

Summary of Feedback Received in the ARRC Spread-Adjustment Consultation and Follow-Up Consultation on Technical Details

In January, the Alternative Reference Rates Committee (ARRC) released a [consultation](#) seeking input as it moved to recommend spread adjustments for fallbacks in cash products referencing U.S. dollar (USD) LIBOR, and, at its April meeting, the ARRC agreed on a recommended spread adjustment methodology reflecting the [feedback received](#). This note provides a more detailed summary of the feedback to the ARRC's consultation and seeks further market views on two outstanding technical details.

Section I: Background

As noted in its April [Statement](#), the ARRC is recommending a spread adjustment methodology based on a historical median over a five-year lookback period calculating the difference between USD LIBOR and SOFR. For consumer products, the ARRC is additionally recommending a 1-year transition period to this five-year median spread adjustment methodology. The five-year median spread adjustment methodology matches the methodology recommended by the International Swaps and Derivatives Association (ISDA) for derivatives and would make the ARRC's recommended spread-adjusted version of SOFR comparable to USD LIBOR and consistent with ISDA's fallbacks for derivatives markets. The inclusion of a transition period for consumer products was endorsed by many respondents, including consumer advocacy groups.

The ARRC intends to work with a vendor to publish its recommended spreads and spread-adjusted rates, and will release a more detailed final recommendation of the spread adjustment methodology for cash products as part of this process. In Section III below, the ARRC asks for further views on one technical detail of the spread adjustment calculations.

Since the ARRC's announcement of its initial recommendations, ISDA has announced that it will also move to include a pre-cessation trigger in its definition amendments and protocol for derivatives. The ARRC welcomes the decision, which serves to bring fallbacks for derivatives closer in line to the ARRC's fallback recommendations for cash products, and will closely watch ISDA's decisions as it moves to implement its trigger, seeking to keep alignment on technical implementation details with ISDA where appropriate.

The ARRC's recommended methodology is for market participants' voluntary use, to produce spread adjustments intended for USD LIBOR contracts that have incorporated the ARRC's recommended hardwired fallback language, or for legacy USD LIBOR contracts where a spread-adjusted Secured Overnight Financing Rate (SOFR) can be selected as a fallback.

Section II: Summary of the Spread Adjustment Consultation Responses¹

- The ARRC received 71 responses to its consultation on a spread adjustment methodology. Slightly over half of the responses were provided by banks, with the rest of the responses from a diverse mix of asset managers, insurance and other financial companies, GSEs, consumer groups, and industry associations.²
- For floating rate notes, syndicated and bilateral business loans, and securitizations, respondents almost unanimously preferred to apply ISDA's approach for derivatives (Question 1) and did not wish to see a transition period applied (Question 4), with many respondents citing the importance of consistency across products as the decisive factor in their recommendation. Only one respondent disagreed with this approach.
- ISDA's approach is based on a 5-year median of the spread between LIBOR and SOFR. The consultation noted that it was possible that there may not be a full 5 years of history for the SOFR term rate and asked for preferences as to how any lack of data might be addressed. (Question 3). In the absence of a full five years of data for calculating a median, more respondents favored using an in arrears adjustment, with the remaining respondents roughly equally split between shortening the calculation period or using an OIS adjustment.
- Respondents favored including overnight and 1-week spreads by 3 to 1 (Question 5). Many who favored including short-term spreads acknowledged that those spreads were, and likely would remain, little used but saw no harm in providing them or cited value in completeness.
- Respondents were almost evenly split on whether to include a recommendation for simple, as well as compound, averages. Those for the inclusion generally cited the low cost of providing additional values while those against inclusion noted the potential for confusion and unnecessary systems costs.
- A significant minority of the respondents (about 40 percent) did not answer the questions on consumer loans, citing a lack of relevance for their businesses.
- As with other cash products, almost all respondents with an interest in consumer loans placed a high value on consistency with the ISDA methodology of using a 5-year median spread (Question 8). As to whether a transition period was appropriate for consumer products (Question 9), responses were split equally; however, all of the consumer groups and most (but not all) mortgage lenders preferred the inclusion of a transition period for consumer products, with respondents that preferred not to have a transition period having less clear direct connections to consumer lending in many cases.
- In the absence of data for a 5-year median for consumer cash products, more respondents favored an in arrears adjustment over using a shorter series or OIS rates (Question 11).
- Respondents were evenly divided on the appropriate fallback spread for adjustable rate mortgages if the ARRC-recommended term rates were of shorter maturity than the LIBOR rates referenced in ARMS (1-year and 6-month LIBOR). Some preferred the use of the next longest SOFR-adjusted term while others recommended using a compounded average of in advance SOFRs.

¹ The full set of questions in the ARRC's initial consultation are included in Appendix 2.

² In a few instances multiple groups or firms provided a joint response; in those instances, each group's reply is counted separately in this summary. Responses are available on the ARRC website.

Section III: Further Technical Consultation

As noted in section I.C of the [Consultation](#), the ARRC's hardwired fallback recommendations for floating rate notes, securitizations, and syndicated and bilateral business loans would fall back to a forward-looking term SOFR rate if the ARRC has recommended one, or a compound average of SOFR either in arrears or in advance, depending on the choices made by the parties adopting the language, if a term rate has not been recommended or if the parties prefer to fall back to a compound average SOFR. The ARRC may thus make recommendations for spread adjustments to three types of SOFR: a forward-looking term SOFR, a compound average of SOFR in arrears, and a compound average of SOFR in advance. In addition, the ARRC may also consider recommending spread adjustments for simple averages of SOFR.

Respondents to the consultation strongly preferred to use the same 5-year historical median spread methodology that will be used by ISDA for each of these potential forms of the SOFR fallback rate. However, although as noted in the Consultation each of the types of SOFR fallback rates are each closely linked to each other, because they are each somewhat different, the same methodology is likely to produce somewhat different spread calculations.

The Consultation additionally noted that there may not be 5 years of historical data available for a SOFR term rate, and asked for feedback as to how the term-rate spread adjustment should be calculated if this occurred (Question 3). The consultation proposed and sought views on potential ways to address this:

- Use a shorter sample to estimate a recommended spread for the forward-looking term SOFR rate.
- Use the historical difference between LIBOR and compound averages in arrears during the period of time for which historical data on a term SOFR rate is unavailable.
- Base the spread adjustment on the difference between LIBOR and EFR term OIS rates (on the grounds that SOFR term rates should move closely with EFR OIS rates)

In discussing feedback to the Consultation, the ARRC has determined that there is another potential option that could have been considered - rather than using the same spread adjustment *methodology*, another potential option would be to use the same spread adjustment *value* for a given LIBOR tenor (calculated to be equal to ISDA's spread adjustment for compound SOFR in arrears for that tenor of LIBOR) across the different fallback rates of the same tenor, regardless of whether there was sufficient rate history for any particular fallback rate. The ARRC has noted that there is a possibility that some respondents took Question 1 to be asking whether preferred to use the same value rather than the same methodology. Additional background on the differences between these two options is provided below in Appendix 1.

Separately, the ARRC has welcomed the announcement from ISDA that it will include a pre-cessation trigger, which will help to bring fallback language for cash and derivatives products in to closer alignment. In the ARRC's consultation, which was issued before ISDA had announced that it would include a pre-cessation trigger, there was a discussion of the potential timing for when the recommended spread adjustment could be set in the event of a pre-cessation trigger. In the event that LIBOR was found to be no longer representative by the U.K. Financial Conduct Authority (FCA) before any official statement that LIBOR would cease publication, the consultation discussed setting the spread adjustment at the time that LIBOR was found to no longer be representative.³ The ARRC notes that it is possible that ISDA may elect to set its spread adjustment at a different time in this event, for example, at the time of a statement by

³ See page 13 of the consultation.

the FCA that LIBOR would be judged to be non-representative at a future date. The ARRC has previously indicated that the timing of the fixing of its spread adjustments would match ISDA's in the event that a cessation event was operative. The ARRC therefore seeks views from a diverse array of market participants as to whether the timing of the fixing of its spread adjustment in the event that a pre-cessation event is operative should match the timing that ISDA selects.

In light of these discussions, the ARRC seeks further feedback to the following two questions:

Question 1. *Do you believe that using the ISDA methodology of a 5-year median of the historical difference between LIBOR and the SOFR fallback rate is the best choice for cash products, or would you prefer that the same spread value to be used by ISDA, based on the 5-year median of the historical difference between LIBOR and a compound average of SOFR in arrears, should be applied to each potential fallback rate?*

5-year median methodology

5-year median value

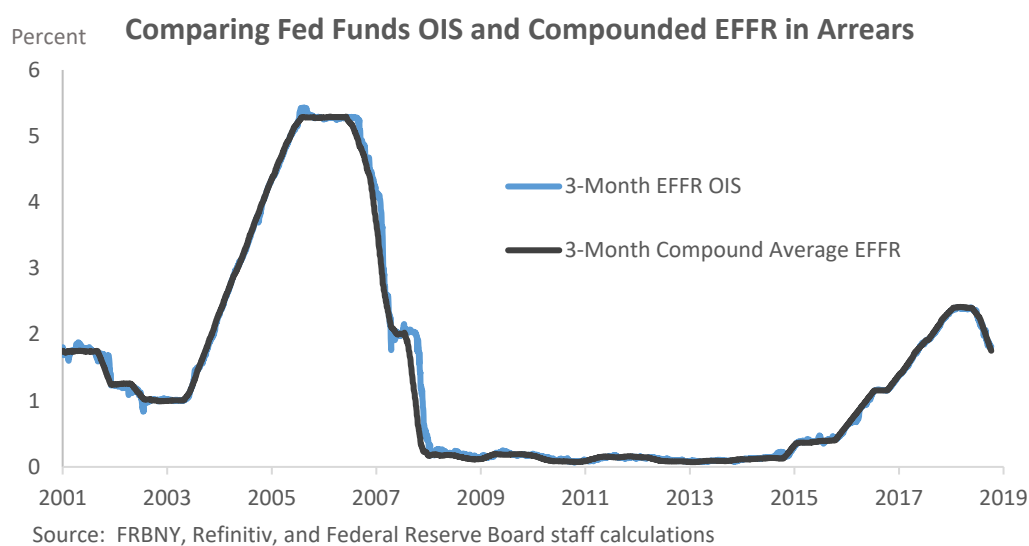
Question 2. *Do you believe that the ARRC's recommended spread adjustments should be set at the same time that ISDA's spread adjustments are set in the event that a pre-cessation event is operative?*

Should be set at same time as ISDA

Should be set at the time that LIBOR is found to be no-longer representative, regardless of ISDA's timing

Appendix 1. Background Analysis

The Consultation noted that the different versions of SOFR (term, in arrears, and in advance) are all closely linked. An average of SOFR in advance is simply a lagged version of an average in arrears, and the term rate will likely represent the market expectation of compound SOFR in arrears. As shown below, a term rate based on fed funds futures has historically moved very closely with a compound average of EFFR. While there were some differences during the financial crisis, when monetary policy rates were unexpectedly and very sharply cut, the difference between an EFFR term rate and EFFR compound average has averaged less than a basis point both before and since the financial crisis. More recently, with the sharp and unexpected cuts to monetary policy this March in response to the Covid 19 disruptions, there was again a divergence between term rates and in arrears averages of EFFR, although again these differences will presumably be temporary.



Here, we present some analysis to determine whether there would have been significant differences in historical performance in applying the same 5-year median spread value (calculated based on average EFFR in arrears) versus applying the same 5-year methodology to set the spread for an EFFR term rate. We concentrate on spread adjustments to be set for 1-month and 3-month LIBOR, the two most widely used tenors of LIBOR.

For instruments using 1-Month LIBOR and a monthly reset, the difference between the 5-year median spread to term EFFR and the 5-year median spread to compound EFFR in arrears was always within 2 basis points and was within 1 basis point for most (85 percent) of the time over the twenty-year period between 1999 and 2019). Thus, the difference between the option of using the same value or the same methodology would have been negligible.

For instruments using 3-Month LIBOR and a quarterly reset, the difference between the 5-year median spread to term EFFR and the 5-year median spread to compound EFFR in arrears has historically been somewhat more volatile, because over a 3-month period it is possible for unexpected moves in rates to drive a larger gap between the term rate (which reflects expected rate movements) and compound in arrears (which reflects actual rate movements). For the majority of the time, the difference was within 1 basis point between 1999 and 2019, and it was within 5 basis points 90 percent of the time, but the maximum difference, occurring in 2010, briefly reached close to 9 basis points.

Because the median is a relatively nonlinear measure, the impact of the most recent episode of volatility is difficult to predict. The kinds of large, temporary, differences between term and compound arrears rates that occurred recently when the Federal Reserve sharply and unexpectedly cut policy rates in March 2020 would not of themselves affect the 5-year median spread. Because these differences are outsized and therefore very likely to be in the top tail of the distribution, the impact on a 5-year median will depend on what spreads that otherwise would have been close to but above the median are at the time of the spread calculation. If market expectations are an accurate baseline and LIBOR falls back to normal values later this year, then absent further large rate surprises, the recent episode should have negligible impact on a 5-year median, but the final impact will only be known at the time that the spread is set.

Any potential differences between 5-year median spreads based on term rates and compound averages in arrears do not necessarily imply that applying the 5-year median spread for compound SOFR in arrears (ie, using the ISDA spread value) to the SOFR term rate would lead to less basis with ISDA’s fallbacks than applying the 5-year historical median spread for the SOFR term rate (ie, using the ISDA methodology) to the term rate. While applying the same spread value to both the compound average of SOFR in arrears and the SOFR term rate would obviously force the spreads to be the same, it won’t necessarily lead to a closer overall fit because the term rate will differ from ISDA’s fallback to compound in arrears. In the table below, we show that the mean absolute error would have historically the same in either approach, whether measured relative to the ISDA fallback or to 3-month LIBOR.

*Table: Comparing MAEs for Different Spread Methodologies for the 3-Month Term Rate **

Spread Methodology	Relative to 3-Month ISDA Fallback	Relative to 3-Month LIBOR
5-year median spread to Term Rate	0.05	0.14
5-year median spread to Compound Arrears	0.05	0.14

** Data Sources: FRBNY, Refinitiv, and Federal Reserve Board staff calculations. Compound averages and term rates are based on EFR and EFR futures prices. Statistics are reported in percentage points and are based on a hypothetical security with quarterly rate resets and five years of remaining maturity at the time of the move from LIBOR to the spread-adjusted rate over the sample period Jan 1999-May 2019.*

Appendix 2: Questions Included in the January Consultation

Questions 1- 7 refer to Floating Rate Notes, Securitizations, and Business Loans

Question 1. Do you agree that using the ISDA methodology of a 5-year median of the historical difference between LIBOR and the SOFR fallback rate is the best choice for the following cash products, or would you prefer an alternative method?

Floating Rate Notes 5-year median is preferred Other method is preferred

Securitizations 5-year median is preferred Other method is preferred

Syndicated Loans 5-year median is preferred Other method is preferred

Bilateral Business Loans 5-year median is preferred Other method is preferred

Question 2. If “Other Method” was specified for any product, please provide additional feedback on your institution’s preferences, noting whether your alternative is strongly or mildly preferred and why you prefer the alternative method:

- a. 5-year trimmed mean
- b. 5-year average
- c. 10-year median
- d. 10-year trimmed mean
- e. 10-year average
- f. 3.5-year median
- g. 3.5-year trimmed mean
- h. 3.5 year average
- i. Other (please specify)

Question 3. If there are fewer than 5 years of available data to use in calculating a spread adjustment for a forward-looking term rate, which method would you prefer to calculate the associated spread adjustment:

- a. Use the longest span of indicative term rate data available
- b. Use the spread adjustment associated with the difference between LIBOR and a compound average of SOFR in arrears as an appropriate spread adjustment for the forward-looking term rate.
- c. Use the spread between LIBOR and EFRR OIS rates, adjusted for the mean difference between compound averages of EFRR and SOFR

Question 4. Do you believe that a 1-year transition period should be included for any of these cash products? If yes, please specify which products. (If you believe that a transition period should be included, but that it should be longer or shorter than 1 year, please note this and explain why.)

Question 5. Should the ARRC recommend spread adjustments for 1-week or overnight LIBOR?

Question 6. Should the ARRC recommend spread adjustments based on the differences between LIBOR simple averages of SOFR in addition to compound averages?

Questions 8- 11 refer to Consumer Products

Question 7. *Would it be problematic to use different approaches to calculate the spread adjustment across products and currencies? Please comment specifically on the implications of any differences in the recommended spread adjustment methodologies.*

Question 8. *Do you agree that using the ISDA methodology of a 5-year median of the historical difference between LIBOR and the SOFR fallback rate is an acceptable choice for consumer products, or would you prefer an alternative method? (If another method is preferred, please specify which and note whether your alternative is strongly or mildly preferred and why you prefer the alternative method).*

Question 9. *Do you believe that a 1-year transition period should be included for consumer products? (If you believe that a transition period should be included, but that it should be longer or shorter than 1 year, please note this and explain why).*

Question 10. *If a 1-year or 6-month term rate has not been recommended by the ARRC, would you prefer that a consumer ARM referencing 1-year or 6-month LIBOR fall back to a spread adjusted rate based on:*

- a. the next longest tenor of term rate recommended by the ARRC*
- b. a compound average of SOFR in advance*

(Note that in these instances, the rate would still reset annually or semiannually and spreads would be calculated relative to 1-year or 6-month LIBOR).

Question 11. *If there is less than 5 years of available data to use in calculating a spread adjustment for a forward-looking term rate, which method would you prefer to calculate the associated spread adjustment:*

- a. Use the longest span of indicative term rate data available*
- b. Use the spread adjustment associated with the difference between LIBOR and a compound average of SOFR in arrears as an appropriate spread adjustment for the forward-looking term rate*
- c. Use the spread between LIBOR and EFFR OIS rates, adjusted for the mean difference between compound averages of EFFR and SOFR*

Question 12 applies to all products

Question 12. *Please provide any additional feedback on any aspect of the proposals.*