

---

# ***LIBOR Transition Series***

## Executive Summary

August 2018





As global regulatory and advisory bodies, working with market participants around the world, have progressed in their identification and development of replacement rates across the LIBOR<sup>1</sup> currencies, there is still much work to do. With approximately \$200 trillion USD contracts linked to LIBOR (>\$35 trillion currently with maturities beyond 2021)<sup>1</sup>, the task of transitioning away from LIBOR is currently underway. Is your organization ready?



## ***Transition plan***

### ***Timing***

In the US, the Alternative Reference Rate Committee (“ARRC”) recommended the Secured Overnight Financing Rate<sup>1</sup> (“SOFR”) as the replacement rate for use in certain new US dollar derivatives and other financial contracts. The publication of SOFR in April 2018 and trading of SOFR futures in May 2018 has prompted market participants to initiate internal discussions on the ability to manage LIBOR exposure upon the rate’s discontinuance. The ARRC’s 3rd roundtable on LIBOR and reference rate reform held on July 19, 2018, further emphasized the sense of urgency in transitioning to new benchmark rates. ARRC members and panelists communicated the importance of organizations mobilizing quickly and engaging in industry consultations aimed at easing the burden through the transition period.



LIBOR’s discontinuation is no longer being communicated as a possibility, but rather an eventual probability. As a result, market participants must prepare accordingly for such cessation. Organizations will need to demonstrate to their regulators, customers and counterparties that they have plans in place to mitigate risks and to remove dependencies on LIBOR past 2021.

## ***Organizational consistency & governance***

An organization’s development and management of LIBOR reform may be facilitated through a centralized program governance model or more siloed activity-based models. Regardless of structure, formal programs should all demonstrate a degree of central ownership to help address the broad implications and complexity of the transition away from LIBOR, with

variation on the level of activities conducted centrally versus those at the business unit level. Some organizations have looked to achieve such coordination through a central LIBOR transition office, with program governance managed by senior stakeholders with the ability to meaningfully implement change. Though we have also observed that for many institutions, the first step in tackling LIBOR transition has been through business unit level activity-based models.

LIBOR transition planning and collaboration at the institutional level is imperative to driving change consistently, both across internal businesses and with external customers. Organizations will need to develop well controlled governance processes to manage and implement changes to systems, infrastructure, processes, policies and procedures.

## ***Customer impact & engagement***

### ***Institutional & retail customers***

As part of an organization’s initial and on-going impact assessments to manage LIBOR exposure, firms should consider operational risks as well as identify economic implications for customers and counterparties.

Firms should prioritize communications with customers to provide information and education. By prioritizing the “client experience”, firms can more effectively collaborate with their customers to identify the “path of least resistance” for contract renegotiations, with the end goal of minimizing any financial value transfer and/or legal risk.

---

<sup>1</sup> In the US, the ARRC recommended a newly created benchmark rate, the Secured Overnight Financing Rate (SOFR), to replace US dollar LIBOR. It includes triparty repo data as well as treasury general collateral finance data from

the Depository Trust Company (DTC) and bilateral Treasury repo transactions.

## Communications

Employee education on transition implications and appropriate training is crucial to allow employees (particularly sales teams) to guide clients transparently and fairly through the process.



## Contract fallback provisions

### Derivatives

On July 12, 2018 ISDA launched a market-wide consultation related to fallback provisions for derivative contracts that reference LIBOR<sup>2</sup>. The consultation sets out various options for (i) identifying fallback trigger events, (ii) converting from a term rate LIBOR to an overnight rate (e.g., converting from 1-mo USD LIBOR to SOFR), and (iii) calculating a credit spread adjustment between the successor rate and LIBOR (where the successor rate references a risk-free rate).

The fallbacks would apply if the relevant LIBOR is permanently discontinued; an event which may also be triggered by a public statement by/on behalf of the administrator or by a regulatory supervisor for the administrator that the LIBOR will cease to be provided or should no longer be relied upon.

There are 4 proposed approaches for converting from term rate LIBOR to an overnight rate:

1. **Spot Overnight Rate:** The fallback could be to the risk-free rate<sup>3</sup> ("RFR") that sets on the date that is one or two business days prior to the beginning of the relevant LIBOR tenor
2. **Convexity Adjusted Overnight Rate:** Similar to the spot overnight rate, with a first-order modification to adjust for convexity. The modification attempts to account for the difference between the overnight rate versus the realized rate of interest that would be delivered by daily compounding the RFR over the relevant LIBOR term
3. **Compounded Setting in Arrears Rate:** The fallback would use the RFR observed over the relevant LIBOR tenor and compounded daily during that period

<sup>2</sup> ISDA's market-wide consultation covers GBP LIBOR, CHF LIBOR, JPY LIBOR, TIBOR, Euroyen TIBOR and BBSW. ISDA will launch a supplemental consultation specifically addressing USD LIBOR as well as EUR LIBOR and EURIBOR but is requesting feedback on the technical issues outline to date for input into the supplemental consultation.

4. **Compounded Setting in Advance Rate:** Mathematically the same as compounding setting in arrears. While the observation period would be equal in length to the relevant LIBOR tenor, it would end immediately prior to the start of the relevant LIBOR tenor so the rate would be known at the beginning of that period

There are 3 proposed approaches for credit spread adjustments:

1. **Forward Approach:** Calculated based on observed market prices for the forward spread between the relevant LIBOR tenor and the tenor-adjusted RFR at the time the fallback is triggered
2. **Historical Mean/Median Approach:** Calculated based on the mean/median spot spread between the relevant LIBOR tenor and the tenor-adjusted RFR calculated over a significant, static lookback period prior to the fallback trigger
3. **Spot-Spread Approach:** Calculated based on the spot spread between the relevant LIBOR tenor and the tenor-adjusted RFR on the day preceding the fallback trigger

Once defined, amendments to the ISDA definitions to include these fallbacks will become effective for derivatives executed after the amendment date. ISDA also intends to publish a protocol to allow market participants to bi-laterally agree to elect to include the fallbacks within legacy LIBOR contracts. Market participants are encouraged to follow ISDA protocol rather than making individual contractual amendments. It is in the best interest of market participants to assess the various fallback alternatives and provide input to ISDA's LIBOR Fallbacks consultation (response deadline October 12, 2018).

### Cash products

On July 9, 2018 the ARRC released guiding principles<sup>4</sup> for fallback language primarily intended for newly issued cash products that would specify how a contract would reference an alternative reference rate other than LIBOR when certain trigger events occur. The guiding principles are voluntary and include considerations around the articulation and usage of (i) fallback trigger events which would identify when a

For more detail see <https://www.isda.org/2018/07/12/isda-publishes-consultation-on-benchmark-fallbacks/>

<sup>3</sup> For USD LIBOR contracts, the risk free rate recommended for use is SOFR

<sup>4</sup> <https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2018/ARRC-principles-July2018>

contract would convert from LIBOR to the alternative reference rate, (ii) a successor rate (with the encouragement of using SOFR to replace USD LIBOR), (iii) a credit spread adjustment between the successor rate and LIBOR (where the successor rate references a risk-free rate), and (iv) mitigating market value transfer at the time of transition from LIBOR to SOFR.

The guiding principles emphasize the importance of clearly defined fallback trigger events, such that all parties to a transaction can easily identify when a transition to a new rate would be required. The permanent discontinuation of LIBOR as a trigger event will need to be well defined, as barring any formal announcement that LIBOR has ceased, discretion would need to be applied in determining whether the absence of LIBOR is temporary or permanent. Market participants may also want to consider inclusion of “zombie” LIBOR triggers, examples of which may include but are not limited to, a LIBOR prohibition announcement by the FCA or the number of panel bank contributors falling below a certain threshold.

That would allow transactions to switch to a new rate prior to a permanent discontinuance but after determination that the LIBOR rate has further diminished and is no longer fit for purpose.

The identification of the successor rate upon a trigger event should take into consideration operational feasibility and fairness of implementation. Market participants are also encouraged to identify contractual terms that are generally applicable and consistent across asset types, such as floating rate notes (FRNs), business loans, and securitizations. The ARRC guiding principles also state that contract language should contemplate additional disruptions to the replacement rate and attempt to be “future proof”, which market participants have addressed by considering a “waterfall” approach whereby a pre-defined hierarchy dictates which replacement rates would be considered and the order of priority.

In the US cash market, market participants have evaluated a spectrum of approaches for this transition.



On one end, there is a “hardwired” fallback waterfall approach that is very prescriptive and at the other end, there is an opt-in approach that grants wider flexibility. The opt-in approach would allow contract-specific counterparties to determine the triggers that would be used, allowing for more control over the timing of the

transition to an alternative rate. While flexibility for some product types may help minimize value transfer at conversion, this may not be appropriate/feasible across all asset types. Furthermore, discrepancies across different product may result in increased complexity and unintended consequences as it relates to asset and liability management and hedging.

The inclusion of a credit spread adjustment should also be considered. The approach used in the cash market will likely follow the prevailing methodology based on the ongoing ISDA consultation discussed above.

Market participants are expected to proactively engage in scoping efforts to determine the process for remediating legacy contracts to incorporate robust fallback provisions in consideration of the ARRC’s guiding principles.



### ***New contracts***

As presented at the ARRC’s 3rd roundtable, it is estimated that over 82% of existing products referencing LIBOR will mature by 2021<sup>5</sup>. New business should begin transitioning to new reference rates now by implementing updated contract language to minimize the growth of LIBOR-dependent products in the market.

During Q2 2018, LCH and CME began clearing SOFR-linked derivatives. Where possible, the derivatives market can and should begin the transition to the use of overnight risk free rates (e.g. SOFR) to aid in the reduction of post-2021 LIBOR exposure. The necessity for developing a risk-free rate term structure is more pronounced for the cash market and related derivative hedges.

Firms should actively engage in the identification of potential impacts across the entire product lifecycle. Key considerations for product innovation will be driven by downstream impacts on valuation and pricing models, as key inputs for term structures and discounting will evolve as the market moves away from LIBOR.

### ***Additional contract considerations***

As LIBOR reform will require amendments to the contractual terms of various product types, counterparties should specifically seek amendment

<sup>5</sup> <https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2018/OConnor-Slides-ARRC-Roundtable.pdf>

provisions that prioritize the maintenance of economic parity and provide clarity surrounding the provisions and calculations (e.g. term structure, credit spreads, etc.) so as to minimize potential contract disputes.

Where possible, firms should look to maintain consistency in contractual language across product types and customers. The importance of clear and open communication (and where necessary education) between counterparties cannot be overemphasized.



## **Accounting & Tax**

### **Loan and debt modification**

When a loan or debt instrument is modified, both US GAAP and federal tax rules require an analysis to determine whether the amendments result in significant enough economic changes to the underlying instrument that it should be treated as an extinguishment of the legacy contract and the execution of a new contract.

Under US GAAP a ‘more than minor’ change to the instrument (as calculated using the 10% test) would result in extinguishment gains and losses as well as the reclassification to net income of any previously deferred fees or costs.

Under US federal tax rules a ‘significant modification’ of a debt instrument could result in the debt holders having gain or loss and the debt issuers having repurchase premium or cancellation of debt income. Additionally, establishing multiple variable rates for a single debt instrument could create original issue discount that is required to be accrued on a constant yield basis by both holders and issuers.



The facts and circumstances around how entities amend existing contracts will impact the results of these analyses. Seeking to minimize value transfer when amending contracts may help minimize the likelihood of amendments requiring extinguishment of the legacy contract.

### **Hedge accounting**

In a fair value hedge of interest rate risk in which there is a change in the hedged risk (e.g. LIBOR to SOFR), current practice under US GAAP would result in a designation of the hedge relationship. While entities are permitted to re-designate the hedge relationship, doing so may be increasingly complex based on the facts and circumstances of the hedge relationship.

In a cash flow hedge of interest rate risk, questions have arisen regarding whether companies will continue to be able to support an assertion that the forecasted hedged transaction (future LIBOR based interest payments beyond 2021) is highly probable of occurring. If a forecasted hedged transaction becomes probable of not occurring, any previously deferred amounts in Other Comprehensive Income (“OCI”) must be reclassified from OCI to Net Income. This assessment may be different depending on whether an entity is evaluating the hedge under legacy (ASC 815) guidance or the newly amended guidance in ASU 2017-12.

Per US federal tax rules, if a hedged debt instrument is significantly modified due to a change in LIBOR, then the deemed termination of the hedged instrument may cause a corresponding gain or loss from the hedge itself. The timing of recognition is generally dependent on the type of hedge. Similarly, changes to a reference rate used in an integrated tax hedge may also trigger a taxable event.

### **Other areas of impact**

Other areas of US GAAP potentially impacted by LIBOR reform include: Goodwill impairment testing, financial asset impairment, lease accounting, and other areas of financial reporting which may leverage LIBOR as an input to models, specifically discounted cash flow models.

For US federal tax, certain foreign corporations that elect to use 30-day LIBOR to calculate interest expense on effectively connected liabilities may be impacted since current regulations do not include an alternative reference rate.

### **Technology**

By leveraging appropriate technology and tools, firms can accelerate and streamline the transition to a new reference rate environment. As firms progress through change management programs, they should consider the use of tools and accelerators that will facilitate their efforts:

- Scoping & risk assessment: Technology that enables firms to identify and visualize products/business segments linked to LIBOR helps prioritize remediation efforts to areas where the risks are greatest and/or most severe

- Scenario/impact analysis: Once it is clear where the risks are most significant, scenario analysis can support key decision making activities for firms as they evaluate the impact of the LIBOR transition while considering issues such as balance sheet management and capital planning
- Contract management: Contract reading software based on machine learning algorithms can help Firms inventory their existing contract population and identify contractual terms and provisions
- Valuation: Linking technology to product and portfolio valuation software can assist firms in streamlining the revaluation of products and models which impact the balance sheet.



## *How PwC can help*

We are uniquely positioned to support your firm, bringing our current experience supporting clients with their LIBOR and Reference Rate Reform programs, our insights and experience helping other industry participants, combined with the breadth and depth of our experience supporting other change programs.

We have invested in tools and accelerators to assist our clients, including proprietary impact assessment tools to accelerate identification and inventorying of LIBOR impacts, including process and technology considerations and remediation planning templates.

We have a breadth of experience with our global network of regulatory and capital markets subject matter specialists that allow us to 'connect the dots' across various regulatory requirements and we are able to deploy teams globally, addressing the affected LIBOR jurisdictions in the US, UK, Europe, Switzerland and Japan.

We have depth of experience enabling us to draw upon experience in managing complex change programs combining deep specialists across regulatory program change across customer platforms, front to back operational and technology change, valuation and risk expertise, client contract outreach, and accounting / tax specialists.

We have extensive experience with transformation capabilities assessing and implementing regulatory impact analyses at peer institutions, and delivering complex rules/regulation analysis and integration projects, as well as substantial trading technology implementation and execution experience.

---

## ***Additional information***

For additional information about PwC's Financial Services Practice and how we can help you, please contact:

### **Dan Ryan**

Banking and Capital Markets Leader, PwC US  
646 471 8488  
daniel.ryan@pwc.com  
@DanRyanWallSt

### **Adam Gilbert**

Financial Services Advisory Regulatory Leader, PwC US  
646 471 5806  
adam.gilbert@pwc.com

### **Frank Serravalli**

Financial Markets Practice Leader, PwC US  
646 471 2669  
frank.serravalli@pwc.com

### **Justin Keane**

Financial Markets Principal, PwC US  
646 471 7379  
justin.keane@pwc.com

### **Jessica Pufahl**

Financial Markets Partner, PwC US  
646 471 8656  
jessica.m.pufahl@pwc.com

### **Nicholas Milone**

Financial Markets Partner, PwC US  
646 471 4813  
nicholas.k.milone@pwc.com

### **Roberto Rodriguez**

Director of Regulatory Strategy, PwC US  
646 471 2604  
roberto.j.rodriguez@pwc.com

**PwC US Contributing authors:** Chad Clark, Marguerite Duprieu, Prakash Mahtani and Caitlin Estes.

At PwC, our purpose is to build trust in society and solve important problems. We're a network of firms in 158 countries with more than 236,000 people who are committed to delivering quality in assurance, advisory and tax services.

Find out more and tell us what matters to you by visiting us at [www.pwc.com](http://www.pwc.com).

This publication has been prepared for general guidance on matters of interest only, and does not constitute professional advice. You should not act upon the information contained in this publication without obtaining specific professional advice. No representation or warranty (express or implied) is given as to the accuracy or completeness of the information contained in this publication, and, to the extent permitted by law, PwC does not accept or assume any liability, responsibility or duty of care for any consequences of you or anyone else acting, or refraining to act, in reliance on the information contained in this publication or for any decision based on it.

© 2018 PwC. All rights reserved. PwC refers to the PwC network and/or one or more of its member firms, each of which is a separate legal entity. Please see [www.pwc.com/structure](http://www.pwc.com/structure) for further details.