

CCIL queries related to computation of Adjusted MIFOR using All-in- Fall-back Rates

1) The issues and the suggested responses are detailed below. These require further confirmation by the market participants. We propose to release the draft methodology document along with the following issues on the FBIL website seeking feedback. We will also further discuss the same in the meeting of the IBA Work Stream.

2) O/N Fall-back Rate : Currently Bloomberg terminal provides an overnight Fallback rate which considers the SOFR rate (with 2 day offset lag) plus a spread adjustment.

Question: Going forward, will this O/N fallback rate be published by Bloomberg? OR do we use the Federal Reserve O/N SOFR rate.

Status: Based on clarifications from Bloomberg, the overnight rate would be provided. In case it is not available, post- LIBOR cessation, the SOFR from FED would be taken and the constant spread of O/N SOFR to O/N LIBOR based on 5 year data would be applied.

Query: Market participants to confirm the above approach.

3) Intermediate 2M tenor rates by Bloomberg: In an initial discussion, Bloomberg had indicated that they would not be releasing the 2 month fall-back rate and it would have to be interpolated from the 1 month and 3 month rate. However, the 2 month rates are currently available from the Bloomberg terminal.

Question: Would Bloomberg continue to publish the 2 month rate going ahead as well? If not, should the 2-month rate be interpolated from the 1-month Fallback Rate and the 3-month Fallback Rate for the computation of the MIFOR curve?

Status: Bloomberg has provided the clarifications that all rates would be available as of now. In case Bloomberg does not provide the rate for any particular tenor, appropriate fallback should be in place by the Administrators. It is proposed that in the event Bloomberg does not publish the fallback rate for a tenor, the rate would be computed by using interpolation between corresponding tenors.

Query: Interpolation has to happen between tenors whose rates are published on the same rate record date. Rates across all tenors for same rate record date are not published on a calculation date. This poses challenges on interpolation.

4) Confirmation on the Release time of the Fall-back rates

Currently the Fall-back rates are available on the Bloomberg terminal after 6.00 pm.

Question: The exact / official local (IST) dissemination time of these by Bloomberg and in addition to this, the time of release taking into account the daylight savings factor, need

to be confirmed. These factors will have to be factored in deciding the final dissemination time of the Adjusted MIFOR.

Since the publication of the FBIL Adjusted MIFOR curve is dependent on the publication of the Fallback Rates by Bloomberg, what would be the exact publication time for the FBIL Adjusted MIFOR?

Additionally, if the O/N SOFR rate of the Federal Reserve is to be used, what would be the publication time for the FBIL O/N Adjusted MIFOR?

Status: Bloomberg has provided the following clarification:

Currently Fed publishes the SOFR next day at 8 am EST. Bloomberg will publish the fallbacks within 45 mins thereafter under normal circumstances. The consideration is that Fed also has a restatement window of 6.5 hrs for any revision . This means there could be a revision of the SOFR rate which would be published by 2.30 PM EST. Bloomberg will similarly publish the restated fallbacks within 45 mins of that announcement. So FBIL may need to make a decision in this regard for publication of adjusted MIFOR in such situations. Singapore has chosen to include any restatements upto 2.5 hrs and ignore any changes thereafter.

Similarly, you may also want to consider a situation involving restatement of FX points.

Query: Based on above reply, it is proposed that the MIFOR publication time would be 45 minute after the data on rates for all tenors is made available from Bloomberg.

- In case of revision of the SOFR rates at around 2.30 PM EST and subsequent updation of rate by Bloomberg, the revised MIFOR would be published on the next business day at 13.30 IST. The Refix for Adjusted MIFOR will take place if the difference in the revised rate and the published rate is 5 bps or more.

- Market participants to confirm the above approach.

5) **Holiday Considerations in Current Methodology:** Currently the following methodology is used in case of LIBOR Holidays, USD holidays and INR holidays:

a) **LIBOR Holiday:** In case of a LIBOR holiday, for e.g. 31-08-2020 (Summer Bank holiday), which is a LIBOR holiday, the previous days' LIBOR rates for all tenors are used for calculation of the MIFOR, as indicated in Table 1

Table 1: LIBOR Holiday – Current Methodology		
Tenor	Calculation Date	Current Status on Dissemination
O/N	31-08-20	Repeat Previous Day LIBOR of 28-08-2020 for computing and disseminating the MIFOR curve for 31-08-2020 .
1M	31-08-20	
3M	31-08-20	
6M	31-08-20	
12M	31-08-20	

- b) **USD Holiday:** In case of a USD holiday, for example. 07-09-2020, which is a Labour day holiday, Overnight LIBOR and Overnight Forward Premia will not be available. On such days' MIFOR for other tenors is calculated from the current day's LIBOR and current days' published Forward Premia as indicated in Table 2.

Tenor	Bloomberg Calculation Date	Current Methodology
O/N	07-09-20	No dissemination
1M	07-09-20	MIFOR disseminated for 07-09-2020 using the LIBOR and Forward Premia both published for 07-09-2020.
2M	07-09-20	
3M	07-09-20	
6M	07-09-20	
12M	07-09-20	

- c) **INR Holiday** – In case of INR holiday there is no dissemination of MIFOR Curve.

6) **Holiday Considerations in Proposed Methodology**

Based on the data collation over the period since the release of the test data by Bloomberg from July 2020 onwards, we have come across the following holiday scenarios in the computation of the Adjusted MIFOR and require confirmation of the logic to be applied in the calculation of the Adjusted MIFOR in these scenarios.

- a) **Rate Record Date falling on USD Holiday** – In case of a US holiday, the O/N Adjusted MIFOR is not disseminated, as the O/N Forward Premia is not available on that day. For tenors from 1M to 12M, the forward premia rates would be published for the respective tenors with the Trade Date of Forward Premia being the same as the Rate Record Date of the Fallback Rate. If the fallback rates for such tenors are published by Bloomberg the same would be used in the Adjusted MIFOR computation.
- There would be no dissemination of O/N MIFOR on the US business day prior to the US holiday as well, due to non-availability of the Overnight USD/INR Forward Premia

Tenor	Bloomberg Calculation Date	Rate Record Date	Proposed for Adjusted MIFOR
O/N	07-09-20	07-09-20	There would be no dissemination of O/N MIFOR as the Overnight USD/INR Forward Premia would not be published.

1M	05-10-20	07-09-20	Adjusted MIFOR will be calculated and disseminated on 05-10-2020. It will be computed from: <ul style="list-style-type: none"> • 1M forward premia with a Trade Date of 07-09-2020. • 1M Fallback Rate having a Rate Record Date of 07-09-2020 and calculated on 05-10-2020.
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- Market participants to confirm the above approach for holiday adjustments.

b) Rate Record Date falling on INR Holiday: In case of an INR holiday, then there will be no dissemination of the MIFOR for that tenor on that day.

For Example, for all tenors having their Rate Record date as 07-05-2020 (Buddha Purnima Holiday) which is an INR holiday, there will be no dissemination of Adjusted MIFOR as the corresponding Forward Premia will not be available as indicated in Table 4.

Tenor	Bloomberg Calculation Date	Rate Record Date	Proposed for Adjusted MIFOR
O/N	07-05-20	07-05-20	No dissemination on account no Forward Premia Rates for the Trade Date of 07-05-20.
1M	08-06-20	07-05-20	
2M	07-07-20	07-05-20	
3M	07-08-20	07-05-20	

Market participants to confirm the above approach for holiday adjustment.

c) Calculation Dates falling on USD Holiday/Saturday/Sunday – If a Calculation date is either a USD holiday, Saturday or Sunday, there will not be a release of the Fallback rate corresponding to that day. Hence for such days, the Adjusted MIFOR rate would be calculated from the Fallback rates released for the following US business day. So in such a scenario, a unique calculation date would be used to calculate the Adjusted MIFOR for more than one rate record date for a specific tenor as indicated in Table 5.

Tenor	Bloomberg Calculation Date	Rate Record Date	Calculation Date Falling on Long Weekend
1M	08-09-20	05-08-20	05-09-2020 (Saturday)
1M	08-09-20	06-08-20	06-09-2020 (Sunday)
1M	08-09-20	07-08-20	07-09-2020 (Monday) (Labour Day)

Table 6: Proposed Adjusted MIFOR dissemination on Calculation Date following USD Holiday (07-Sep-20)		
Tenor	Bloomberg Calculation Date	Rate Record Date
O/N	08-Sep-20	08-Sep-20
1M	08-Sep-20	05-Aug-20
1M	08-Sep-20	06-Aug-20
1M	08-Sep-20	07-Aug-20
2M	08-Sep-20	06-Jul-20
2M	08-Sep-20	07-Jul-20
2M	08-Sep-20	08-Jul-20
3M	08-Sep-20	05-Jun-20
3M	08-Sep-20	08-Jun-20
6M	08-Sep-20	05-Mar-20
6M	08-Sep-20	06-Mar-20
12M	08-Sep-20	05-Sep-19
12M	08-Sep-20	06-Sep-19

The MIFOR dissemination on 08-09-2020 would be as depicted in Table 6-. Each Tenor would have multiple Rate Record Dates and therefore multiple Adjusted MIFOR corresponding to those Rate Record Dates.¹

Market participants to confirm the above approach of publication of multiple rates tagged to each Rate Record Date in case of calculation date falling on a US holiday.

d) Calculation Dates falling on INR Holiday:

In case of an INR holiday on the Calculation Date, the Adjusted MIFOR would not be published on that day. However, both the Fallback rate and the Forward Premia corresponding to that Rate Record Dates for the tenors are available. Therefore, the Adjusted MIFOR calculated for such days would need to be disseminated on the following business day.

For example, the Adjusted MIFOR would not be disseminated on 02-10-2020 (Friday) as it is an INR holiday. However, the Fallback rate and the Forward Premia corresponding to the Rate Record date for 02-10-2020 for the various tenors are available. Hence, the adjusted MIFOR for 02-10-2020 would be released on the next business day i.e. 05-10-2020 as shown in Table 7. Note: 3rd and 4th Oct are INR holidays Saturday and Sunday.

¹ **SG methodology proposes:** It is possible for multiple Fallback Rates (SOR) of the same tenor to be published on the same day with each Fallback Rate (SOR) tagged to a unique Original SOR Rate Record Day.

Table 7: Adjusted MIFOR Proposed Methodology when the Calculation Date falls on INR Holiday –Dissemination Date as on 05-Oct-2020			
Tenor	Bloomberg Calculation Date	Rate Record Date	Rate Record Day of Week
O/N	05-Oct-20	05-Oct-20	Monday
1M	02-Oct-20(Friday)	02-Sep-20	Wednesday
1M	05-Oct-20	03-Sep-20	Thursday
1M	05-Oct-20	04-Sep-20	Friday
1M	05-Oct-20	07-Sep-20	Monday
2M	05-Oct-20	03-Aug-20	Monday
2M	05-Oct-20	04-Aug-20	Tuesday
2M	05-Oct-20	05-Aug-20	Wednesday
3M	02-Oct-20	02-Jul-20	Thursday
3M	02-Oct-20	03-Jul-20	Friday
6M	02-Oct-20	02-Apr-20	Thursday
6M	05-Oct-20	03-Apr-20	Friday
12M	02-Oct-20	02-Oct-19	Wednesday
12M	05-Oct-20	03-Oct-19	Thursday
12M	05-Oct-20	04-Oct-19	Friday
<p>--Figures in bold indicate that the Calculation Date falls on an INR Holiday. -- Based on the data taken from Bloomberg, it is observed that the Fallback Rate having a Rate Record Date of 07-09-2020 had a Calculation Date of 05-10-2020. --We have sought clarification from Bloomberg as to why the Calculation Date was 05-10-2020 and not of 07-10-2020 for Rate Record date of 07-09-2020</p>			

- *Market participants to confirm the approach for this situation. Feedback to be taken from Bloomberg also*

e) **Adjusted MIFOR Calculations Falling on LIBOR Holidays:** In case of a LIBOR holiday, the Adjusted MIFOR would be published on that day if it is not a US Holiday. In Such Cases the Fallback Rate for a Rate Record Date falling on the LIBOR Holiday is being computed by

Bloomberg as on the Calculation Date at the end of the Accrual period. Accordingly, the Adjusted MIFOR would be published on the said Calculation Date using the Fallback rate. The Forward Premia Rate as published on the Rate Record Date would be used. For example, 31/08/20 is a LIBOR Holiday (Summer Bank Holiday) but is a US Business Day. The 1 month Adjusted MIFOR for 31/08/2020 would be published on 30/09/2020 using the Fallback Rate having a Rate Record Date of 31/08/2020.

- *Market participants to confirm the approach for this situation.*

7) How long will the Adjusted MIFOR be published post cessation of existing MIFOR .

The publication of Adjusted MIFOR will depend on the extent of legacy exposures existing in the market. This will also depend upon the availability of the published adjusted SOFR and the development of a SOFR term curve. In order to avoid this uncertainty, market participants may make endeavour to foreclose the contracts or switch over to a new rate.

It may be useful to publish the Adjusted MIFOR for about a period of two years.

Market participants may confirm this approach.
