

## **Interbank Offered Rate (IBOR) Fallbacks for 2006 ISDA Definitions**

### ***Consultation on Final Parameters for the Spread and Term Adjustments in Derivatives Fallbacks for Key IBORs***

#### **Background**

In July 2016, the Financial Stability Board’s Official Sector Steering Group (FSB OSSG) asked ISDA to participate in work to enhance the robustness of derivatives contracts referencing widely used benchmarks. The FSB OSSG’s objectives were for market participants to understand the fallback arrangements that would apply if key IBORs were permanently discontinued, and for the arrangements to be robust enough to prevent potentially serious market disruptions. If an IBOR is not available (including if it is permanently discontinued), current fallbacks under the 2006 ISDA Definitions generally require the calculation agent to obtain quotations from major banks in the relevant interbank market.<sup>1</sup> If, however, an IBOR is permanently discontinued, it is unlikely that major banks would be willing and/or able to provide these quotations. Even if interbank market quotations could be obtained in the near-term after a permanent discontinuation, it is unlikely that they would be consistent (or even similar) across markets. It is even more unlikely that they would be available on each future reset date over the remaining tenor of long-dated contracts. Further, it also is likely that quotations could vary materially across the market.

Following consultation with industry participants, regulators and the FSB OSSG, it was determined that the fallbacks for derivatives will be based on the nearly risk-free rates (RFRs) identified by the relevant public-/private-sector working groups<sup>2</sup> as alternatives to the IBORs. These include:<sup>3</sup>

---

<sup>1</sup> This is the case for GBP LIBOR, CHF LIBOR, JPY LIBOR, EUR LIBOR, USD LIBOR, EURIBOR, CDOR, HIBOR and most of the TIBOR floating rate options in the 2006 ISDA Definitions. “JPY-TIBOR-17097” contains a fallback to Euroyen TIBOR and, if that rate also does not appear on the screen, quotations from major dealers. The BBSW floating rate options fall back to a rate determined by the calculation agent having regard to comparable indices then available (with the exception of “AUD-BBR-AUBBSW”, which falls back to an alternative BBSW rate [the “AVG MID” on Reuters Screen BBSW Page] and, if that rate also does not appear on the screen, a rate determined by the calculation agent).

<sup>2</sup> Information about the public-/private-sector working groups can be found here: <https://www.isda.org/2019/09/10/supplement-to-the-plain-english-disclosures-for-derivatives-referencing-libor-and-other-ibors/>.

<sup>3</sup> Note that fallbacks for EUR LIBOR and EURIBOR may be implemented on a different timetable because the fallback rate, €STR, will not be published until October 2, 2019. As a result, ISDA has not been able to solicit preliminary feedback on spread and term adjustments in derivative fallbacks for EUR LIBOR and EURIBOR, but it expects to launch a supplemental consultation on these issues, and potentially the final parameters covered by this consultation, sometime in the fourth quarter of 2019 or the first quarter of 2020.

Relevant IBOR and corresponding floating rate options in 2006 ISDA Definitions		Fallback rate
<b>GBP LIBOR</b>	GBP-LIBOR-BBA GBP-LIBOR-BBA-Bloomberg	SONIA
<b>CHF LIBOR</b>	CHF-LIBOR-BBA CHF-LIBOR-BBA-Bloomberg	SARON
<b>JPY LIBOR</b>	JPY-LIBOR-FRASET JPY-LIBOR-BBA JPY-LIBOR-BBA-Bloomberg	TONA
<b>TIBOR</b>	JPY-TIBOR-TIBM JPY-TIBOR-17096 JPY-TIBOR-17097 JPY-TIBOR-TIBM (All Banks)-Bloomberg	TONA
<b>Euroyen TIBOR</b>	JPY-TIBOR-ZTIBOR	TONA
<b>BBSW</b>	AUD-BBR-AUBBSW AUD-BBR-BBSW AUD-BBR-BBSW-Bloomberg	AONIA
<b>USD LIBOR</b>	USD-LIBOR-BBA USD-LIBOR-BBA-Bloomberg	SOFR
<b>HIBOR</b>	HKD-HIBOR-HKAB HKD-HIBOR-HKAB-Bloomberg	HONIA
<b>CDOR</b>	CAD-BA-CDOR CAD-BA-CDOR-Bloomberg	CORRA
<b>EUR LIBOR</b>	<i>EUR-LIBOR-BBA</i> <i>EUR-LIBOR-BBA-Bloomberg</i>	<i>€STR</i>
<b>EURIBOR</b>	<i>EUR-EURIBOR-Reuters</i>	<i>€STR</i>

Certain adjustments will be applied to these RFRs as part of the fallbacks to ensure that derivative contracts referencing an IBOR continue to function as closely as possible to what was intended. The adjustments reflect the fact that the IBORs (i) are available in multiple tenors – for example, one, three, six and 12 months – by comparison with the RFRs which are overnight

rates and (ii) incorporate a bank credit risk premium and other factors (such as liquidity and fluctuations in supply and demand).

After consultation with market participants in 2018<sup>4</sup> and 2019<sup>5</sup>, ISDA is developing fallbacks for inclusion in its standard definitions<sup>6</sup> based on the **compounded setting in arrears rate** and the **historical mean/median approach** to the spread adjustment for derivatives that reference USD LIBOR, GBP LIBOR, CHF LIBOR, JPY LIBOR, TIBOR, Euroyen TIBOR, BBSW, HIBOR and CDOR.<sup>7</sup>

The compounded setting in arrears rate is the relevant RFR observed over a period of time that is generally equivalent to the relevant IBOR tenor (e.g., 3 months for 3-month USD LIBOR) and compounded daily during that period. It will be calculated and published for each relevant IBOR tenor.

The historical mean/median approach to the spread adjustment is based on the mean or median spot spread between the IBOR and the adjusted RFR calculated over a static lookback period prior to the relevant announcement or publication triggering the fallback provisions.<sup>8</sup> It will be calculated and published for each relevant IBOR tenor based on historical differences between the IBOR for that tenor and the corresponding RFR compounded over a time period with the same length as the tenor. As a result, the spread will differ across different tenors for the same IBOR.<sup>9</sup> The spread adjustment will be added to the compounded setting in arrears rate after compounding (i.e., the spread adjustment itself will not be compounded).

---

<sup>4</sup> The 2018 consultation covered GBP LIBOR, CHF LIBOR, JPY LIBOR, TIBOR, Euroyen TIBOR and BBSW. It can be found here: <http://assets.isda.org/media/f253b540-193/42c13663-pdf/>. The results can be found here: <http://assets.isda.org/media/04d213b6/db0b0fd7-pdf/>.

<sup>5</sup> The 2019 consultation covered USD LIBOR, HIBOR and CDOR, as well as certain aspects of fallbacks for derivatives referencing SOR. It can be found here: <https://www.isda.org/a/n6tME/Supplemental-Consultation-on-USD-LIBOR-CDOR-HIBOR-and-SOR.pdf>. The results can be found here: <http://assets.isda.org/media/7793c77f/393bf5db.pdf>

<sup>6</sup> The 2006 ISDA Definitions. The triggers and fallbacks will also be included in the new ISDA Interest Rate Derivatives Definitions, once published.

<sup>7</sup> The 2019 consultation also covered potential amendments to the SGD-SOR-VWAP Rate Option in Section 7.1 of the 2006 ISDA Definitions to provide for a fallback to “Adjusted SOR” (as outlined in the 2019 consultation) upon an “index cessation event” with respect to USD LIBOR, which is an input to SOR. Note that a subsequent consultation (expected at the end of 2019 or in early 2020) will cover adjustments to €STR for fallbacks in derivatives that reference EURIBOR and EUR LIBOR.

<sup>8</sup> For further information on the fallback triggers for a permanent cessation, see pages 5-6 of the July 2018 consultation: <http://assets.isda.org/media/f253b540-193/42c13663-pdf/>. Note that ISDA also recently consulted on pre-cessation issues for derivatives. This consultation can be found here: <https://www.isda.org/a/md6ME/FINAL-Pre-cessation-issues-Consultation.pdf>. The preliminary results can be found here: <https://www.isda.org/a/z4hME/Public-Statement-Preliminary-Summary-of-Feedback-to-Pre-Cessation-Consultation-Clean.pdf>

<sup>9</sup> Note that any “backward-shift” or “lockout” (as defined and discussed below) that is applied to the compounded in arrears rate would similarly apply to the compounded RFR data used to calculate the spread adjustment.

The long-run spread adjustment will be calculated as of the business day<sup>10</sup> before the fallback trigger event occurs based on historical data as of that point in time (i.e., on the business day before the public statement is made or the formal publication of information which constitutes a fallback trigger event), but it will not be relevant until the fallback itself applies.

In the case of permanent cessation, a fallback trigger event occurs when a relevant public statement is made, or relevant information is published, regarding the permanent discontinuation of an IBOR. However, the fallback rate itself will not apply to the derivative contract until the IBOR is actually discontinued. In response to feedback from market participants to its recent consultation on pre-cessation issues, ISDA is working to develop a solution for pre-cessation events that, among other things, would address how to deal with potentially different spread adjustments for pre-cessation fallbacks and permanent cessation fallbacks. ISDA expects to publish more information on these issues in the coming months. Any contractual implementation of a pre-cessation trigger would contain an explicit description of when the fallback would apply in connection with a pre-cessation event.<sup>11</sup>

Because the long-run spread adjustment will compare data for the relevant IBOR over each relevant tenor and data for the relevant RFR compounded over a time period with the same length as the relevant tenor (for which data will not be available until the end of the relevant period), the historical data used will not include the most recent published IBOR data. This is because data for the relevant RFR may not be available for the entire relevant period if that period extends beyond the date on which the fallback trigger event occurs. This also will ensure that any data for the relevant RFR after the fallback trigger event has occurred would not be affected by knowledge in the market of the fallback trigger event. Thus, for example, if the tenor referenced for the relevant IBOR is 3-months, then the last IBOR publication used as a data point for the purposes of calculating the spread will be for a date at least three months before the fallback trigger event occurs.

Once calculated, the long-run spread adjustment will be set (i.e., it will not be dynamic or reflect any changes in the interbank market prices once the fallback trigger event occurs). In the case of a sudden permanent discontinuation, the calculation and application of the spread adjustment would be contemporaneous but in the case of a permanent discontinuation that is announced in advance, there will be a period of time between the calculation of the spread adjustment and the application of the fallback. As noted above, calculating the long-run spread adjustment as of the business day before the fallback trigger event occurs is necessary to avoid distortions due to market disruption during the period between when the fallback is triggered and when it becomes applicable.

If the IBOR observation date for a future payment, which becomes due after the fallbacks apply, occurs prior to the fallbacks applying, then the payment will be made based on the observed IBOR and only subsequent payments (i.e., those that relate to observation dates occurring after

---

<sup>10</sup> The relevant business days will depend on the relevant IBOR and the terms of the 2006 ISDA Definitions. For example, (i) for GBP LIBOR, this will be London business days, (ii) for USD LIBOR, this will be New York and London business days and (iii) for TIBOR, this will be Tokyo business days.

<sup>11</sup> See footnote 8 regarding ISDA's recent consultation on pre-cessation issues.

the fallbacks apply) will be made based on the fallbacks. That is, the fallbacks will apply to the first payment date for which an IBOR could not be observed.

ISDA recently announced that Bloomberg Index Services Limited (together with its affiliates, Bloomberg) will produce and publish the compounded setting in arrears rate, the spread adjustment and the “all in” fallback rate (i.e., the compounded setting in arrears rate plus the spread).<sup>12</sup> Bloomberg will begin publishing this information on an “indicative” basis prior to the effective date of the amendments to implement the fallbacks in the 2006 ISDA Definitions<sup>13</sup> and will continue to publish the information on an ongoing basis after a fallback trigger event occurs (and after the fallbacks apply, if at a later date, although the spread adjustment will remain static after the trigger event). The “indicative” fallbacks published by Bloomberg will represent what the fallback rate would have been if the fallbacks were triggered as of the relevant date.

The ISDA fallbacks will be included in the 2006 ISDA Definitions for interest rate derivatives and will apply to new (i.e., future) IBOR trades. ISDA also will publish a protocol to allow market participants to include the fallbacks within legacy IBOR contracts incorporating the 2006 ISDA Definitions or the 2000 ISDA Definitions,<sup>14</sup> if they so choose. Bloomberg will obtain the data necessary to perform the relevant calculations, run the calculations and broadly make available the adjusted RFR, the spread adjustment and the “all in” fallback rate (i.e., the sum of the adjusted RFR and the spread adjustment) so that users can access the information without having to run the calculations themselves.

Additional information, including links to the 2018 and 2019 consultations, supporting materials and reports summarizing the results of both consultations is available on the [ISDA website](#). **We encourage you to review both consultations and the reports if you have not already done so. This consultation assumes an understanding of the information and terms used in the 2018 and 2019 consultations as well as reports and seeks feedback on the final parameters for the historical mean/median approach to the spread adjustment and the compounded setting in arrears rate.**

---

<sup>12</sup> <https://www.isda.org/2019/07/31/bloomberg-selected-as-fallback-adjustment-vendor/>.

<sup>13</sup> It is expected that the amendments for all IBORs other than EURIBOR and EUR LIBOR will be finalized by the end of 2019 and will take effect sometime in the first half of 2020. Upon the effective date of the amendments to implement the fallbacks in the 2006 ISDA Definitions, new derivative transactions that incorporate the 2006 ISDA Definitions and reference the Rate Options for the relevant IBORs will include the fallbacks. ISDA expects that the protocol for inclusion of the fallbacks in existing transactions will provide for the same effective date *for transactions between counterparties that have both adhered to the protocol prior to that date*. As a result, these existing transactions will continue to reference the relevant IBOR but will include the new fallbacks as of that date.

<sup>14</sup> Note that ISDA is considering whether the protocol could apply to legacy IBOR transactions that do not incorporate the 2006 ISDA Definitions or the 2000 ISDA Definitions. As contemplated, the protocol would apply to *all* legacy transactions that an adhering party has entered with *all other* adhering parties. However, ISDA is considering whether it may be necessary and appropriate to provide a mechanism for excluding certain transactions (but not excluding entire counterparty relationships). Adherents to the protocol would always be able to exclude transactions on a bilateral basis.

The deadline for submitting responses to the questions below is **October 23, 2019**. Please email your responses to [FallbackConsult@isda.org](mailto:FallbackConsult@isda.org) and clearly indicate that you are submitting a response in the subject line of your email. For your convenience, you can use [this form](#) for your responses (but you are not required to do so).

**ISDA will use the responses to this consultation to finalize the methodologies for the compounded setting in arrears rate and the historical mean/median approach to the spread adjustment for derivative fallbacks. If any technical issues unrelated to the material aspects of the adjustments remain outstanding after analyzing the responses, ISDA will consult with its professional advisors and Bloomberg (in its capacity as the producer and publisher of the adjustments and fallback rates) to address these issues. In doing so, ISDA will take into consideration availability of data, calculation efficiency, operational implications, ease of implementation and cost implications. ISDA and Bloomberg will ensure that the final methodology is transparent and publicly available to all market participants at no cost.<sup>15</sup>**

### **Historical Mean/Median Approach to the Spread Adjustment**

#### ***Mean vs. Median – Feedback in response to the 2018 consultation***

In total, approximately 49 percent of respondents preferred the median, while 19 percent preferred the mean.<sup>16</sup> These preferences and the reasons for them described below applied generally across all the benchmarks covered by the 2018 consultation. Respondents selected either a mean calculation or a median calculation based on different economic arguments. Those who selected the historical median preferred to have a spread that reflects typical market conditions over an economic cycle while limiting the impact of data from periods of elevated market volatility. Respondents who selected the historical mean considered all data points (or a predefined subset thereof after trimming) equally valuable in capturing historical market conditions. The majority of respondents that preferred the median spot spread reasoned that this approach removes the impact of outliers and is more stable/less volatile than the mean approach. There were, however, several market participants who made arguments for using a mean, particularly if “trimmed” of outlier data. The main reason given by respondents who preferred the mean over the median was because they perceived that the mean is a better reflection of the market, as it takes into account outliers.

#### ***Mean vs. Median – Feedback in response to the 2019 supplemental consultation***

---

<sup>15</sup> Bloomberg will provide information about the cost of accessing the adjustments and fallback rates in due course but intends to make the adjustments available on a public website on a delayed basis.

<sup>16</sup> Note that approximately seven percent of respondents showed no particular preference between the mean and the median approach and 23 percent did not provide a response. Also note that these percentages have been rounded and therefore do not add up to 100 percent.

Of the 85 respondents<sup>17</sup> to the 2019 supplemental consultation, 17 did not respond to the question about whether they preferred a mean or median calculation. Seven respondents indicated that they had no clear preference. The remaining responses were generally split between the two approaches, with 33 respondents in favor of the calculation being based on the median and 23 in favor of the mean. Five respondents preferred a variation of the mean approach, which they called the “trimmed mean”.

A majority of the respondents that preferred the median approach thought that it would be more stable and could easily avoid the presence of outliers or skewed data outcomes.

As part of their responses, a few respondents raised concerns about using the median approach, stating that it might distort or ignore certain market information. The respondents that preferred the mean approach generally expressed that it was more representative of the market, including shifts in the market.

### ***Lookback Period – Feedback in response to the 2018 consultation***

Several respondents expressed the view that it was important for the spread adjustment to capture a full business cycle. The static nature of the spread would better serve its role as “proxy” (as indicated in the 2018 consultation) if it includes sufficient historical data in the lookback period to capture fluctuating market conditions. Several respondents believed that five years would be sufficient.

Overall, 104 respondents selected one of the options provided by ISDA in the 2018 consultation (five years, ten years or neither), while five respondents indicated that they did not have a preference and the remaining 38 respondents did not answer the question.<sup>18</sup> Of the 104 respondents that selected one of the three options, 50 percent selected five years, approximately 20 percent selected ten years and the remaining 30 percent selected neither.

Multiple respondents preferred the five-year over the ten-year period to avoid capturing the effects of the 2008 financial crisis.<sup>19</sup> Many respondents emphasized the need to avoid “instabilities” in the spread, either by using the median or by excluding periods with extreme volatilities during the lookback period. Those who preferred a lookback period of ten years (or longer) did so because this option would take into account the full economic cycle. Several of those who selected neither five nor ten years opted for a shorter period (e.g., six months, one year or three years), citing data availability concerns and that a shorter period better reflects changes in market conditions and thus helps minimize value transfer.

---

<sup>17</sup> This includes 28 respondents that affirmed responses from the 2018 consultation.

<sup>18</sup> Note that a handful of respondents did not answer the question because they did not think the historical mean/median approach was a suitable approach. As noted above, approximately 49 percent of respondents preferred the median, while 19 percent preferred the mean. Approximately seven percent of respondents showed no particular preference between the mean and the median and 23 percent did not provide a response on this point. As mentioned above, these percentages have been rounded.

<sup>19</sup> Although presuming that no fallbacks are triggered prior to the end of 2021, neither a five-year nor a ten-year period would capture the effects of the 2008 financial crisis.

According to a number of respondents, the appropriate length for the lookback period is likely intertwined with the implementation choice of using the mean or the median. However, the view on which method is better for longer or shorter lookback periods was mixed. Some respondents preferred the mean approach to be applied on longer lookback periods. In contrast, some respondents preferred the median approach to be applied on longer lookback periods.

Other respondents expressed an entirely different approach. One alternative involved using an average of a longer time window (e.g., twenty years to cover a full credit cycle) and a short one (e.g., two years to reflect current market conditions). A proponent of this approach expressed a view that it would ensure that the spread adjustment is better anchored to current expectations of IBOR behavior (which are based largely on past experience) while also retaining sufficient uncertainty to not undermine incentives to sign up to the fallback protocol or transition to the relevant RFR ahead of cessation of an IBOR. Another respondent proposed a variation of this alternative in which more weight could be given to more recent observation periods by applying a time decay function (e.g. exponential weighing). The respondent noted that this would ensure that any extreme market events from the distant past would wield only limited influence and any material fluctuations from the recent past will be appropriately emphasized. Another alternative proposed by several respondents included using a historical lookback period from a fixed date to the calibration date, instead of having a fixed term.

### ***Lookback Period – Feedback in response to the 2019 supplemental consultation***

Respondents to the 2019 supplemental consultation did not express a clear preference between a five-year lookback period and a ten-year lookback period. Out of the 85 respondents, 21 respondents preferred the five-year lookback period and 24 respondents preferred the ten-year lookback period. Two respondents indicated a preference for a lookback period of longer than ten years and three respondents preferred a period of less than five years. In addition, 11 respondents suggested lookback periods that cannot be classified by the duration of time, eight respondents did not have a clear preference for a particular approach and 16 respondents did not express a view.

Out of the respondents that selected the five-year lookback period, seven respondents preferred this option in order to avoid capturing the effects of the 2008 financial crisis, in some cases highlighting the importance of stability within the lookback period. Respondents who preferred a five-year lookback period also noted that such a period would be more reflective of current market conditions.

A majority of the respondents that chose the ten-year lookback period did so because they preferred a lookback period that captures a full economic/business cycle, which would not be captured by a five-year period. In comparison to those respondents who explicitly wanted to exclude data from the 2008 financial crisis, some respondents who preferred a ten-year lookback period explicitly wanted to include such data. Other respondents in support of the ten-year lookback period focused on minimizing noise and/or maximizing stability.

A few respondents suggested a weighted lookback period that accounts for a longer history but weights recent data or a variable lookback period.



***“Transitional period” contemplated by 2018 consultation***

Pursuant to the 2018 consultation, the spread adjustment calculated in accordance with the final historical mean/median approach could be used from the end of a one-year transitional period after the fallback applies. During the transitional period, the spread to be used would be calculated using linear interpolation between the IBOR/adjusted RFR spread around the time the fallback applies (i.e., the IBOR/adjusted RFR spread on the last date that the relevant IBOR is published and a full set of adjusted RFR data is available for a period of corresponding length) and the historical mean/median spread that would apply after the end of the transitional period. The one-year transitional period would help mitigate against (although not eliminate) a “cliff effect” at the time the fallback applies if the spot IBOR/adjusted RFR spread at that time differs from the historical mean/median. The progression from spot IBOR/adjusted RFR spread to the spread adjustment calculated in accordance with the final historical mean/median approach that would apply going forward would be gradual over the one-year transitional period.

Many market participants supported the transitional period in response to the 2018 consultation, particularly because it could mitigate against a sudden jump up or down in rates at the time the fallback applies and provide for an orderly move to the known long-run spread adjustment.

Feedback to the 2018 consultation also raised concerns regarding the complexity that the transitional period would add to the historical mean/median approach to the spread adjustment with some respondents noting that such complexity would outweigh the perceived benefits. If the transitional period is implemented, the spread adjustment would be different at every date during the one-year period and the various spread adjustments relevant to payments during that period will not be known until the date that the fallbacks apply. ISDA expects that Bloomberg would be able to publish the different spread adjustments for each relevant date but notes that the additional calculations may add complexity to valuation and risk management and/or result in operational burdens for market participants who want to duplicate the calculations.

***Use of indicative SOFR values and the historical Overnight Treasury GC Repo Primary Dealer Survey Rate in calculating the spread adjustment for USD LIBOR fallbacks***

SOFR was only published by the Federal Reserve Bank of New York starting April 3, 2018. Therefore, in the 2019 supplemental consultation, ISDA asked whether market participants would agree with the use of the indicative SOFR values (dating back to August 1, 2014) and the historical Overnight Treasury GC Repo Primary Dealer Survey Rate (which serves as a proxy for SOFR with a few technical differences) “when calculating the spread adjustment in respect of adjusted SOFR (i.e., as part of a lookback period)”. Since the conclusion of the 2019 supplemental consultation, the Federal Reserve published a note arguing that the historical Overnight Treasury GC Repo Primary Dealer Survey Rate is a reasonable proxy for historical SOFR data.<sup>20</sup>

The majority (approximately 60 percent or 50 out of 85) of respondents to the 2019 supplemental consultation agreed with the use of the indicative and/or proxy data. Nine respondents did not

---

<sup>20</sup> This is available at: <https://www.federalreserve.gov/econres/notes/feds-notes/historical-proxies-for-the-secured-overnight-financing-rate-20190715.htm>.

provide an answer to this question and one respondent indicated that it did not have enough information to answer the question. A number of respondents viewed the indicative and proxy data as representative of what SOFR would be and/or as the best data available. Some respondents (approximately 20 percent) expressed a preference for potentially relying on indicative data but not on proxy data. This was attributed to their preference for a shorter lookback period and/or differences between the proxy data and SOFR.

As a result of this feedback and in light of the recent Federal Reserve note, ISDA intends to use the indicative and/or proxy SOFR values for calculating the spread adjustment if a fallback trigger event occurs for USD LIBOR and SOFR data is not available for the entire relevant lookback period. Market participants who support use of the indicative data but not the proxy data should take this view into consideration when responding to the questions about the lookback period in this consultation.

### *Primary options under consideration for the historical mean/median approach to the spread adjustment*

After reviewing the feedback from respondents to the 2018 consultation and the 2019 supplemental consultation in the aggregate and considering issues related to calculation and implementation, the following options are primarily under consideration.

- I. *Median* over *five year* lookback period from date of announcement/publication of information regarding cessation.
- II. *Trimmed*<sup>21</sup> *mean* over *ten year* lookback period from date of announcement/publication of information regarding cessation.

Option I received the most support in response to the 2018 consultation and received considerable support in response to the 2019 consultation. Option II received considerable support in response to both consultations and reflects feedback from market participants who indicated support for a mean calculation provided that the lookback period was relatively longer. However, as noted below, respondents are welcome to express different views.

### *Resources for Additional information*

The Brattle Group has provided a [workbook](#) to help market participants understand the implications of the different options above and other variations for the historical mean/median approach to the spread adjustment. The Brattle Group has also provided a [set of instructions](#) for using the workbook. We encourage all respondents to utilize this workbook as they develop their responses to this consultation. Bloomberg clients will be able to run this workbook based on historical data accessed through their desktop/terminal environment. **Please note that the actual compounded setting in arrears rate and spread adjustment may differ from what is produced in the spreadsheet once all technical issues related to the calculations are addressed. Importantly, the spread adjustment in the spreadsheet does not account for (a)**

---

<sup>21</sup> Approach to trimming to be determined based on responses to questions 6-7 below.

**a transitional period or (b) a “backward-shift” or “lockout” (as defined and discussed below) in calculating the compounded in arrears rate or with respect to the compounded RFR data in the spread adjustment. However, the spreadsheet should provide helpful information to market participants as they compare the different options and variations.**

The Brattle Group has also provided information about the implications of [negative spreads](#) for review in connection with some of the questions below. Please review this information and consider the prevalence of negative spreads when responding to question 9 below.

**We encourage you to fully explain and provide support for your answers below. In the event that neither of the options under consideration receive strong consensus support, ISDA will consult with its professional advisors and use the qualitative feedback and rationale, including information about whether any option would materially disadvantage a segment of market participants or prevent trading, to determine which option to implement. In making such a determination, ISDA may also consider cost, transparency and accessibility implications of the options under consideration.**

***Primary questions relating to the historical mean/median approach to the spread adjustment:***

1. Which option do you support? Please differentiate between different IBORs if views differ. We strongly encourage you to limit your response to the options listed in I and II above. However, if you strongly prefer a different option, please explain that and explain why you prefer it over the options above.
2. Would you oppose and/or be harmed by using an option other than the option you supported in response to question 1? If so, which option and why?
3. Is consistency across IBORs important? Is it critical, very important, somewhat important or not important at all? Please explain.
4. Which is more important to you – your top preference or consistency across IBORs (assuming you could not have both)? Please explain.

***Other technical questions relating to the historical mean/median approach to the spread adjustment:***

5. Should the transitional period described above be included in the spread adjustment?
6. Should outliers be excluded? Please explain the rationale for your answer.
7. If outliers were to be excluded, to what extent should the data be trimmed? For example:
  - the top one percent and bottom one percent of the observations could be removed for the calculation;
  - a winsorized mean could be used, pursuant to which observations that are in the top one percent could be set to the 99<sup>th</sup> percentile value and observations that are

in the bottom one percent could be set to the 1<sup>st</sup> percentile value for the calculation;

- the maximum and minimum could be removed for the calculation; or
- only observations within +/- three standard deviations could be used for the calculation.

Should trimming be symmetric (i.e., trimming the same proportion of observations from both tails of the distribution) or asymmetric (i.e., one tail of the distribution should be trimmed more than the other)?

Please explain the rationale for your answers.

8. If negative spreads have been historically observed for an IBOR/RFR pair, are there compelling reasons to exclude such observations from the calculation of the spread adjustment? If so, what are they?
9. Negative spreads can be prevalent for some IBORs. If negative spreads have occurred frequently enough that the spread adjustment is itself negative, are there compelling reasons to not implement a negative spread adjustment?

### **Compounded Setting in Arrears Rate**<sup>22</sup>

#### ***Conventions in overnight index swap (OIS) transactions***

Overnight rates, such as the RFRs, are also used in OIS transactions. To deal with the operational difficulty of making a payment based on a rate that is only known at the end of the period, a payment lag of one or two business days is often incorporated into the confirmation for an OIS by specifying that “Delayed Payment” applies. The Calculation Period, during which the overnight rate is observed, will start on one Period End Date and continue to, but exclude, the next applicable Period End Date. As a result of “Delayed Payment” being specified, the Payment Date will fall one or two business days (depending on the number of days specified in the confirmation) after the Period End Date on which the Calculation Period ends.

By contrast, under an IBOR swap, as the rate is known at the start of the Calculation Period, there is generally no need to include the “Delayed Payment” mechanism. Unless otherwise specified, the Period End Dates will be the Payment Dates specified in the confirmation.

Prior feedback from market participants has indicated that making payments on the same date as the date on which the rate is known may be operationally difficult or impossible in the event that the fallbacks apply. This feedback is consistent with the use of “Delayed Payment” typically present in the OIS market as described above. However, as part of the application of the IBOR fallbacks within the 2006 ISDA Definitions, at first sight it does not seem appropriate to consider

---

<sup>22</sup> Unless otherwise stated, capitalized terms used in this section and not otherwise defined in this document have the meaning given to them in the 2006 ISDA Definitions.

amendments that would require the incorporation of Delayed Payment and/or otherwise amend the Payment Dates because these terms are *separately* specified in the confirmation as opposed to being incorporated in the Rate Options in the 2006 ISDA Definitions that ISDA is amending to include the fallback mechanism. While conventions for Payment Dates are typically uniform for different types of transactions, it may well be the case that payment occurring on the specified dates is a fundamental feature of a particular transaction given that these terms are separately negotiated outside of the standard Rate Options in the 2006 ISDA Definitions. It also would not be possible for ISDA to amend these terms as part of the amendments to the Rate Options that it contemplates for implementation of the fallbacks (although ISDA could offer language for counterparties to use to move to bespoke fallbacks with Delayed Payment).

ISDA is considering whether changes, other than changes to Payment Dates, are necessary to avoid payments on the same date as the date on which the rate for the relevant period is known and, if so, what changes could be made in order to implement the fallbacks to a compounded RFR.

Similar discussions have taken place with respect to other products, such as floating rate notes, and the use of a “backward-shift” approach (as described below) has been recommended in some instances.<sup>23</sup>

One factor to also bear in mind is that most RFRs are published on a T+1 basis, which means that, without any change, it is possible that the payment will only be known *after* the payment date.

### ***Potential approaches for implementing the compounded setting in arrears rate approach***

Instead of using delayed payments, the period over which the RFR is observed could be adjusted. One way in which this can be done is by “**backward-shifting**” the observation period (which would include a shift of the rate and the weight) by a number of Banking Days. If, for example, two Banking Days were used, this would mean that the last observation of the RFR for each Calculation Period would be two Banking Days before the relevant Payment Date<sup>24</sup> (assuming, as noted above, that the Period End Dates are the Payment Dates) resulting in the fallback rate for the Calculation Period being known in advance of the Payment Dates, thus allowing sufficient time for the payment to be calculated, processed and paid on the scheduled Payment Dates.

Alternatively, a “**lockout**” mechanism could be used where the RFR published a number of days before the end of the Calculation Period is deemed to be the RFR for the last few days of the

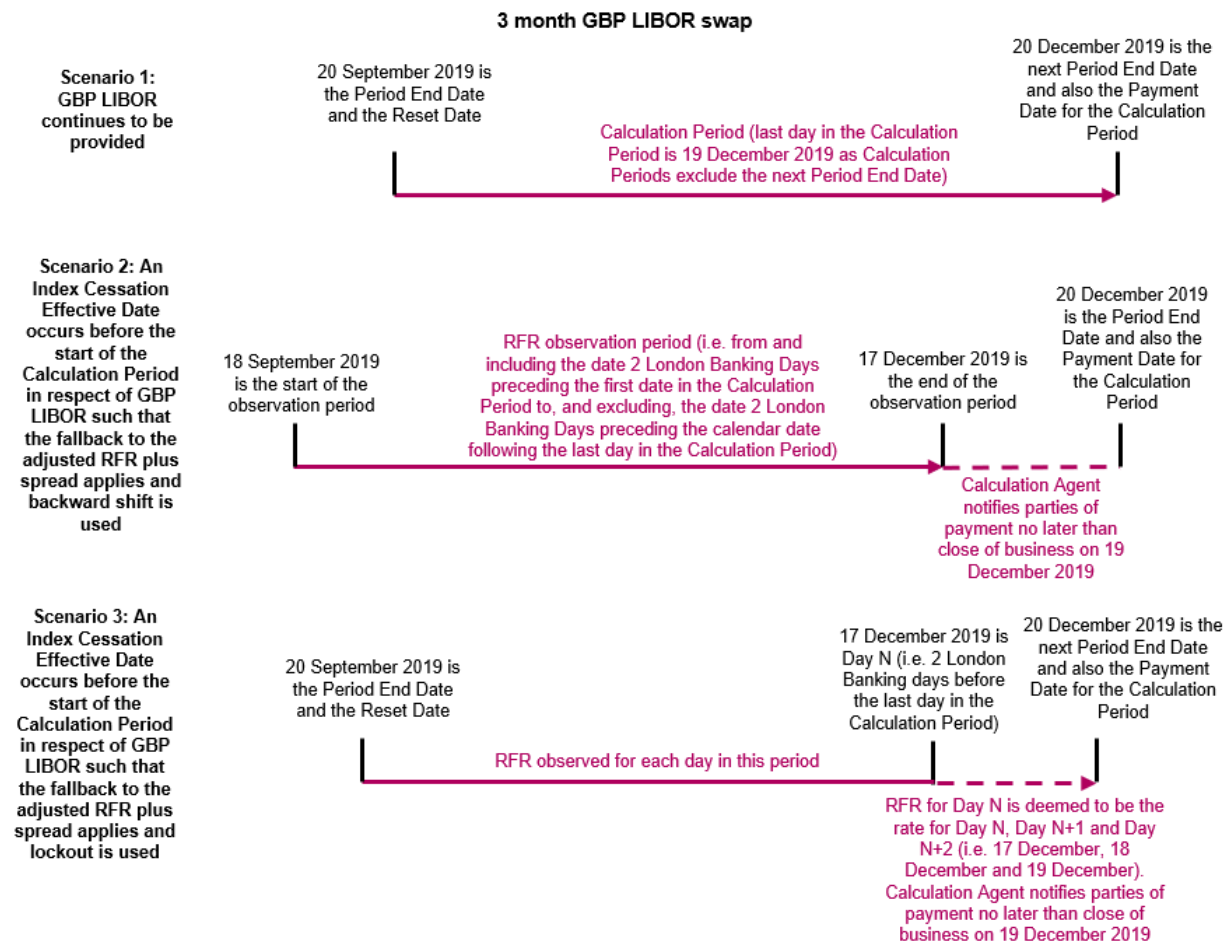
---

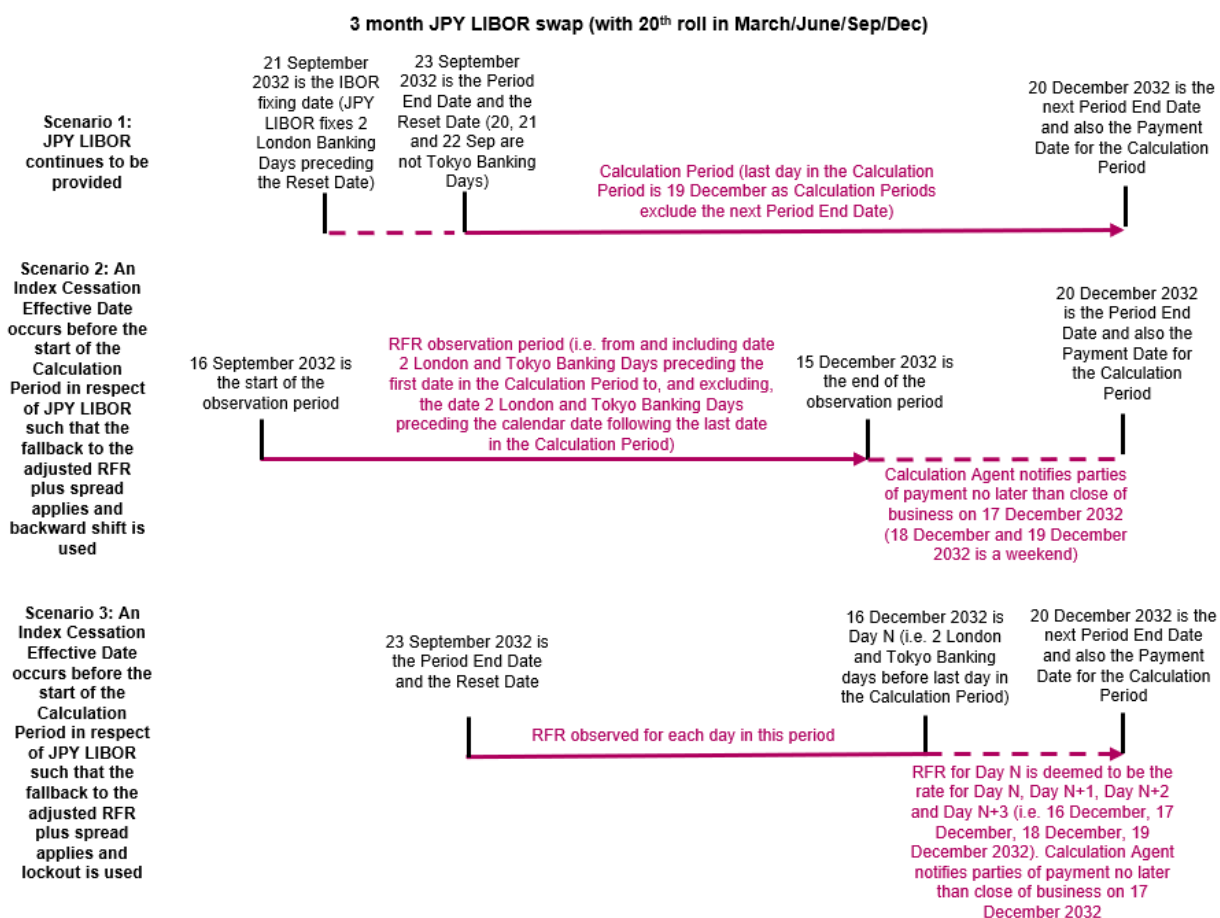
<sup>23</sup> See [https://www.snb.ch/n/mmr/reference/SARON\\_FRN\\_20190702/source/SARON\\_FRN\\_20190702.n.pdf](https://www.snb.ch/n/mmr/reference/SARON_FRN_20190702/source/SARON_FRN_20190702.n.pdf), [https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2019/ARRC\\_SOFR\\_FRN\\_Conventions\\_Matrix.pdf](https://www.newyorkfed.org/medialibrary/Microsites/arrc/files/2019/ARRC_SOFR_FRN_Conventions_Matrix.pdf) and <https://www.bankofengland.co.uk/-/media/boe/files/markets/benchmarks/statement-and-summary-of-responses-to-sonia-conventions-discussion-paper.pdf> for further discussions and recommendations in respect of Swiss Franc, US Dollar and Sterling.

<sup>24</sup> This is based on the assumption that most RFRs are published on a T+1 basis and therefore the rate for the last day in the observation period will be known 1 business day after the last day in the observation period.

relevant Calculation Period. This will also result in the fallback rate for the Calculation Period being known a few days in advance of the Payment Dates and allow sufficient time for the payments to be calculated, processed and paid on the scheduled Payment Dates.

Examples of these alternative options are below:





The above diagrams are based on the assumption that the fallbacks will be determined by reference to the Calculation Period (as adjusted for “backward-shift” or “lockout”) as opposed to the IBOR period.<sup>25</sup> One consequence of using the Calculation Period is that, in respect of an IBOR swap which has a non-standard fixing lag (e.g., where the IBOR is fixed five Business Days in advance), the fallback rate (i.e., adjusted RFR plus spread) may be exactly the same as the fallback rate which applies to an IBOR swap that has the same “Calculation Period” but a different IBOR fixing day, despite the fact that those swaps would reference different IBOR fixings were the IBOR to continue. This should not be the case for “standard swaps” documented using the standard fixing lags and business days applicable under the 2006 ISDA

<sup>25</sup> The IBOR period (for which the relevant IBOR panel banks make submissions) is the period from the IBOR start date (which is the day for which the IBOR is published) to the IBOR end date. There is no definitive definition for an IBOR end date but assuming it is the period of time for the relevant IBOR after the IBOR start date, this would be 3 months from the IBOR start date for a 3-month IBOR and 6 months from the IBOR start date for a 6-month IBOR. The IBOR period may not align with the Calculation Period for the relevant transaction if different Business Days/business day conventions are used to determine the Calculation Period.

Definitions. It is anticipated that these non-standard scenarios will be considered in greater detail at a later stage.

*Advantages and disadvantages of different approaches*

If the period over which the RFR is observed as part of the fallback is based on the Calculation Period with a two Banking Day backward-shift, this would potentially result in the following advantages:

- (a) almost fully reflect the economics of the RFR over the term period;
- (b) be similar to the methodology used in standard OIS transactions to the greatest extent possible; and
- (c) reduce operational difficulties associated with the Payment Date falling immediately after the last day on which the RFR is observed, as the fallback rate can be calculated a few days in advance of payment.

This also would potentially result in the following disadvantage:

- (d) different observation periods for each leg of cross-currency swaps if fallbacks trigger on both legs of the swaps.

If the period over which the RFR is observed as part of the fallback is based on the IBOR period with a lockout or if it is based on the Calculation Period with a lockout, this would potentially result in the following disadvantages:

- (a) the RFR for a particular day may be used a number of times such that the fallback rate will not fully reflect the economics of the RFR over the period;
- (b) the fallback will be inconsistent with standard OIS transactions;
- (c) for an IBOR which is fixed near the end or beginning of the quarter, spikes in the overnight RFR at the turn of the quarter may be neglected or amplified;
- (d) fixing risk will remain if an IBOR swap is hedged using an OIS;
- (e) lockout may be problematic for IBORs with shorter maturities (e.g. 1 month – because a greater proportion of the days in the period will be “locked out” by comparison with longer maturities) and may not work for a 1-week IBOR; and
- (f) there may be different observation periods for each leg of cross-currency swaps if fallbacks trigger on both legs of the swaps.

Parties will not be required to make this calculation themselves as the fallback rate will be published by Bloomberg. The rate published by Bloomberg will correspond precisely to the observation date for the relevant IBOR to provide maximum clarity regarding the fallback rate once it applies.



***Primary questions relating to the compounded setting in arrears rate approach:***

10. Is it necessary to apply a backward-shift, lockout or similar adjustment to avoid making payments on the same date as the date on which the fallback rate is known? Please note in particular if you would not be able to transact without an adjustment.
11. If an adjustment is necessary, do you support using a two-Banking Day backward-shift, a two-Banking Day lockout or a different adjustment?<sup>26</sup> Please explain your answer.
12. Which cities should apply for the purposes of the two-Banking Day backward-shift or lockout?<sup>27</sup>
13. Would either option be problematic or would you be able to transact if either option were implemented for derivatives fallbacks? Please explain.

***Technical questions relating to the compounded setting in arrears rate approach:***

14. For what products would a two-Banking Day backward shift or lockout not work? Is there any way to address the problems using the “compounded in arrears rate”?
15. Is it problematic to use the Calculation Period instead of the IBOR period?
16. Is two Banking Days the correct length of time for a backward shift or lockout? If not, what is the correct length of time?

---

<sup>26</sup> “Banking Day” is defined in Section 1.3 of the 2006 ISDA Definitions as “in respect of any city, any day on which commercial banks are open for general business (including dealings in foreign exchange and foreign currency deposits) in that city”.

<sup>27</sup> One option would be to define this by reference to the city relating to the rate (e.g., London for the fallbacks for GBP LIBOR, London and Tokyo for the fallbacks for JPY LIBOR and London and New York for the fallbacks for USD LIBOR) or by reference to Banking Days for which the overnight RFR is published (e.g., London for fallbacks for GBP LIBOR, Tokyo for fallbacks for JPY LIBOR and New York for fallbacks for USD LIBOR). Another option would be to use a concept of “universal Banking Days” such that the backward-shift or lockout takes into account non-Banking Days in all major financial cities. One drawback of the first approach is that market participants which are located in a different jurisdiction (e.g., a Japanese bank using USD LIBOR) may be required to operate on non-Tokyo Banking Days to arrange for payments in respect of a calculation period which ends on or immediately before a non-Tokyo Banking Day (assuming that USD LIBOR has been discontinued such that the fallback to adjusted SOFR plus spread applies). One drawback of the “universal Banking Day” approach is that the last day in the backward-shifted calculation period or the day on which the rate is “locked-out” may occur a number of Banking Days before the Payment Date to account for different holiday calendars in different jurisdictions (e.g., if London, Tokyo, New York and other major financial cities were all included).