

IBOR Fallback Rate Adjustments Rule Book

IBOR FALLBACK RATE ADJUSTMENTS RULE BOOK

Background

Inter-bank Offered Rates (“**IBORs**”), a series of interest rate benchmarks, are undergoing a period of change as regulators and industry groups have recommended that firms transition away from the London Inter-bank Offered Rate (“**LIBOR**”) and other IBORs and prepare to replace them with alternative, overnight Risk Free Rates (“**RFRs**”). These RFRs, including SOFR (USD), €STR (EUR) and SONIA (GBP), are typically administered and published by major central banks worldwide.

Transitioning to the RFRs will be a demanding and complex process for the industry as RFRs are structurally different from IBORs. They are overnight rates and exhibit different liquidity characteristics and supply/demand issues than IBORs.

To address the risk that one or more IBORs are discontinued while market participants continue to have exposure to that rate, counterparties are encouraged to agree to contractual fallback provisions that would provide for adjusted versions of the RFRs as replacement rates.

Due to the fundamental differences in the nature of IBORs and the RFRs, key adjustments are necessary if RFR fallbacks are to take effect in contracts that were originally negotiated to reference the IBORs. The International Swaps and Derivatives Association, Inc. (“**ISDA**”) ran public consultations to finalize the adjustment methodologies for derivatives contracts and subsequently issued a tender invitation for a vendor to perform and distribute these necessary adjustments.

More information about these consultations can be found [here](#).

Bloomberg Index Services Limited (“**BISL**” and, collectively with its affiliates, “**Bloomberg**”) was selected as the vendor to calculate and distribute these RFR adjustments (each a “**Rate Adjustment**” and, collectively, the “**Rate Adjustments**”), including the Adjusted Reference Rate, the Spread Adjustment and the resulting Fallback Rate (as such terms are defined below).

This rule book (“**Rule Book**”) sets out the methodology, rules and conventions that BISL will implement to calculate the Rate Adjustments in line with ISDA’s consultations referenced above.

BISL is authorised and regulated by the Financial Conduct Authority. However, users should note that the IBOR transition is to RFRs produced by central banks. The adjustment calculations described in this Rule Book aim to facilitate this transition and the adoption of these RFRs but the Rate Adjustments are not themselves separate benchmarks for regulatory purposes.

Please see the Frequently Asked Questions document on [Bloomberg.com/LIBOR](https://www.bloomberg.com/LIBOR) for further information.

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Section 1. Introduction

Unless otherwise specified or defined, all capitalized terms referred to in this Rule Book are defined in Section 3 ("Definitions").

This Rule Book has been made available by the Adjustment Services Vendor and sets out the rules applicable to the Rate Adjustments.

This version of the Rule Book is provided as of the date specified on the cover of this Rule Book (the "**Publication Date**"). Upon each update to this Rule Book, the most recent version shall be deemed to supersede the preceding version from the date of such update such that, in the event of any conflict between an earlier version of the Rule Book and the most recent version, the most recent version shall prevail. The Adjustment Services Vendor will use reasonable efforts to provide notice of such updates. The Adjustment Services Vendor shall provide additional information about any such updates upon written request.

All determinations and calculations made by the Adjustment Services Vendor will (in the absence of manifest error) be final, conclusive and binding.

The information contained in this Rule Book includes the methodology and material rules and risks relating to the Rate Adjustments. This information is subject to change.

Section 2. Overview of the Rate Adjustments

2.1 Determination of the Rate Adjustments

The Rate Adjustments are calculated by the Adjustment Services Vendor and are based on the value of each of the relevant Underlying Rates as determined in accordance with Section 4 ("*Rate Adjustment Calculations*") for each Rate Record Day. The determination of dates used in the calculation is based on the relevant calendars and exchange schedules available at the time of such determination. On any day where a Rate Adjustment is not calculated, no Rate Adjustment shall be published in respect of such day, subject to the provisions set out below. Certain provisions in this Rule Book are expressed in both formulaic and descriptive terms. In the event of conflict between a descriptive term and a formula, the formula shall govern.

2.2 Determination of the value of each Underlying Rate

The Rate Adjustments have been established and designed only for the purpose of seeking to achieve the objectives stated in the Background Section. They have not been designed to reflect the performance of the wider financial markets. The Rate Adjustment shall be a function of the value of the relevant Underlying Rates. In the absence of a Market Disruption Event or Fallback Adjustment Event, the Rate Adjustment shall be calculated in accordance with the formulae in the methodology (including in circumstances where the market for an Underlying Rate is illiquid or fragmented). This Section 2

("Overview of the Rate Adjustments") only provides a summary of the Rate Adjustments and is subject to, and qualified by, the remainder of this Rule Book.

Section 3. Definitions

"€STR", or "EuroSTR", means the euro short-term rate provided by the European Central Bank (ECB), as administrator of the benchmark, (or any successor administrator);

"Accrual End Date" means, with respect to an IBOR, its Reference Rate, Tenor and a Rate Record Day,

- (i) if such Tenor is 'Overnight' or 'Spot Next', the Following Convention Date with respect to the calendar day immediately succeeding the Accrual Start Date; or
- (ii) if such Tenor is '1 Week' or '2 Weeks', the Following Convention Date with respect to the day that is 7 (seven) or 14 (fourteen) calendar days immediately succeeding the Accrual Start Date, respectively; or
- (iii) if such Tenor is '1 Month', '2 Months', '3 Months', '4 Months', '5 Months', '6 Months' or '12 Months', the Modified Following Convention Date with respect to the day that is 1 (one), 2 (two), 3 (three), 4 (four), 5 (five), 6 (six) or 12 (twelve) calendar months immediately succeeding the Accrual Start Date, respectively;

"Accrual Spot Date" means, with respect to an IBOR, its Reference Rate, Tenor and a Rate Record Day, the Reference Rate Business Day that is the Reference Spot Lag number of Reference Rate Business Days immediately following such Rate Record Day. For the avoidance of doubt, if the Reference Spot Lag is 0 (zero) and such Rate Record Day is not also a Reference Rate Business Day, then the Accrual Spot Date is the Reference Rate Business Day immediately following such Rate Record Day;

"Accrual Start Date" means, with respect to an IBOR, its Reference Rate, Tenor and a Rate Record Day, the Reference Rate Business Day that is the Offset Lag number of Reference Rate Business Days immediately prior to the Accrual Spot Date;

"Adjusted Reference Rate" means, with respect to an IBOR, Tenor and Rate Record Day, the rate calculated in accordance with the methodology described in Section 4.2 ("*Calculation of Adjusted Reference Rate*");

"Adjusted Reference Rate Base Date" means, with respect to an IBOR and Tenor, the date listed under column 'Adjusted Reference Rate Base Date' in Table 1 ("*Fallback Rate Information*") in Appendix A;

"Adjustment Services Vendor", or "Vendor" means Bloomberg Index Services Limited;

"Affiliate" means in relation to any entity, any other entity directly or indirectly controlling, controlled by, or under common control with, such entity;

"BBSW" means the Australian Dollar rate for prime bank eligible securities, known as the Bank Bill Swap Rate, provided by the IBOR Administrator;

"Bloomberg Page" means, with respect to a Bloomberg ticker, the page on the Bloomberg

Terminal® generated by entering such ticker + <GO>;

"Bloomberg Website" means the following:

<https://www.bloomberg.com/professional/solution/libor-transition/> or any successor thereto;

"Business Day" means each IBOR Business Day and each Reference Rate Business Day;

"CDOR" means the Canadian Dollar rate for banker's acceptance borrowings, known as the Canadian Dollar Offered Rate, provided by the IBOR Administrator;

"CORRA" means the Canadian Overnight Repo Rate Average provided by Refinitiv Benchmark Services (UK) Limited (RBSL), as administrator of the benchmark, or any successor administrator;

"Data Source" means

- (i) with respect to a Reference Rate and its Reference Rate Bloomberg Ticker, the Bloomberg Page; or
- (ii) with respect to an IBOR and its IBOR Bloomberg Ticker, the Bloomberg Page;

"Day Count" means

- (i) with respect to a Reference Rate, the number of days listed under column 'Day Count' in Table 4 ("*Reference Rate Information*") in Appendix A; or
- (ii) with respect to an IBOR, the number of days listed under column 'Day Count' in Table 2 ("*IBOR Information*") in Appendix A;

"EONIA" means the Euro Overnight Index Average currently provided by the European Money Markets Institute (EMMI) as administrator of the benchmark;

"EURIBOR" means the Euro wholesale funding rate, known as the Euro Interbank Offered Rate, provided by the IBOR Administrator;

"Euro LIBOR" means the Euro wholesale funding rate, known as the Euro London Interbank Offered Rate, provided by the IBOR Administrator;

"Euroyen TIBOR" means the prevailing market rate for prime bank transactions in the Japan offshore market, known as the Euroyen Tokyo Interbank Offered Rate, provided by the IBOR Administrator;

"Fallback Adjustment Event" means, with respect to a Rate Adjustment, the administrator of the relevant Reference Rate permanently discontinues the Reference Rate;

"Fallback Rate" means, with respect to an IBOR, Tenor and Rate Record Day, the rate calculated in accordance with the methodology described in Section 4.1 ("*Calculation of Fallback Rate*");

"Fallback Rate Base Date" means, with respect to an IBOR and Tenor, the date listed under column 'Fallback Rate Base Date' in Table 1 ("*Fallback Rate Information*") in Appendix A;

"Following Convention Date" means,

- (i) with respect to a date and a Reference Rate, such date if it is a Reference Rate Business Day, otherwise the immediately succeeding Reference Rate Business Day; or
- (ii) with respect to a date and an IBOR, such date if it is an IBOR Business Day, otherwise the immediately succeeding IBOR Business Day;

"Force Majeure Event" means an event or circumstance (including, without limitation, a systems

failure, natural or man-made disaster, act of God, armed conflict, act of terrorism, riot or labour disruption or any similar intervening circumstance) that is beyond the reasonable control of the Adjustment Services Vendor and that the Adjustment Services Vendor determines affects a Rate Adjustment, any Underlying Rate or the methodology on which the relevant Rate Adjustment is based or the Adjustment Services Vendor's ability to calculate and publish the relevant Rate Adjustment;

"HIBOR" means the rate of interest offered on Hong Kong Dollar loans by banks in the interbank market, known as the Hong Kong Interbank Offered Rate, provided by the IBOR Administrator;

"HONIA" means the Hong Kong Dollar Overnight Index Average provided by the Treasury Markets Association (TMA), as administrator of the benchmark, or any successor administrator;

"IBOR" means each Interbank Offered Rate (IBOR) listed under column 'IBOR' in Table 1 ("*Fallback Rate Information*") in Appendix A;

"IBOR Administrator" means, with respect to an IBOR, the administrator of the benchmark listed under column 'IBOR Administrator' in Table 2 ("*IBOR Information*") in Appendix A (or any successor administrator thereto);

"IBOR Bloomberg Ticker" means, with respect to an IBOR and Tenor, the ticker listed under column 'Bloomberg Ticker' in Table 3 ("*IBOR Tenor Information*") in Appendix A;

"IBOR Business Day" means, with respect to an IBOR, the days defined under column 'Business Days' in Table 2 ("*IBOR Information*") in Appendix A;

"IBOR Cessation Trigger Date" means, with respect to an IBOR, the date on which there is,

- (i) a public statement or publication of information by or on behalf of the IBOR Administrator announcing that it has ceased or will cease to provide the IBOR permanently or indefinitely, provided that, at the time of the statement or publication, there is no successor administrator that will continue to provide the IBOR; or
- (ii) a public statement or publication of information by the regulatory supervisor for the IBOR Administrator, the central bank for the currency of the IBOR, an insolvency official with jurisdiction over the administrator for the IBOR, a resolution authority with jurisdiction over the administrator for the IBOR or a court or an entity with similar insolvency or resolution authority over the administrator for the IBOR, which states that the IBOR Administrator has ceased or will cease to provide the IBOR permanently or indefinitely, provided that, at the time of the statement or publication, there is no successor administrator that will continue to provide the IBOR;

"IBOR Maturity Date" means, with respect to an IBOR, Tenor and Median Period Day,

- (i) if such Tenor is 'Overnight' or 'Spot Next', the Following Convention Date with respect to the calendar day immediately succeeding the IBOR Value Date; or
- (ii) if such Tenor is '1 Week' or '2 Weeks', the Following Convention Date with respect to the day that is 7 (seven) or 14 (fourteen) calendar days immediately succeeding the IBOR Value Date, respectively; or
- (iii) if such Tenor is '1 Month', '2 Months', '3 Months', '4 Months', '5 Months', '6 Months' or '12 Months', the Modified Following Convention Date with respect to the day that is 1 (one), 2 (two), 3 (three), 4 (four), 5 (five), 6 (six) or 12 (twelve) calendar months immediately

succeeding the IBOR Value Date, respectively;

"IBOR Value Date" means, with respect to an IBOR, Tenor and an IBOR Business Day, the IBOR Business Day that is the IBOR Value Lag number of IBOR Business Days immediately following such IBOR Business Day;

"IBOR Value Lag" means, with respect to an IBOR and Tenor, 0 (zero) if the Tenor is Overnight, otherwise the number listed under column 'Value Lag' in Table 2 ("*IBOR Information*") in Appendix A;

"Live Tenor" means, with respect to an IBOR and a date, the set of Tenors for which such date is prior to the Tenor Cessation Trigger Date;

"Lower Interpolation Tenor" means, with respect to an IBOR, a Tenor and a Median Period Day, the longest Live Tenor that is shorter than such Tenor;

"Market Disruption Event" means, with respect to a Rate Adjustment, the occurrence of one or more of the following events:

- (i) the occurrence of an event that makes it impossible or not reasonably practicable for the Adjustment Services Vendor to obtain the value of any Underlying Rate, or any other price or necessary information for purposes of calculating the Rate Adjustment;
- (ii) a temporary failure by the administrator or other source of an Underlying Rate to announce or publish the level or value of such Underlying Rate on a day on which the level or value of such Underlying Rate was scheduled to be announced or published;
- (iii) a Force Majeure Event;

"Median Period" means, with respect to an IBOR, Tenor and Rate Record Day, the set of days occurring in the period from and including the Median Period Start Date to and including the Median Period End Date that are Median Period Days for which the Accrual End Date of the Adjusted Reference Rate for each day is at least 2 (two) Reference Rate Business Days earlier than such Rate Record Day;

"Median Period Days" means, with respect to an IBOR, days that are both IBOR Business Days and Rate Record Days;

"Median Period End Date" means, with respect to an IBOR, Tenor and Rate Record Day, the day occurring 2 (two) Reference Rate Business Days immediately prior to the date that is the Tenor period immediately prior to the Rate Record Day;

"Median Period Start Date" means, with respect to a Median Period End Date, the day occurring 5 (five) years prior to such Median Period End Date;

"Modified Following Convention Date" means,

- (i) with respect to a date and a Reference Rate, such date if it is a Reference Rate Business Day, otherwise the immediately succeeding Reference Rate Business Day if it falls in the same month as such date, otherwise the immediately preceding Reference Rate Business Day; or
- (ii) with respect to a date and an IBOR, such date if it is an IBOR Business Day, otherwise the immediately succeeding IBOR Business Day if it falls in the same month as such date, otherwise the immediately preceding IBOR Business Day;

"Offset Lag" means 2 (two);

"Product" has the meaning given to it in the 'Important Disclaimer Information' section;

"Product Investor" has the meaning given to it in the 'Important Disclaimer Information' section;

"Rate Adjustment" has the meaning given to it in the 'Background' section;

"Rate Adjustment Commencement Date" means, with respect to an IBOR and Tenor, the date listed under column 'Commencement Date' in Table 1 ("*Fallback Rate Information*") in Appendix A;

"Rate Record Day" means each day of the week other than Saturday or Sunday;

"RBA Cash Rate" means the Reserve Bank of Australia cash rate provided by the Reserve Bank of Australia, as administrator of the benchmark, or any successor administrator;

"Reference Rate" means, with respect to an IBOR, the rate listed under column 'Reference Rate' in Table 1 ("*Fallback Rate Information*") in Appendix A;

"Reference Rate Bloomberg Ticker" means, with respect to a Reference Rate, the ticker listed under column 'Bloomberg Ticker' in Table 4 ("*Reference Rate Information*") in Appendix A;

"Reference Rate Business Day" means, with respect to a Reference Rate, the days defined under column 'Business Days' in Table 4 ("*Reference Rate Information*") in Appendix A;

"Reference Spot Lag" means, with respect to a Reference Rate and Tenor, 0 (zero) if the Tenor is Overnight, otherwise the number listed under column 'Spot Lag' in Table 4 ("*Reference Rate Information*") in Appendix A;

"Rounding Precision" means, with respect to a Reference Rate, the percentage specified under column 'Rounding Precision' in Table 4 ("*Reference Rate Information*") in Appendix A;

"SOFR" means the daily Secured Overnight Financing Rate provided by the Federal Reserve Bank of New York, as administrator of the benchmark (or any successor administrator);

"SARON" means the Swiss Average Rate Overnight rate provided by SIX Financial Information AG (SIX), as administrator of the benchmark or any successor administrator;

"SONIA" means the daily Sterling Overnight Index Average rate as provided by the administrator, or any successor administrator, of the benchmark to and published by authorized distributors;

"Spread Adjustment" means, with respect to an IBOR, Tenor and Rate Record Day, the rate calculated in accordance with the methodology described in Section 4.3 ("*Calculation of Spread Adjustment*");

"Spread Adjustment Base Date" means, with respect to an IBOR and Tenor, the date listed under column 'Spread Adjustment Base Date' in Table 1 ("*Fallback Rate Information*") in Appendix A;

"Spread Adjustment Fixing Date" means, with respect to an IBOR and Tenor, the earlier of,

- (i) the IBOR Cessation Trigger Date, and
- (ii) the first date on or after the Tenor Cessation Trigger Date for which there is either no Live Tenor that is shorter than such Tenor or there is no Live Tenor that is longer than such Tenor;

"Sterling LIBOR" means the Sterling wholesale funding rate, known as the Sterling London Interbank

Offered Rate, provided by the IBOR Administrator;

"Swiss Franc LIBOR" means the Swiss Franc wholesale funding rate, known as the Swiss Franc London Interbank Offered Rate, provided by the IBOR Administrator;

"Tenor" means, with respect to an IBOR, each tenor listed under column 'Tenor' in Table 3 ("*IBOR Tenor Information*") in Appendix A;

"Tenor Cessation Trigger Date" means, with respect to an IBOR and Tenor, the date on which there is,

- (i) a public statement or publication of information by or on behalf of the IBOR Administrator announcing that it has ceased or will cease to provide the IBOR Tenor permanently or indefinitely, provided that, at the time of the statement or publication, there is no successor administrator that will continue to provide the IBOR Tenor; or
- (ii) a public statement or publication of information by the regulatory supervisor for the IBOR Administrator, the central bank for the currency of the IBOR, an insolvency official with jurisdiction over the administrator for the IBOR, a resolution authority with jurisdiction over the administrator for the IBOR or a court or an entity with similar insolvency or resolution authority over the administrator for the IBOR, which states that the IBOR Administrator has ceased or will cease to provide the IBOR Tenor permanently or indefinitely, provided that, at the time of the statement or publication, there is no successor administrator that will continue to provide the IBOR Tenor;

"TONA" means the Tokyo Overnight Average rate provided by the Bank of Japan, as administrator of the benchmark, or any successor administrator;

"Underlying Rate" means each IBOR and each Reference Rate;

"Upper Interpolation Tenor" means, with respect to an IBOR, a Tenor and a Median Period Day, the shortest Live Tenor that is longer than such Tenor;

"U.S. Dollar LIBOR" means the U.S. Dollar wholesale funding rate, known as the U.S. Dollar London Interbank Offered Rate, provided by the IBOR Administrator;

"Value" means,

- (i) with respect to a Reference Rate and a calendar day, the rate published on the Data Source for such calendar day if such calendar day is also a Reference Rate Business Day, otherwise the rate published on the Data Source for the immediately preceding Reference Rate Business Day; or
- (ii) with respect to an IBOR and a calendar day, the rate published on the Data Source for such calendar day if such calendar day is also an IBOR Business Day, otherwise the rate published on the Data Source for the immediately preceding IBOR Business Day;

"Yen LIBOR" means the Yen wholesale funding rate, known as the Yen London Interbank Offered Rate, provided by the IBOR Administrator; and

"Yen TIBOR" means the prevailing market rate in the Japan unsecured call market, known as the Japanese Yen Tokyo Interbank Offered Rate, provided by the IBOR Administrator.

Section 4. Rate Adjustment Calculations

4.1 Calculation of Fallback Rate

The Fallback Rate, FR , with respect to an IBOR, each Tenor f and each Rate Record Day t on and following the Fallback Rate Base Date, shall be calculated by the Adjustment Services Vendor in accordance with the following formula, and rounded to the nearest Rounding Precision (breaking ties by rounding half away from zero):

$$FR_{f,t} = ARR_{f,t} + SA_{f,t}$$

Where:

$FR_{f,t}$ means the Fallback Rate for Tenor f on Rate Record Day t ;

$ARR_{f,t}$ means the Adjusted Reference Rate for Tenor f on Rate Record Day t ; and

$SA_{f,t}$ means the Spread Adjustment for Tenor f on Rate Record Day t .

4.2 Calculation of Adjusted Reference Rate

The Adjusted Reference Rate, ARR , with respect to an IBOR, each Tenor f and each Rate Record Day t on and following the Adjusted Reference Rate Base Date, shall be calculated by the Adjustment Services Vendor in accordance with the following formula, and rounded to the nearest Rounding Precision (breaking ties by rounding half away from zero):

$$ARR_{f,t} = \frac{DayCount_I}{DayCount_{RR}} \times \frac{1}{\delta_{S_{f,t},E_{f,t}}} \times \left[\prod_{u \in AP_{f,t}} (1 + \delta_{u,u+1} \times RFR_u) - 1 \right]$$

Where:

$ARR_{f,t}$ means the Adjusted Reference Rate for Tenor f on Rate Record Day t ;

$DayCount_I$ means, with respect to the IBOR, the Day Count;

$DayCount_{RR}$ means, with respect to the Reference Rate, the Day Count;

$S_{f,t}$ means, with respect to Tenor f and Rate Record Day t , the Accrual Start Date;

$E_{f,t}$ means, with respect to Tenor f and Rate Record Day t , the Accrual End Date;

$\delta_{S_{f,t},E_{f,t}}$ means, with respect to Accrual Start Date $S_{f,t}$ and Accrual End Date $E_{f,t}$, the day count fraction calculated in accordance with the following formula:

$$\delta_{S_{f,t},E_{f,t}} = \frac{Days(S_{f,t}, E_{f,t})}{DayCount_{RR}}$$

Where:

$Days(S_{f,t}, E_{f,t})$ means the number of calendar days from and including Accrual Start Date $S_{f,t}$ to and excluding Accrual End Date $E_{f,t}$;

$AP_{f,t}$ means the set of Reference Rate Business Days occurring in the period from and including the Accrual Start Date $S_{f,t}$, to and excluding the Accrual End Date $E_{f,t}$;

u means a Reference Rate Business Day;

$u + 1$ means the Reference Rate Business Day immediately succeeding Reference Rate Business Day u ;

$\delta_{u,u+1}$ means, with respect to Reference Rate Business Days u and $u + 1$, the day count fraction calculated in accordance with the following formula:

$$\delta_{u,u+1} = \frac{\text{Days}(u, u + 1)}{\text{DayCount}_{RR}}$$

Where:

$\text{Days}(u, u + 1)$ means the number of calendar days from and including Reference Rate Business Day u to and excluding Reference Rate Business Day $u + 1$; and

RRR_u means the Value of the Reference Rate on Reference Rate Business Day u .

4.3 Calculation of Spread Adjustment

The Spread Adjustment, SA , with respect to an IBOR, each Tenor f and each Rate Record Day t on and following the Spread Adjustment Base Date, shall be calculated by the Adjustment Services Vendor in accordance with the following formula, and rounded to the nearest Rounding Precision (breaking ties by rounding half away from zero):

If Rate Record Day t is prior to the Spread Adjustment Fixing Date:

$$SA_{f,t} = \text{Median}(\{u \in MP_{f,t} \mid L_{f,u} - ARR_{f,u}\})$$

Otherwise:

$$SA_{f,t} = SA_{f,t-1}$$

Where:

$SA_{f,t}$ means the Spread Adjustment for Tenor f on Rate Record Day t ;

$SA_{f,t-1}$ means the Spread Adjustment for Tenor f on the Rate Record Day immediately preceding Rate Record Day t ;

$MP_{f,t}$ means, with respect to Tenor f and Rate Record Day t , the Median Period;

u means a Median Period Day in the median period $MP_{f,t}$;

$L_{f,u}$ means, with respect to Tenor f , the Value of the IBOR on Median Period Day u if u is prior to the Tenor Cessation Trigger Date, otherwise the interpolated value calculated in accordance with the following formula:

$$L_{f,u} = \frac{L_{f_0,t} \times \text{Days}(IM_{f,t}, IM_{f_1,t}) + L_{f_1,t} \times \text{Days}(IM_{f_0,t}, IM_{f,t})}{\text{Days}(IM_{f_0,t}, IM_{f_1,t})}$$

Where:

f_0 and f_1 mean, with respect to Tenor f and Median Period Day u , the Lower Interpolation Tenor

and Upper Interpolation Tenor, respectively;

$IM_{f,t}$, $IM_{f_0,t}$, and $IM_{f_1,t}$ mean, with respect to Median Period Day u , the IBOR Maturity Dates for Tenors f , f_0 and f_1 , respectively;

$\text{Days}(IM_{f,t}, IM_{f_1,t})$, $\text{Days}(IM_{f_0,t}, IM_{f,t})$ and $\text{Days}(IM_{f_0,t}, IM_{f_1,t})$ mean the number of calendar days from and including IBOR Maturity Dates $IM_{f,t}$, $IM_{f_0,t}$ and $IM_{f_0,t}$ to and excluding IBOR Maturity Dates $IM_{f_1,t}$, $IM_{f,t}$ and $IM_{f_1,t}$, respectively; and

$ARR_{f,u}$ means the Value of the Adjusted Reference Rate on Median Period Day u .

Section 5. General Rules

5.1 Consequences of a Market Disruption Event

Subject to Section 5.4 below, if, on any day, a Market Disruption Event occurs or is occurring, the Adjustment Services Vendor shall treat the day(s) upon which the value(s) of any Underlying Rate, or any other price or necessary information for purposes of calculating the Rate Adjustment is unavailable or during which it is otherwise unable to perform the requisite calculations, as not constituting a Business Day(s).

5.2 Consequences of a Fallback Adjustment Event

If, on any day, a Fallback Adjustment Event occurs or is occurring, the Adjustment Services Vendor shall discontinue supporting such Rate Adjustment or terminate the calculation of the value for such Rate Adjustment.

5.3 Change in Methodology

While the Adjustment Services Vendor currently employs the above described methodology, no assurance can be given that market, regulatory, juridical, financial, fiscal or other circumstances (including, but not limited to, any changes to or any suspension or termination of or any other events affecting any Underlying Rates) will not arise that would, in its view, necessitate a modification or change of such methodology or termination of the Rate Adjustment. Any material change to the methodology described in this Rule Book shall be done via market consultations organized in collaboration with ISDA. Immaterial changes may be made by the Adjustment Services Vendor in collaboration with ISDA with the aim of a resulting methodology that is as consistent with the methodology described herein as is practicable under the circumstances.

5.4 Expert Judgment/Discretion

The Adjustment Services Vendor reserves the right use expert judgment or discretion, if it deems it necessary, with regards to Market Disruption Events caused by Force Majeure Events or other extraordinary or unforeseen exigent circumstances.

5.5 Errors and Adjustments

The Adjustment Services Vendor reserves the right to make adjustments to correct errors contained in previously published information relating to the Rate Adjustment, including but not limited to the values, and to publish the corrected information, but it is under no obligation to do so and shall have no liability in respect of any errors or omissions contained in any subsequent publication. The Adjustment Services Vendor will provide notice of such adjustments.

If the value of an Underlying Rate is subsequently corrected and the correction is announced or published by the relevant exchange and/or data source, then the Adjustment Services Vendor shall make reasonable efforts to use the corrected value of the Underlying Rate in its calculation of the Rate Adjustment in respect of immediately prior day.

5.6 Construction of this Rule Book

This Rule Book is made available by the Adjustment Services Vendor. In the event of any inconsistency between the English language version of this Rule Book and that translated into any other language, the English language version shall prevail. If there is any ambiguity in, or uncertainty or dispute about the meaning of, any of the provisions of this Rule Book, the Adjustment Services Vendor shall, in its sole and absolute discretion, construe the relevant provision(s) in order to determine the correct interpretation, and the decision of the Adjustment Services Vendor shall be final, conclusive and binding.

Section 6. Backtest Assumptions

This Rule Book contains the fallback rate rules current as of the Publication Date, and will be updated to reflect any changes made after that date.

For the simulation of the hypothetical historical performance, the Adjustment Services Vendor relied on the following assumptions:

6.1 Business Days

The IBOR Business Days and Reference Rate Business Days for an IBOR or Reference Rate respectively are assumed to be those days for which there is a published value.

6.2 Historical values for SOFR

SOFR was first published by the Federal Reserve Bank of New York on 2nd April 2018. Where SOFR is required by the calculations in this methodology prior to this date, the following proxy sources are used:

- From 22nd August 2014 until 29th March 2018 (inclusive), the indicative (pre-launch) SOFR values published by the Federal Reserve Bank of New York
- From 20th February 1998 until 21st August 2014 (inclusive), the Historical Overnight Treasury GC Repo Primary Dealer Survey Rate

6.3 Historical values for €STR

€STR was first published by the European Central Bank on 2nd October 2019. Where €STR is required by the calculation in this methodology prior to this date, the following proxy sources are used:

- From 15th March 2017 until 30th September 2019 (inclusive), the preliminary (pre-€STR) values published by the European Central Bank.
- From 4th January 1999 until 14th March 2017 (inclusive), the value of EONIA minus 8.5 basis points (0.085%).

Section 7. Licensing, Trademark and Important Disclaimer Information

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Appendix A - Rate Adjustment Information

Table 1 - Fallback Rate Information

IBOR	Reference Rate	Tenor	Fallback Rate Base Date	Adjusted Reference Rate Base Date	Spread Adjustment Base Date	Commencement Date
BBSW	RBA Cash Rate	1 Month	TBD	TBD	TBD	TBD
BBSW	RBA Cash Rate	2 Months	TBD	TBD	TBD	TBD
BBSW	RBA Cash Rate	3 Months	TBD	TBD	TBD	TBD
BBSW	RBA Cash Rate	4 Months	TBD	TBD	TBD	TBD
BBSW	RBA Cash Rate	5 Months	TBD	TBD	TBD	TBD
BBSW	RBA Cash Rate	6 Months	TBD	TBD	TBD	TBD
CDOR	CORRA	1 Month	TBD	TBD	TBD	TBD
CDOR	CORRA	2 Months	TBD	TBD	TBD	TBD
CDOR	CORRA	3 Months	TBD	TBD	TBD	TBD
CDOR	CORRA	6 Months	TBD	TBD	TBD	TBD
CDOR	CORRA	12 Months	TBD	TBD	TBD	TBD
Swiss Franc LIBOR	SARON (18:00)	Spot Next	TBD	TBD	TBD	TBD
Swiss Franc LIBOR	SARON (18:00)	1 Week	TBD	TBD	TBD	TBD
Swiss Franc LIBOR	SARON (18:00)	1 Month	TBD	TBD	TBD	TBD
Swiss Franc LIBOR	SARON (18:00)	2 Months	TBD	TBD	TBD	TBD
Swiss Franc LIBOR	SARON (18:00)	3 Months	TBD	TBD	TBD	TBD
Swiss Franc LIBOR	SARON (18:00)	6 Months	TBD	TBD	TBD	TBD
Swiss Franc LIBOR	SARON (18:00)	12 Months	TBD	TBD	TBD	TBD
EURIBOR	€STR	1 Week	TBD	TBD	TBD	TBD
EURIBOR	€STR	1 Month	TBD	TBD	TBD	TBD
EURIBOR	€STR	3 Months	TBD	TBD	TBD	TBD
EURIBOR	€STR	6 Months	TBD	TBD	TBD	TBD
EURIBOR	€STR	12 Months	TBD	TBD	TBD	TBD
Euro LIBOR	€STR	Overnight	TBD	TBD	TBD	TBD
Euro LIBOR	€STR	1 Week	TBD	TBD	TBD	TBD
Euro LIBOR	€STR	1 Month	TBD	TBD	TBD	TBD
Euro LIBOR	€STR	2 Months	TBD	TBD	TBD	TBD

Euro LIBOR	€STR	3 Months	TBD	TBD	TBD	TBD
Euro LIBOR	€STR	6 Months	TBD	TBD	TBD	TBD
Euro LIBOR	€STR	12 Months	TBD	TBD	TBD	TBD
Sterling LIBOR	SONIA	Overnight	06 Jan 1997	06 Jan 2006	06 Jan 2006	TBD
Sterling LIBOR	SONIA	1 Week	06 Jan 1997	11 Dec 2002	11 Dec 2002	TBD
Sterling LIBOR	SONIA	1 Month	06 Jan 1997	11 Feb 2002	11 Feb 2002	TBD
Sterling LIBOR	SONIA	2 Months	06 Jan 1997	11 Mar 2002	11 Mar 2002	TBD
Sterling LIBOR	SONIA	3 Months	06 Jan 1997	09 Apr 2002	09 Apr 2002	TBD
Sterling LIBOR	SONIA	6 Months	06 Jan 1997	09 Jul 2002	09 Jul 2002	TBD
Sterling LIBOR	SONIA	12 Months	06 Jan 1997	09 Jan 2003	09 Jan 2003	TBD
HIBOR	HONIA	Overnight	TBD	TBD	TBD	TBD
HIBOR	HONIA	1 Week	TBD	TBD	TBD	TBD
HIBOR	HONIA	2 Weeks	TBD	TBD	TBD	TBD
HIBOR	HONIA	1 Month	TBD	TBD	TBD	TBD
HIBOR	HONIA	2 Months	TBD	TBD	TBD	TBD
HIBOR	HONIA	3 Months	TBD	TBD	TBD	TBD
HIBOR	HONIA	6 Months	TBD	TBD	TBD	TBD
HIBOR	HONIA	12 Months	TBD	TBD	TBD	TBD
Euroyen TIBOR	TONA	1 Week	TBD	TBD	TBD	TBD
Euroyen TIBOR	TONA	1 Month	TBD	TBD	TBD	TBD
Euroyen TIBOR	TONA	3 Months	TBD	TBD	TBD	TBD
Euroyen TIBOR	TONA	6 Months	TBD	TBD	TBD	TBD
Euroyen TIBOR	TONA	12 Months	TBD	TBD	TBD	TBD
Yen LIBOR	TONA	Spot Next	TBD	TBD	TBD	TBD
Yen LIBOR	TONA	1 Week	TBD	TBD	TBD	TBD
Yen LIBOR	TONA	1 Month	TBD	TBD	TBD	TBD
Yen LIBOR	TONA	2 Months	TBD	TBD	TBD	TBD
Yen LIBOR	TONA	3 Months	TBD	TBD	TBD	TBD
Yen LIBOR	TONA	6 Months	TBD	TBD	TBD	TBD
Yen LIBOR	TONA	12 Months	TBD	TBD	TBD	TBD
Yen TIBOR	TONA	1 Week	TBD	TBD	TBD	TBD
Yen TIBOR	TONA	1 Month	TBD	TBD	TBD	TBD
Yen TIBOR	TONA	3 Months	TBD	TBD	TBD	TBD
Yen TIBOR	TONA	6 Months	TBD	TBD	TBD	TBD

Yen TIBOR	TONA	12 Months	TBD	TBD	TBD	TBD
U.S. Dollar LIBOR	SOFR	Overnight	24 Feb 1998	06 Jan 2006	06 Jan 2006	TBD
U.S. Dollar LIBOR	SOFR	1 Week	20 Feb 1998	03 Mar 2003	03 Mar 2003	TBD
U.S. Dollar LIBOR	SOFR	1 Month	20 Feb 1998	24 Mar 2003	24 Mar 2003	TBD
U.S. Dollar LIBOR	SOFR	2 Months	20 Feb 1998	22 Apr 2003	22 Apr 2003	TBD
U.S. Dollar LIBOR	SOFR	3 Months	20 Feb 1998	22 May 2003	22 May 2003	TBD
U.S. Dollar LIBOR	SOFR	6 Months	20 Feb 1998	22 Aug 2003	22 Aug 2003	TBD
U.S. Dollar LIBOR	SOFR	12 Months	20 Feb 1998	23 Feb 2004	23 Feb 2004	TBD

Table 2 - IBOR Information

IBOR	Currency	Value Lag	Day Count	IBOR Administrator	Business Days
BBSW	AUD	0	365	ASX Benchmarks Limited	Australian Financial Markets Association (AFMA) Negotiable / Transferable Instruments Conventions (NTI) Business Days
CDOR	CAD	0	365	Refinitiv Benchmark Services (UK) Limited (RBSL)	Any day on which Schedule 1 banks under the Bank Act (Canada) are open for business in Toronto, Ontario, Canada
Swiss Franc LIBOR	CHF	2	360	ICE Benchmark Administration Limited	Days on which commercial banks are open for general business in London, England
EURIBOR	EUR	2	360	European Money Markets Institute (EMMI)	Days on which the Trans-European Automated Real Time Gross Settlement Express Transfer System (TARGET2) is operating
Euro LIBOR	EUR	2	360	ICE Benchmark Administration Limited	Days on which commercial banks are open for general business in London, England
Sterling LIBOR	GBP	0	365	ICE Benchmark Administration Limited	Days on which commercial banks are open for general business in London, England
HIBOR	HKD	0	365	Treasury Markets Association (TMA)	Days on which commercial banks are open for general business in Hong Kong
Euroyen TIBOR	JPY	2	360	Japanese Bankers Association TIBOR Administration (JBATA)	Days on which commercial banks are open for general business in Tokyo, Japan
Yen LIBOR	JPY	2	360	ICE Benchmark Administration Limited	Days on which commercial banks are open for general business in London, England
Yen TIBOR	JPY	2	365	Japanese Bankers Association TIBOR Administration (JBATA)	Days on which commercial banks are open for general business in Tokyo, Japan
U.S. Dollar LIBOR	USD	2	360	ICE Benchmark Administration Limited	Days on which commercial banks are open for general business in London, England

Table 3 - IBOR Tenor Information

IBOR	Tenor	Bloomberg Ticker
BBSW	1 Month	BBSW1M Index
BBSW	2 Months	BBSW2M Index
BBSW	3 Months	BBSW3M Index
BBSW	4 Months	BBSW4M Index
BBSW	5 Months	BBSW5M Index
BBSW	6 Months	BBSW6M Index
CDOR	1 Month	CDOR01 Index
CDOR	2 Months	CDOR02 Index
CDOR	3 Months	CDOR03 Index
CDOR	6 Months	CDOR06 Index
CDOR	12 Months	CDOR12 Index
Swiss Franc LIBOR	Spot Next	SF00S/N Index
Swiss Franc LIBOR	1 Week	SF0001W Index
Swiss Franc LIBOR	1 Month	SF0001M Index
Swiss Franc LIBOR	2 Months	SF0002M Index
Swiss Franc LIBOR	3 Months	SF0003M Index
Swiss Franc LIBOR	6 Months	SF0006M Index
Swiss Franc LIBOR	12 Months	SF0012M Index
EURIBOR	1 Week	EUR001W Index
EURIBOR	1 Month	EUR001M Index
EURIBOR	3 Months	EUR003M Index
EURIBOR	6 Months	EUR006M Index
EURIBOR	12 Months	EUR012M Index
Euro LIBOR	Overnight	EE00O/N Index
Euro LIBOR	1 Week	EE0001W Index
Euro LIBOR	1 Month	EE0001M Index
Euro LIBOR	2 Months	EE0002M Index
Euro LIBOR	3 Months	EE0003M Index
Euro LIBOR	6 Months	EE0006M Index
Euro LIBOR	12 Months	EE0012M Index
HIBOR	Overnight	HIHDO/N Index
HIBOR	1 Week	HIHD1W Index
HIBOR	2 Weeks	HIHD2W Index
HIBOR	1 Month	HIHD01M Index
HIBOR	2 Months	HIHD02M Index
HIBOR	3 Months	HIHD03M Index
HIBOR	6 Months	HIHD06M Index
HIBOR	12 Months	HIHD12M Index
Sterling LIBOR	Overnight	BP00O/N Index
Sterling LIBOR	1 Week	BP0001W Index
Sterling LIBOR	1 Month	BP0001M Index
Sterling LIBOR	2 Months	BP0002M Index
Sterling LIBOR	3 Months	BP0003M Index

Sterling LIBOR	6 Months	BP0006M Index
Sterling LIBOR	12 Months	BP0012M Index
Euroyen TIBOR	1 Week	EUYN01W Index
Euroyen TIBOR	1 Month	EUYN01M Index
Euroyen TIBOR	3 Months	EUYN03M Index
Euroyen TIBOR	6 Months	EUYN06M Index
Euroyen TIBOR	12 Months	EUYN12M Index
Yen LIBOR	Spot Next	JY00S/N Index
Yen LIBOR	1 Week	JY0001W Index
Yen LIBOR	1 Month	JY0001M Index
Yen LIBOR	2 Months	JY0002M Index
Yen LIBOR	3 Months	JY0003M Index
Yen LIBOR	6 Months	JY0006M Index
Yen LIBOR	12 Months	JY0012M Index
Yen TIBOR	1 Week	TIO001W Index
Yen TIBOR	1 Month	TIO001M Index
Yen TIBOR	3 Months	TIO003M Index
Yen TIBOR	6 Months	TIO006M Index
Yen TIBOR	12 Months	TIO012M Index
U.S. Dollar LIBOR	Overnight	US00O/N Index
U.S. Dollar LIBOR	1 Week	US0001W Index
U.S. Dollar LIBOR	1 Month	US0001M Index
U.S. Dollar LIBOR	2 Months	US0002M Index
U.S. Dollar LIBOR	3 Months	US0003M Index
U.S. Dollar LIBOR	6 Months	US0006M Index
U.S. Dollar LIBOR	12 Months	US0012M Index

Table 4 - Reference Rate Information

Reference Rate	Day Count	Spot Lag	Business Days	Rounding Precision	Bloomberg Ticker
RBA Cash Rate	365	0	Australian Financial Markets Association (AFMA) Negotiable / Transferable Instruments Conventions (NTI) Business Days	0.0001%	RBACOR Index
CORRA	365	0	Any day on which Schedule 1 banks under the Bank Act (Canada) are open for business in Toronto, Ontario, Canada	0.00001%	CAONREPO Index
SARON	360	2	Swiss SIX Exchange trading and settlement days	0.0001%	SRFXON3 Index
€STR	360	2	Days on which the Trans-European Automated Real Time Gross Settlement Express Transfer System (TARGET2) is operating	0.0001%	ESTRON Index
SONIA	365	0	Days on which commercial banks are open for general business in London,	0.0001%	SONIO/N Index

			England		
HONIA	365	0	Days on which commercial banks are open for general business in Hong Kong	0.00001%	HOISHKD Index
TONA	365	2	Days on which commercial banks are open for general business in Tokyo, Japan	0.00001%	MUTKCALM Index
SOFR	360	2	Any day except for a Saturday, Sunday or a day on which The Securities Industry and Financial Markets Association (or a successor) recommends that the fixed income departments of its members be closed for the entire day for purposes of trading in U.S. government securities	0.00001%	SOFRRATE Index