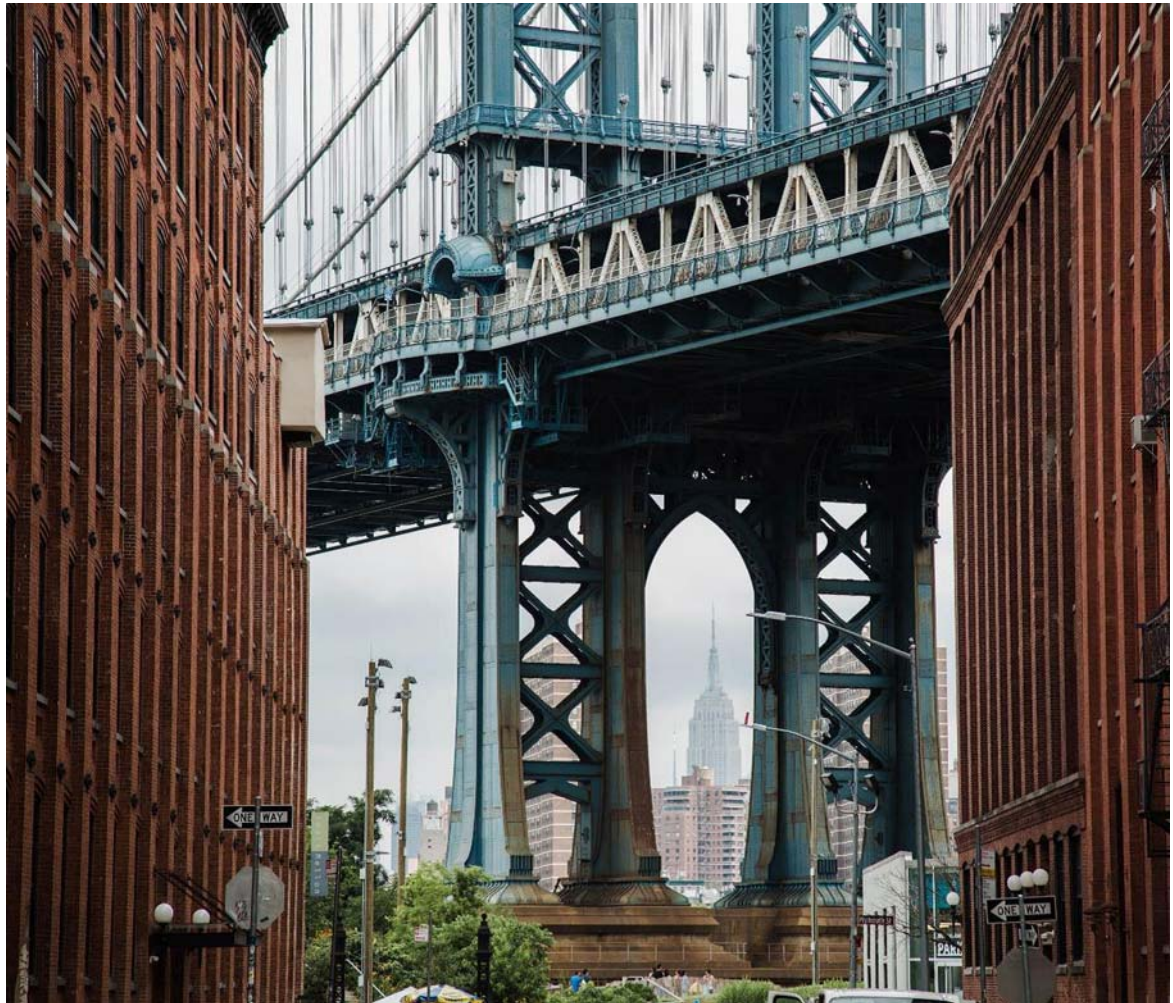


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## ***LIBOR Transition Series***

### ISDA consultation – US perspectives on credit spread adjustments

October 2018





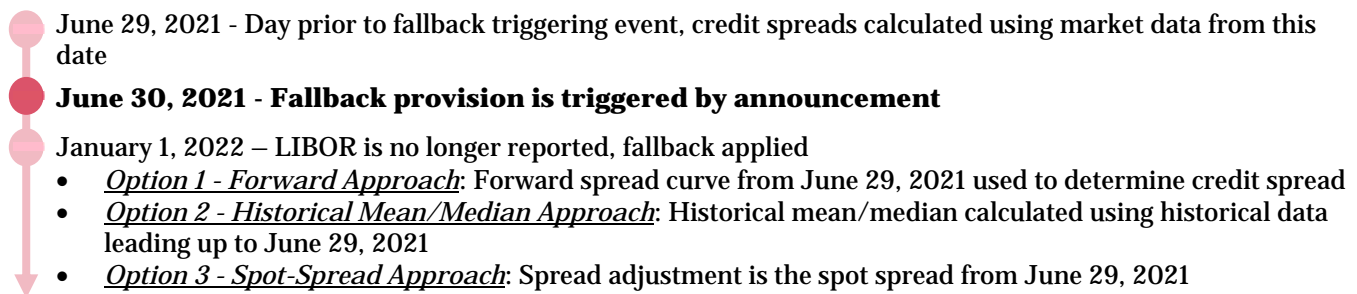
One of the most challenging aspects of determining fallback language is the selection of the appropriate credit spread adjustment. ISDA's market-wide consultation related to fallback provisions for derivative aims to engage market participants in dialogue.

## *Need for credit spread adjustment*

On July 12, 2018 ISDA launched a market-wide consultation<sup>1</sup> related to technical issues associated with introducing fallback provisions for derivative contracts that reference various Interbank Offered Rates (IBORs).<sup>2</sup> The consultation focuses on adjustments that will apply to alternative risk-free rates (RFRs) if the fallback is triggered. These adjustments are a consequence of structural differences between the RFRs and the relevant IBORs they replace. This article focuses on the three ISDA-provided alternatives for developing a credit spread adjustment to account for the bank credit risk premium in various IBORs, which is absent in the alternative RFRs as they are generally risk-free or nearly risk-free. As discussed further below, while the credit spread adjustment options provide a rational and systematic way to operationally convert from the relevant IBORs to the RFRs, all three options have limitations which should be considered by market participants. As emphasized at the July 2018 roundtable<sup>3</sup> regarding the fallback alternatives, credit spread adjustments will not be perfect as there is no one option that will suit everyone's needs and that can guarantee no value transfer. Conference presenters emphasized that fallbacks should not be relied upon as the conversion mechanism and market participants should do everything in their power to prevent value transfer. This will likely require market participants to actively close out positions and enter into new products.

The ISDA consultation covers GBP LIBOR, CHF LIBOR, JPY LIBOR, TIBOR, Euroyen TIBOR, and BBSW. It does not specifically address USD LIBOR and SOFR (the alternative RFR selected for USD LIBOR) given that there are only a few months of available SOFR data. ISDA plans to launch a supplemental consultation addressing USD LIBOR at a later date which will likely consider feedback on the technical issues raised in this consultation.

Per the ISDA consultation, when the fallback provision is triggered (e.g., through an announcement by the IBOR administrator that it has ceased or will cease to provide the relevant IBOR), the selected credit spread will be calculated as of the business day prior to the fallback being triggered. However, the credit spread will not be applied until the fallback takes effect (i.e., first day the relevant IBOR is no longer published as part of a permanent discontinuation). The calculated spread will be static in the sense that it is calculated as of the day before the fallback trigger, and will not dynamically reflect market changes afterward. In some instances, the fallback trigger may not be the same date as when the fallback takes effect. To illustrate the timeline of determining the credit spread, consider the example below of an announcement on June 30, 2021 from the IBOR administrator that it will cease to provide the relevant IBOR on January 1, 2022:



<sup>1</sup> For more, see ISDA's website at: <http://assets.isda.org/media/f253b540-193/42c13663-pdf/>

<sup>2</sup> For a discussion on ISDA's four alternatives (SORf, CORf, ARRF, and ADRf) for applying an overnight rate alternative reference rate to a term interest period, refer to our other article in this series, "ISDA Consultation – US Perspectives on Adjustments to Overnight Risk-free Rates"

<sup>3</sup> Federal Reserve Bank of New York, Alternate Reference Rates Committee Roundtable webcast July 19, 2018. For more, see the Federal Reserve Bank of New York's website at: <http://frbny.honeycast.com/20180719/>

## Three options

### Option 1: Forward Approach

The spread adjustment would be calculated based on observed market prices for the forward spread between the relevant IBOR and the adjusted RFR in the relevant tenor. Per the ISDA consultation, this credit spread adjustment method would be incompatible with the spot overnight rate (SORf) and convexity-adjusted overnight rate (CORf) term adjustment approaches.<sup>4</sup>

### Option 2: Historical Mean/Median Approach

The spread adjustment would be based on the mean or median spot spread between the relevant IBOR and the adjusted RFR calculated over a significant static lookback period (e.g., 5-10 years) prior to the fallback trigger. Additionally, the first year after the fallback takes effect would be a transition period where the spread used would be a linear interpolation of the spot spread at the time the fallback is triggered and the long term spread would apply after the end of the year-long transition period.

### Option 3: Spot-Spread Approach

The spread adjustment would be based on the spot spread between the relevant IBOR and the adjusted RFR. Per the ISDA consultation, this approach is not compatible with the compounded setting in arrears (ARRf) term adjustment approach.<sup>5</sup>

### Advantages and Disadvantages

In addition to the description of each method, ISDA provided the following list<sup>6</sup> of potential advantages and disadvantages for each alternative.

Approach	Potential Advantages	Potential Disadvantages
Forward Approach	<ul style="list-style-type: none"><li>Prevents significant value transfer near the date the fallback is triggered because spread adjustments match the expected market pricing as of the day before the fallback is triggered</li></ul>	<ul style="list-style-type: none"><li>Requires functioning markets and extensive market data, which may not be readily available</li><li>Availability of the curves required to compute this approach would be dependent on a vendor continuing to calculate and publish the curves up until the fallbacks are triggered</li><li>May be vulnerable to manipulation or distortion in market</li><li>Not compatible with SORf or CORf adjusted RFRs</li></ul>
Historical Mean/Median Approach	<ul style="list-style-type: none"><li>Reflects current market conditions at the time the fallback takes effect, but transitions to longer term average market conditions as time passes</li><li>Captures the tendency of interest rates to fluctuate around a long-term mean</li><li>Ameliorates the effect of market distortions and potential manipulation at the time of triggering</li><li>Based on readily available information</li></ul>	<ul style="list-style-type: none"><li>Unlikely to be present value neutral on the calibration date</li><li>Requires long histories of IBOR fixings and adjusted RFR fixings</li></ul>
Spot/Spread Approach	<ul style="list-style-type: none"><li>Requires only IBOR fixings and adjusted RFR fixings at the time of triggering</li><li>Simple to implement and understand</li></ul>	<ul style="list-style-type: none"><li>Unlikely to be present value neutral on the calibration date</li><li>Not compatible with the ARRf adjusted RFR per ISDA</li></ul>

<sup>4</sup> Perspective of the ISDA Consultation. Some market participants may not view the forward approach method as incompatible with the SORf and CORf approach.

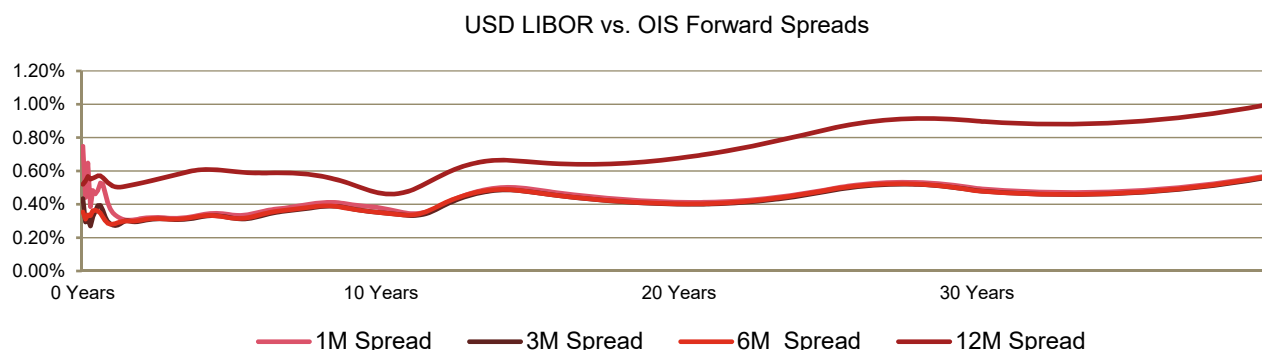
<sup>5</sup> Perspective of the ISDA Consultation. Some market participants may not view the Spot-Spread method as incompatible with the ARRf approach.

<sup>6</sup> Potential advantages and disadvantages per ISDA quoted from pages 12-14 of the consultation

## Key observations

### Forward Approach

To illustrate what credit spreads could look like under the forward approach, we prepared the following graph using the spreads between the LIBOR 1M, 3M, 6M and 12M forward curves and the OIS forward curve<sup>7</sup> as of July 31, 2018. The graph illustrates the term structure that is apparent in forward credit spreads. The basis difference at the longer end of the curve could be ~150-200% larger than the short-term spread. Note, the spread after one year for the 1M, 3M, and 6M curves is similar resulting in the convergence of the three separate lines in the chart below.



The main benefit of the forward approach is that it may help minimize value transfer at the date of the fallback triggering event because the forward curve takes into account future market expectations. It is important to note that because the spread is not dynamic, value transfer will still occur if there are changes in the markets between the trigger of the fallback and the date the fallback is applied.

The primary disadvantages of the forward approach are that it is more susceptible to market volatility and potential ‘manipulation’ and requires a robust forward LIBOR curve. However, as markets approach the end of 2021 and market participants are encouraged to exit LIBOR positions, the LIBOR futures market is expected to decrease. Without a healthy LIBOR futures market, a robust LIBOR forward curve cannot exist. In addition, while calculating the spread the day prior to the fallback trigger would exclude market volatility which may occur after the fallback is triggered, calculating the credit spread prior to the fallback taking effect will likely lead to value transfer.

### Historical Mean/Median Approach

While the historical mean/median approach per the ISDA consultation calls for 5-10 years of credit spread history,<sup>8</sup> SOFR has only been published since April 2018. To illustrate the credit spread calculation under a historical mean approach, we charted the historical spread between 1M LIBOR and 1M SOFR (using the ARRF and ADRf adjusted RFR methods as outlined in the ISDA consultation as proxies for 1M SOFR). While the ISDA consultation suggests one year transition period using linear interpolation from the spread in effect as of the fallback trigger date to the historical mean one year later, our illustration uses only a one month transition period given the short period of historical data available. The below illustrations assumes a fallback trigger occurring on July 31, 2018.<sup>9</sup>

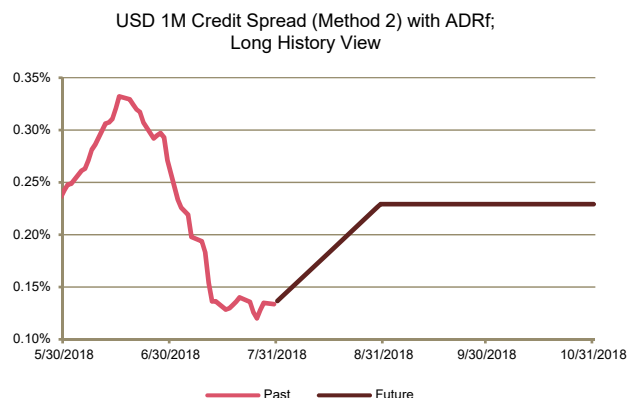
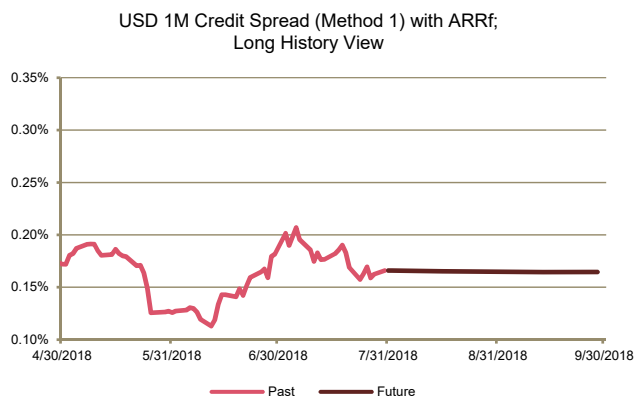
*Reminder: the application of historical mean/median approach is likely something ISDA will revisit and discuss as part of a supplemental consultation focusing on USD LIBOR given the short amount of historical data.*

<sup>7</sup> PwC followed the example provided by Bloomberg,<sup>7</sup> and used the US OIS curve as a proxy for the SOFR forward curve, because SOFR does not yet have a forward curve.

<sup>8</sup> As ISDA’s consultation does not directly consider USD LIBOR, a 5-10 year historical average period may be viable for other RFRs such as SONIA (GBP LIBOR replacement).

<sup>9</sup> A fallback trigger date of July 31, 2018 was selected since calculating the 1M SOFR rate in effect under the ARRF method requires market data for the following month (August 2018 market data). The inverse is true for ADRf, since it relies upon preceding market data; as such, the historical average becomes available one month after the commencement of SOFR being published (May 2018).



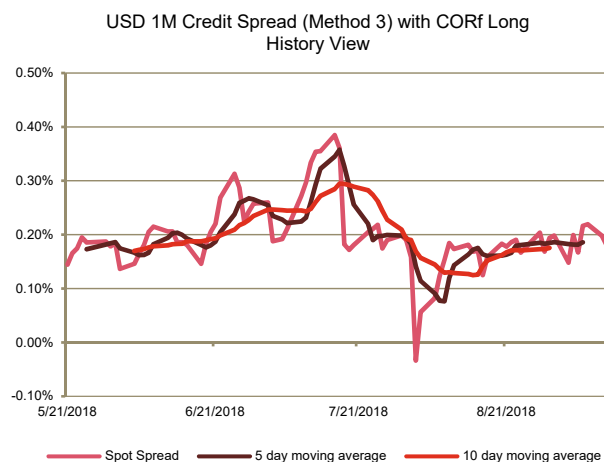
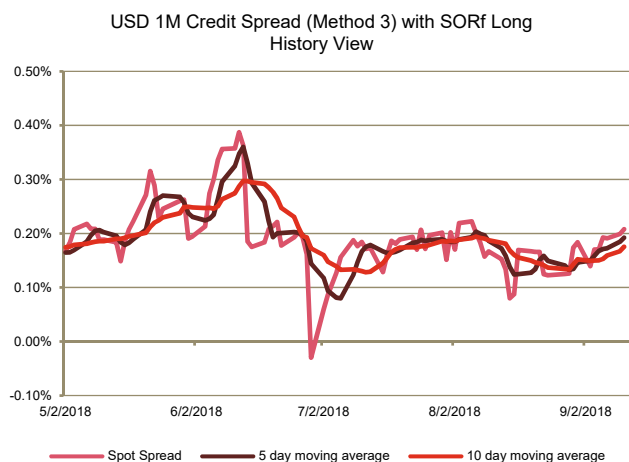


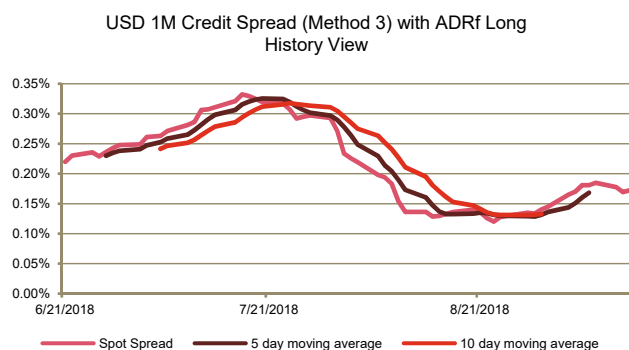
The historical mean/median approach addresses some of the concerns present under the forward approach, in that it is less susceptible to volatility and manipulation around the time the fallback is triggered as it relies upon a longer range of historical market data, which normalizes market volatility around the time of fallback triggers. It also reflects the trend that rates tend to fluctuate around a long term mean. As shown in the graphs above, this method allows for a generally smoother transition from the spot spread on the date prior to the fallback trigger to the historical average rate.

However, despite being an operationally achievable alternative, whenever using an approach reliant on historical data it is important to consider that historical performance may not be representative of the future. Recent history has been under a time of quantitative easing, and the current economic recovery has been longer than the norm. By the end of 2021 SOFR will have had less than four full years of history. Consequently, this approach could result in calculating an expected credit value differential which assumes a credit environment in line with low interest rates and a prolonged recovery environment instead of considering the natural evolution of the cycle. Therefore, this method is likely to result in value transfer as it will not be present value neutral at the time of transition.

### Spot-Spread Approach

The Spot-Spread approach holds constant the spread observed the day prior to the fallback trigger event. The below graphs demonstrate the historical daily spot-spread between 1M LIBOR and 1M SOFR (using the SORf, CORf, and ADRf adjusted RFR methods as proxies for 1M SOFR as outlined in the ISDA consultation). Each graph illustrates the spot-spread using daily rates as well as the 5- and 10-day trailing averages.





The main benefit of the spot-spread approach is that it is easy to calculate and does not require significant amounts of market data. However, this method also has limitations. Similar to the forward approach, the spot-spread method uses data only near the fallback trigger event which may be vulnerable to volatility and potential manipulation. However, unlike the forward approach, it lacks the benefit of reflecting future expectations and is therefore likely to result in value transfer.

## Next Steps

The ISDA consultation has asked companies to rank the nine compatible methods as determined by ISDA in the chart below.

### Possible Combinations of adjusted RFRs and spread adjustments

	Forward Approach	Historical Mean/Median	Spot-Spread Approach
Spot Overnight Rate (SORf)	Not Compatible per ISDA	(rank)	(rank)
Convexity-adjusted Overnight Rate	Not Compatible per ISDA	(rank)	(rank)
Compounded Setting in Arrears (ARRf)	(rank)	(rank)	Not Compatible per ISDA
Compounded Setting in Advance (ADRf)	(rank)	(rank)	(rank)

All market participants are encouraged to participate in the public ISDA consultation.<sup>10</sup> The deadline for comment is October 12, 2018.

## Closing considerations

The methods proposed by the ISDA consultation are imperfect – however, they provide a practical approach to attempting to address mass changes to contract terms through a clear mechanistic process.

Although an approach such as the historical mean/median may be least susceptible to manipulation, it is clear that significant value exchange may result from reliance on fallback language. Consequently, market participants should actively consider how to migrate the underlying exposures from LIBOR onto new RFRs ahead of the transition date, thereby removing the need to rely on fallbacks.

However, a practical fallback solution is necessary for those exposures that cannot be migrated in time. It is therefore important for all market participants to avoid taking a wait and see approach during these transition discussions. Engaging all facets of the organization, including risk and quantitative specialists, to develop an understanding of what each approach means for their LIBOR exposure would be prudent.

<sup>10</sup> For more, see ISDA's website at: <https://www.isda.org/2018/07/12/interbank-offered-rate-ibor-fallbacks-for-2006-isda-definitions>

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