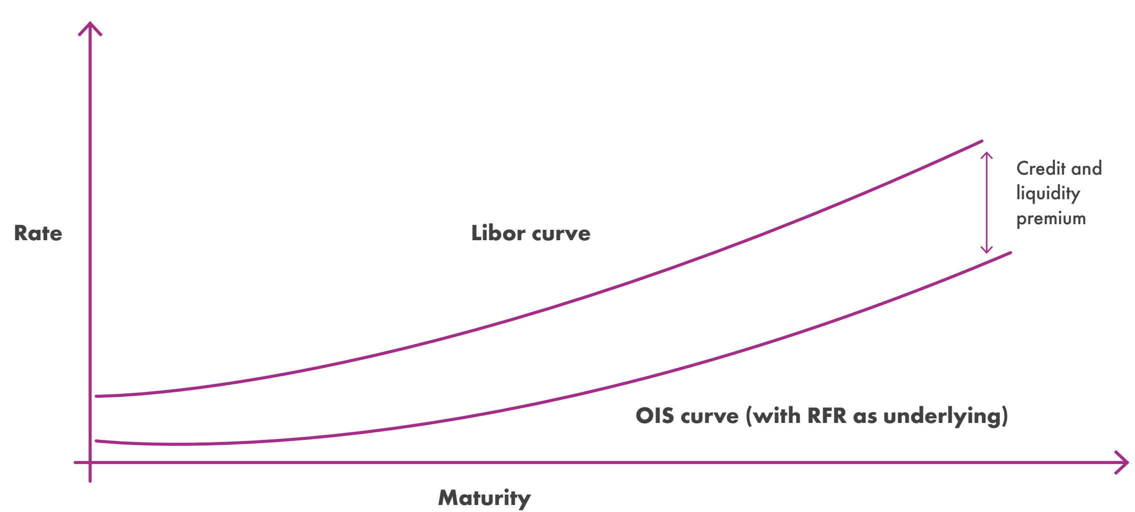
Take for example SOFR (US), a secured, risk-free rate, compared to LIBOR which is an unsecured rate and represents a bank's cost of funds. LIBOR should in turn be higher than SOFR because it includes term bank credit risk while RFRs are nearly risk free.

To prevent banks from being forced to lend below their cost of funds, adding the CSA is designed to capture the difference between LIBOR and SOFR. Whether the CSA is fixed or dynamic (i.e. changing with bank credit risk) remains an outstanding issue in the loan market. While a fixed CSA would be easier to manage operationally, a dynamic CSA would align closer to LIBOR.[10]

Increased transparency is one of the important drivers for the new rates. Finastra is assessing potential system impact should such transparency requirements ultimately extend to the need to capture and include the full breakdown of RFR/CSA components within Fusion Loan IQ in areas such as customer notices, accrual calculations and general ledger reporting.

Figure 2: A CSA Example

Since the LIBOR curve includes a credit and liquidity premium, the CSA is designed to capture the difference between LIBOR and the RFR.



10. Source: LSTA

Prepare for Multi-currency Complexity

Cross-border lenders should consider potential operational impacts of using RFRs denominated in different currencies.

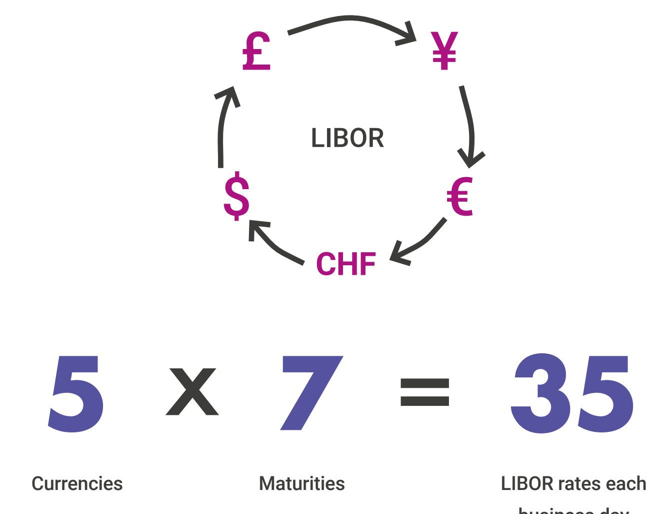
Perhaps the most convenient element of LIBOR is that it is quoted on the same basis for each LIBOR currency, whereas the RFRs are currency-specific. Therefore, there is the potential for issues in the loan market when drawings in different LIBOR currencies under the same facility are priced at the same margin. If different RFRs are used for different currencies, it may require a different margin per currency, which could create added complexity for borrowers and lenders, particularly for syndicated loans, which can often be structured using multiple currencies.

Looking Ahead

Finastra expects a future where multicurrency loans are more common due to the expansion of loan markets globally. Fusion Loan IQ is already well positioned as a flexible multi-currency loan processing platform. We are actively monitoring these evolving rate requirements and potential impacts to Fusion Loan IQ, particularly around potential requirements on flexible multi-currency interest pricing.

FACT:

LIBOR today is based on five currencies and serves seven different maturities: overnight, one week, and 1, 2, 3, 6 and 12 months. As such, there are 35 different LIBOR rates each business day.



Fallback language may require a closer look

Lenders and borrowers should familiarize themselves with their existing fallback language and be proactive with addressing the way it will be updated to reflect a post-LIBOR world.

"Fall backs are not designed as, and should not be relied upon, as the primary mechanism for transition. The wise driver steers a course to avoid a crash rather than relying on a seatbelt. That means moving to contracts which do not rely on LIBOR and will not switch reference rates at an unpredictable time. The smoothest and best means for this transition is to start moving away from LIBOR in new contracts."

Andrew Bailey
Chief Executive, Financial Conduct Authority

While loan contracts have fallback clauses in place if the underlying benchmark is unavailable for temporary technical reasons, existing fallback language is not suitable long-term. As a result, agent banks and lenders must review existing fallback language and make necessary adjustments in anticipation of variables stemming from new benchmark rates.

Contract fallback language should allow for a spread adjustment to minimize valuation changes. Suggested contract fallback language should also include specific triggers that enact the shift to successor rate(s). The choice of a new benchmark rate, spread adjustment and the timing of the transition should be clearly communicated to all borrowers and lenders.[11]

On September 24, 2018, the Federal Reserve Bank's Alternative Reference Rates Committee (ARRC) published LIBOR fallback consultations for syndicated business loans and Floating Rate Notes (FRNs). Market participant feedback was requested on these papers, which will then help to formulate standard recommended fall back language. Adoption of agreed standards should serve to guard against market disruption and resulting widespread risk.

Finastra is keenly aware that amendment language is not standardized across the loan market, which is a major impediment to a smooth transition away from LIBOR. This makes it even more critical that banks be familiar with the trigger events and how a new replacement rate gets chosen. Banks should also be considering the time and cost implications of amending and renegotiating each individual loan agreement to a new mutually agreed upon benchmark, and how new clauses and potential wording can be operationally managed without introducing additional overhead and processing costs.

11. https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2018/ARRC-principles-July2018

F. CLIENT COMMUNICATION STRATEGY

Proactively Engage With Your Lenders and Borrowers

Agent banks should anticipate potential communication issues with syndicated lenders and create a cross-functional plan to mitigate any business disruption.

Each loan agreement linked to LIBOR may need to be redrafted and agreed upon by the borrower, agent, and lender(s). It is critical this communication be carefully managed and documented because ultimately, if there is a new rate being adopted that is higher or lower than LIBOR, there will be winners and losers in any renegotiation, raising the potential for disputes and business disruption. The likelihood for disagreement is high if the new rate differs substantially enough from LIBOR. These cases will require a risk mitigation strategy and communications plan.[12]

Finastra is exploring ways of optimizing the notification features within **Fusion Loan IQ** to help ensure seamless communication with borrowers and lenders. Finastra is also exploring ways to manage any resulting necessary changes in the billing process and management of lead days, if the rate is going to be available at the end of the period instead of the beginning of the period.

12. http://www.oliverwyman.com/content/dam/oliver-wyman/v2/publications/2018/February/LIBOR-transition-POV-FINAL.pdf

Transformation is Coming

The global lending market will undoubtedly go through transformation over the next 36 months and beyond.

The disruptive nature of this transition will be further amplified by the fact that several key elements are missing: a centralized coordination of currency working groups around the rollout, the adoption of forward-looking term rates, standardized fallback language and proactive communication.

Finastra has already seen institutions taking a proactive approach to make the shift before LIBOR goes. For example, in August 2018, Credit Suisse became the first bank to issue debt tied to the Secured Overnight Financing Rate (SOFR[13]) while Regulators' sponsorship of relevant groups – like the ARRC, the Bank of England Working Group on Sterling Risk Free Rates, EU Working Group on Euro Risk Free Rates, the Swiss National Working Group on Swiss Franc and Japan's Cross-Industry Committee on Japanese Yen Interest Rate Benchmarks – demonstrates their keen interest in a smooth transition to avoid market interruption.

Finastra is the industry leader in the technology that governs the servicing of the majority of syndicated loans globally. Fusion Loan IQ is used by 18 out of the top 25 largest banks by syndicated loan volume as well as a growing number of SME lending portfolios. We are working to ensure our clients are prepared for the transition and the potential disruption that it carries. We welcome feedback from the market and would like the opportunity to speak to you about your plans for the LIBOR transition, please contact your Finastra representative or alternatively send us a message. **finastra.com/contact/sales**

Already a Client?
We welcome your feedback and participation in our User Group meetings, topic-specific Working Group sessions and in our client Chatter Group. Please contact **Rob Downs**, Senior Principal Product Manager, EMEA and APAC or **Christine Scaffidi**, Senior Principal Product Manager, Americas or your Finastra representative for more information.

13. https://www.ft.com/content/a7f5b21c-a4cd-11e8-8ecf-a7ae1beff35b

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Based in New York, Christine's focus is on the requirements of clients in the Americas. Prior to joining Misys in 2012, which merged with D+H in 2017 to form Finastra, Christine developed her career at Commerzbank, holding various roles leading to managing their commercial lending operations in the Americas. Christine studied Economics and European Studies at the University of Freiburg and received her B.S. in Economics and German from Albright College.

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As Senior Principal Product Manager for Corporate and Syndicated Lending, Rob is responsible for the strategic functional direction of Loan IQ and its partner products within Lending, with a focus on global client needs outside of the Americas.

Working with the Sales, Solutions and other Product Managers, Rob is accountable for defining the strategic roadmap to ensure Loan IQ remains the leading global lending solution, meeting the needs of our corporate and syndicated lending clients. Rob holds a degree in Computing from Leeds Beckett University, and spent twenty years at Credit Suisse in various roles across Fixed Income and Lending Technology before joining Finastra in 2018.

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About Finastra

Finastra unlocks the potential of people and businesses in finance, creating a platform for open innovation. Formed in 2017 by the combination of Misys and D+H, we provide the broadest portfolio of financial services software in the world today—spanning retail banking, transaction banking, lending, and treasury and capital markets. Our solutions enable customers to deploy mission critical technology on premises or in the cloud. Our scale and geographical reach means that we can serve customers effectively, regardless of their size or geographic location—from global financial institutions, to community banks and credit unions. Through our open, secure and reliable solutions, customers are empowered to accelerate growth, optimize cost, mitigate risk and continually evolve to meet the changing needs of their customers. 90 of the world's top 100 banks use Finastra technology. Please visit **finastra.com**

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