

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 (“**ISDA 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 the ISDA 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 formulae, definitions, rules and conventions that BISL will implement to calculate the Rate Adjustments in line with the ISDA Consultations referenced above. Without limiting the detail set forth in the formulae, definitions, rules and conventions outlined below, the key adjustments that the ISDA Consultations arrived at and which this Rule Book seeks to implement are the following:

- (i) to account for the fact that IBORs have a term structure (e.g., 1-month, 2-month, etc.) whereas RFRs are overnight rates, the RFRs will be compounded in arrears over a period similar to the applicable IBOR tenor (e.g., 30 days for 1-month, 60 days for 2-month, etc.). These compounded RFRs are each generally referred to as the “Adjusted Reference Rate”;
- (ii) to account for the (nearly) risk-free nature of the RFRs v. the liquidity characteristics and supply/demand factors affecting IBORs, a spread adjustment will be calculated for each RFR/IBOR pair (per tenor) using a five-year historical median calculation. These calculations are each generally referred to as the “Spread Adjustment”; and
- (iii) adding (i) and (ii) together on a per RFR, per tenor basis for the resulting “Fallback Rate”.

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 purposes of the EU benchmark regulation (or similar applicable frameworks) (“**BMR**”).

Users should be aware that prior to the Spread Adjustment becoming fixed upon a “Spread Adjustment Fixing Date” (as defined and determined below), neither the Spread Adjustment nor the Fallback Rate should be used as a primary reference rate within a financial instrument or financial contract (or other ‘use’ as defined in the BMR) other than as a contractual fallback. Use of Bloomberg’s calculations to the contrary is expressly prohibited.

Please see the Frequently Asked Questions document on <https://www.bloomberg.com/professional/solution/libor-resource-center/> 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 formulae 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 (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', 'Spot Next' or 'Tomorrow Next', the Following Convention Date with respect to such Reference Rate and 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 such Reference Rate and the Calendar 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 such Reference Rate and the Calendar Day that is 1 (one), 2 (two), 3 (three), 4 (four), 5 (five), 6 (six) or 12 (twelve) months immediately succeeding the Accrual Start Date, respectively. For the avoidance of doubt, if the day of the month of the Accrual Start Date is not present in the month that is 1 (one), 2 (two), 3 (three), 4 (four), 5 (five), 6 (six) or 12 (twelve) months immediately succeeding such Accrual Start Date, then the Accrual End Date shall be the Modified Following Convention Date with respect to such Reference Rate and the last Calendar Day of the month that is 1 (one), 2 (two), 3 (three), 4 (four), 5 (five), 6 (six) or 12 (twelve) months immediately succeeding the month of 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;

"BKBM BID" means the New Zealand Dollar bid rate for prime bank eligible securities traded in the local New Zealand market, known as the Bank Bill Benchmark Rate, provided by the IBOR Administrator;

"BKBM FRA" means the New Zealand Dollar forward rate agreement rate for prime bank eligible securities traded in the local New Zealand market, known as the Bank Bill Benchmark 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-resource-center/> or any successor thereto;

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

"Calendar Day" means all days, including weekends and holidays;

"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 the Bank of Canada 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, an IBOR and Tenor, 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 and Tenor, 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 and with respect to the defined terms used in this Rule Book, 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; or
- (iii) if the IBOR is Sterling LIBOR, Swiss Franc LIBOR, U.S. Dollar LIBOR, Euro LIBOR or Yen LIBOR only, a public statement or publication of information by the regulatory supervisor for the IBOR Administrator of such IBOR announcing that (a) the regulatory supervisor has

determined that such IBOR is no longer, or as of a specified future date will no longer be, representative of the underlying market and economic reality that such IBOR is intended to measure and that representativeness will not be restored and (b) it is being made in the awareness that the statement or publication will engage certain contractual triggers for fallbacks activated by pre-cessation announcements by such supervisor (howsoever described) in contracts;

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

- (i) if such Tenor is 'Overnight', 'Spot Next' or 'Tomorrow Next', the Following Convention Date with respect to such IBOR, Tenor and 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 such IBOR, Tenor and 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 such IBOR, Tenor and the Calendar Day that is 1 (one), 2 (two), 3 (three), 4 (four), 5 (five), 6 (six) or 12 (twelve) months immediately succeeding the IBOR Value Date, respectively. For the avoidance of doubt, if the day of the month of the IBOR Value Date is not present in the month that is 1 (one), 2 (two), 3 (three), 4 (four), 5 (five), 6 (six) or 12 (twelve) months immediately succeeding such IBOR Value Date, then the IBOR Maturity Date shall be the Modified Following Convention Date with respect to such IBOR, Tenor and the last Calendar Day of the month that is 1 (one), 2 (two), 3 (three), 4 (four), 5 (five), 6 (six) or 12 (twelve) months immediately succeeding the month of 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;

"KLIBOR" means the wholesale funding rate known as the Kuala Lumpur Interbank Offered Rate, provided by the IBOR Administrator;

"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 and Tenor, 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 Calendar Day occurring 5 (five) years prior to such Median Period End Date. For the avoidance of doubt, if such Median Period End Date is the 29th (twenty ninth) of February and the year occurring 5 (five) years prior to such Median Period End Date is not a leap year, then the Median Period Start Date means the Calendar Day occurring 5 (five) years prior to the Calendar Day immediately preceding 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, an IBOR and Tenor, 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;

"MYOR" means the Malaysian Overnight Rate provided by Bank Negara Malaysia as administrator of the benchmark, or any successor administrator;

"NIBOR" means the Norwegian Interbank Offered Rate, which reflects the interest rate lenders require for unsecured money market lending in NOK to a leading bank with delivery two days after the trade date, provided by the IBOR Administrator;

"NOWA" means the Norwegian Overnight Weighted Average rate provided by Norges Bank, as administrator of the benchmark, or any successor administrator;

"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;

"RBNZ OCR" means the Reserve Bank of New Zealand Official Daily Cash Rate provided by the Reserve Bank of New Zealand, 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 Tenor Cessation Trigger Date or, if later, the last date for which there is both a Live Tenor that is shorter than such Tenor and a 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;

"STIBOR" means the interest rate applied by panel banks for unsecured lending in Swedish krona (SEK) to leading banks, known as the Stockholm Interbank Offered Rate, provided by the IBOR Administrator;

"SWESTR" means the Swedish krona Short Term Rate provided by Riksbank as administrator of the benchmark, or any successor 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; or
- (iii) if the IBOR is Sterling LIBOR, Swiss Franc LIBOR, U.S. Dollar LIBOR, Euro LIBOR or Yen LIBOR only, a public statement or publication of information by the regulatory supervisor for the IBOR Administrator of such IBOR announcing that (a) the regulatory supervisor has determined that such IBOR Tenor is no longer, or as of a specified future date will no longer be, representative of the underlying market and economic reality that such IBOR Tenor is intended to measure and that representativeness will not be restored and (b) it is being made in the awareness that the statement or publication will engage certain contractual triggers for fallbacks activated by pre-cessation announcements by such supervisor (howsoever described) in contracts;

“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, Tenor 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;

“Value Date” means the date for which any published Value is valid or effective;

“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

RR_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 on or 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:

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

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;

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

$\text{Days}(IM_{f,u}, IM_{f_1,u})$, $\text{Days}(IM_{f_0,u}, IM_{f,u})$ and $\text{Days}(IM_{f_0,u}, IM_{f_1,u})$ mean the number of Calendar Days from and including IBOR Maturity Dates $IM_{f,u}$, $IM_{f_0,u}$ and $IM_{f_0,u}$ to and excluding IBOR Maturity Dates $IM_{f_1,u}$, $IM_{f,u}$ and $IM_{f_1,u}$, 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

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).

In the event that a Market Disruption Event occurs after the time that a relevant Adjusted Reference Rate, Fallback Rate or Spread Adjustment has been published, such relevant Adjusted Reference Rate, Fallback Rate or Spread Adjustment shall stand. Users should note that, for example, where the last required Reference Rate is published prior to the Accrual End Date, and consequently the relevant Adjusted Reference Rate, Fallback Rate or Spread Adjustment is then published, if a Market Disruption Event were to subsequently occur on the expected Accrual End Date, such relevant Adjusted Reference Rate, Fallback Rate or Spread Adjustment shall stand. In such instances, despite a Market Disruption Event, the expected Accrual End Date shall remain a Good Business Day for the purposes of the relevant Rate Adjustment(s). Users should note that HONIA, SARON and RBNZ OCR are published on their Value Dates and therefore prior to the expected Accrual End Date. Other Reference Rates are published on the business day following their Value Dates, and therefore on the expected Accrual End Date.

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 Changes to Rule Book

Under its arrangements with ISDA, the Adjustment Services Vendor is engaged to calculate and distribute the Rate Adjustments in line with the ISDA Consultations, which this Rule Book seeks to reflect.

However, the Adjustment Services Vendor may make changes to the extent necessary to correct for errors or to account for changes to inputs or other events outside of its control but which affect the calculations hereunder and/or the purpose for which they are calculated. For example, the "Errors and Adjustments" section below could be updated to align with certain publication cut-offs established by the standard ISDA definitions. In addition, changes to IBOR or RFR calculation/publication conventions, administrators, etc. may necessitate corresponding changes to the tables underlying such defined terms as the "Day Count", "IBOR Administrator", "Business Day", "Spot Lag" or "Value Lag". Any such immaterial, administrative or error-correcting changes shall only be done to best align the Rule Book

with the ISDA Consultations as is practicable under the circumstances and will be reflected in an updated version of this Rule Book.

Any other changes to the formulae, definitions, rules and conventions set forth in this Rule Book beyond those of the type described above shall only be done via market consultations organized in collaboration with ISDA and notice of any such changes shall be provided to BISL's regulatory supervisor. Any such changes may result in the resulting output being in-scope of the BMR depending on the nature of the changes and the level of discretion that may be employed following such changes.

5.4 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.

5.5 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 and Tenor, or Reference Rate, respectively are assumed to be those days for which there is a published value.

6.1 Historical values for the Reference Rate used to calculate the Fallback Rate for U.S. Dollar LIBOR

SOFR was first published by the Federal Reserve Bank of New York with a Value Date of 2nd April 2018. Where SOFR is required by the calculations in this Rule Book prior to this date, the following proxy sources and Value Dates 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

6.2 Historical values for the Reference Rate used to calculate the Fallback Rate for EURIBOR and Euro LIBOR

€STR was first published by the European Central Bank with a Value Date of 1st October 2019. Where €STR is required by the calculation in this Rule Book prior to this date, the following proxy sources and Value Dates 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%)

6.3 Historical values for the RFR used to calculate the MYR KLIBOR Fallbacks

MYOR was officially re-launched with an enhanced design and governance framework and published by Bank Negara Malaysia with a Value Date of 2nd August 2021. Where MYOR is required by the calculation in this methodology prior to this date, the following data sources and Value Dates are used:

- From 31st December 2014 to 30th July 2021 (inclusive), the Overnight Overall Money Market rate published by Bank Negara Malaysia
- From 1st June 2011 to 30th December 2014 (inclusive), the Money Market Weighted Average Overnight Rate published by Bank Negara Malaysia

Users should note that, on 2nd August 2021, MYOR changed from a Value Date on the day of publication to a Value Date on the Business Day prior to the date of publication.

6.4 Historical values for the RFR used to calculate the NOK NIBOR Fallbacks

NOWA was first published by Norges Bank with a Value Date of 2nd January 2020. Where NOWA is required by the calculation in this methodology prior to this date, the following proxy sources and Value Dates are used:

- From 30th September 2011 to 31st December 2019 (inclusive), the estimated reformed NOWA rate published by Norges Bank

6.5 Historical values for the RFR used to calculate the SEK STIBOR Fallbacks

SWESTR was first published by Sveriges Riksbank with a Value Date of 1st September 2021. Where SWESTR is required by the calculation in this methodology prior to this date, the following proxy sources and Value Dates are used:

- From 4th January 2016 to 31st August 2021 (inclusive), the historical estimate values for SWESTR published by Sveriges Riksbank

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ISDA does not make any representations regarding whether the fallbacks published by Bloomberg and implemented in ISDA's standard documentation for derivatives would be appropriate for non-derivatives. ISDA encourages market participants to consider and analyze the details of the derivatives fallbacks and determine independently whether they would be appropriate for non-derivatives.

Appendix A - Rate Adjustment Information

Table 1 - Fallback Rate Information

IBOR	Reference Rate	Tenor	Adjusted Reference Rate Base Date	Spread Adjustment Base Date	Fallback Rate Base Date	Commencement Date
BBSW	RBA Cash Rate	1 Month	09 Apr 1976	06 May 1994	06 May 1994	17 Jul 2020
BBSW	RBA Cash Rate	2 Months	09 Apr 1976	06 Jun 1994	06 Jun 1994	17 Jul 2020
BBSW	RBA Cash Rate	3 Months	09 Apr 1976	06 Jul 1994	06 Jul 1994	17 Jul 2020
BBSW	RBA Cash Rate	4 Months	09 Apr 1976	08 Aug 1994	08 Aug 1994	17 Jul 2020
BBSW	RBA Cash Rate	5 Months	09 Apr 1976	06 Sep 1994	06 Sep 1994	17 Jul 2020
BBSW	RBA Cash Rate	6 Months	09 Apr 1976	06 Oct 1994	06 Oct 1994	17 Jul 2020
CDOR	CORRA	1 Month	19 Aug 1997	23 Sep 2002	23 Sep 2002	17 Jul 2020
CDOR	CORRA	2 Months	19 Aug 1997	21 Oct 2002	21 Oct 2002	17 Jul 2020
CDOR	CORRA	3 Months	19 Aug 1997	21 Nov 2002	21 Nov 2002	17 Jul 2020
CDOR	CORRA	6 Months	19 Aug 1997	21 Feb 2003	21 Feb 2003	17 Jul 2020
CDOR	CORRA	12 Months	19 Aug 1997	21 Aug 2003	21 Aug 2003	17 Jul 2020
Swiss Franc LIBOR	SARON (18:00)	Spot Next	22 Sep 2009	25 Sep 2014	25 Sep 2014	17 Jul 2020
Swiss Franc LIBOR	SARON (18:00)	1 Week	22 Sep 2009	01 Oct 2014	01 Oct 2014	17 Jul 2020
Swiss Franc LIBOR	SARON (18:00)	1 Month	22 Sep 2009	24 Oct 2014	24 Oct 2014	17 Jul 2020
Swiss Franc LIBOR	SARON (18:00)	2 Months	22 Sep 2009	24 Nov 2014	24 Nov 2014	17 Jul 2020
Swiss Franc LIBOR	SARON (18:00)	3 Months	22 Sep 2009	24 Dec 2014	24 Dec 2014	17 Jul 2020
Swiss Franc LIBOR	SARON (18:00)	6 Months	22 Sep 2009	24 Mar 2015	24 Mar 2015	17 Jul 2020
Swiss Franc LIBOR	SARON (18:00)	12 Months	22 Sep 2009	24 Sep 2015	24 Sep 2015	17 Jul 2020
EURIBOR	€STR	1 Week	04 Jan 1999	14 Jan 2004	14 Jan 2004	17 Jul 2020
EURIBOR	€STR	1 Month	04 Jan 1999	09 Feb 2004	09 Feb 2004	17 Jul 2020
EURIBOR	€STR	3 Months	04 Jan 1999	07 Apr 2004	07 Apr 2004	17 Jul 2020
EURIBOR	€STR	6 Months	04 Jan 1999	07 Jul 2004	07 Jul 2004	17 Jul 2020
EURIBOR	€STR	12 Months	04 Jan 1999	07 Jan 2005	07 Jan 2005	17 Jul 2020
Euro LIBOR	€STR	Overnight	06 Jan 1999	05 Jan 2006	05 Jan 2006	17 Jul 2020
Euro LIBOR	€STR	1 Week	04 Jan 1999	14 Jan 2004	14 Jan 2004	17 Jul 2020
Euro LIBOR	€STR	1 Month	04 Jan 1999	09 Feb 2004	09 Feb 2004	17 Jul 2020
Euro LIBOR	€STR	2 Months	04 Jan 1999	08 Mar 2004	08 Mar 2004	17 Jul 2020
Euro LIBOR	€STR	3 Months	04 Jan 1999	07 Apr 2004	07 Apr 2004	17 Jul 2020
Euro LIBOR	€STR	6 Months	04 Jan 1999	07 Jul 2004	07 Jul 2004	17 Jul 2020

Euro LIBOR	€STR	12 Months	04 Jan 1999	07 Jan 2005	07 Jan 2005	17 Jul 2020
Sterling LIBOR	SONIA	Overnight	06 Jan 1997	06 Jan 2006	06 Jan 2006	17 Jul 2020
Sterling LIBOR	SONIA	1 Week	06 Jan 1997	11 Dec 2002	11 Dec 2002	17 Jul 2020
Sterling LIBOR	SONIA	1 Month	06 Jan 1997	11 Feb 2002	11 Feb 2002	17 Jul 2020
Sterling LIBOR	SONIA	2 Months	06 Jan 1997	11 Mar 2002	11 Mar 2002	17 Jul 2020
Sterling LIBOR	SONIA	3 Months	06 Jan 1997	09 Apr 2002	09 Apr 2002	17 Jul 2020
Sterling LIBOR	SONIA	6 Months	06 Jan 1997	09 Jul 2002	09 Jul 2002	17 Jul 2020
Sterling LIBOR	SONIA	12 Months	06 Jan 1997	09 Jan 2003	09 Jan 2003	17 Jul 2020
HIBOR	HONIA	Overnight	04 Oct 2007	08 Oct 2012	08 Oct 2012	17 Jul 2020
HIBOR	HONIA	1 Week	04 Oct 2007	15 Oct 2012	15 Oct 2012	17 Jul 2020
HIBOR	HONIA	2 Weeks	04 Oct 2007	22 Oct 2012	22 Oct 2012	17 Jul 2020
HIBOR	HONIA	1 Month	04 Oct 2007	06 Nov 2012	06 Nov 2012	17 Jul 2020
HIBOR	HONIA	2 Months	04 Oct 2007	06 Dec 2012	06 Dec 2012	17 Jul 2020
HIBOR	HONIA	3 Months	04 Oct 2007	07 Jan 2013	07 Jan 2013	17 Jul 2020
HIBOR	HONIA	6 Months	04 Oct 2007	08 Apr 2013	08 Apr 2013	17 Jul 2020
HIBOR	HONIA	12 Months	04 Oct 2007	07 Oct 2013	07 Oct 2013	17 Jul 2020
Euroyen TIBOR	TONA	1 Week	09 Oct 1992	13 Jul 2005	13 Jul 2005	17 Jul 2020
Euroyen TIBOR	TONA	1 Month	09 Oct 1992	07 Apr 2003	07 Apr 2003	17 Jul 2020
Euroyen TIBOR	TONA	3 Months	09 Oct 1992	05 Jun 2003	05 Jun 2003	17 Jul 2020
Euroyen TIBOR	TONA	6 Months	09 Oct 1992	05 Sep 2003	05 Sep 2003	17 Jul 2020
Euroyen TIBOR	TONA	12 Months	09 Oct 1992	05 Mar 2004	05 Mar 2004	17 Jul 2020
Yen LIBOR	TONA	Spot Next	09 Oct 1992	09 Jan 2006	09 Jan 2006	17 Jul 2020
Yen LIBOR	TONA	1 Week	09 Oct 1992	11 Dec 2002	11 Dec 2002	17 Jul 2020
Yen LIBOR	TONA	1 Month	09 Oct 1992	14 Nov 1997	14 Nov 1997	17 Jul 2020
Yen LIBOR	TONA	2 Months	09 Oct 1992	15 Dec 1997	15 Dec 1997	17 Jul 2020
Yen LIBOR	TONA	3 Months	09 Oct 1992	14 Jan 1998	14 Jan 1998	17 Jul 2020
Yen LIBOR	TONA	6 Months	09 Oct 1992	14 Apr 1998	14 Apr 1998	17 Jul 2020
Yen LIBOR	TONA	12 Months	09 Oct 1992	14 Oct 1998	14 Oct 1998	17 Jul 2020
Yen TIBOR	TONA	1 Week	09 Oct 1992	13 Jul 2005	13 Jul 2005	17 Jul 2020
Yen TIBOR	TONA	1 Month	09 Oct 1992	18 Dec 2000	18 Dec 2000	17 Jul 2020
Yen TIBOR	TONA	3 Months	09 Oct 1992	19 Feb 2001	19 Feb 2001	17 Jul 2020
Yen TIBOR	TONA	6 Months	09 Oct 1992	18 May 2001	18 May 2001	17 Jul 2020
Yen TIBOR	TONA	12 Months	09 Oct 1992	19 Nov 2001	19 Nov 2001	17 Jul 2020
KLIBOR	MYOR	1 Month	01 Jun 2011	04 Jul 2016	04 Jul 2016	13 Dec 2021

KLIBOR	MYOR	3 Months	01 Jun 2011	05 Sep 2016	05 Sep 2016	13 Dec 2021
KLIBOR	MYOR	6 Months	01 Jun 2011	05 Dec 2016	05 Dec 2016	13 Dec 2021
NIBOR	NOWA	1 Week	30 Sep 2011	11 Oct 2016	11 Oct 2016	13 Dec 2021
NIBOR	NOWA	1 Month	30 Sep 2011	04 Nov 2016	04 Nov 2016	13 Dec 2021
NIBOR	NOWA	2 Months	30 Sep 2011	05 Dec 2016	05 Dec 2016	13 Dec 2021
NIBOR	NOWA	3 Months	30 Sep 2011	04 Jan 2017	04 Jan 2017	13 Dec 2021
NIBOR	NOWA	6 Months	30 Sep 2011	04 Apr 2017	04 Apr 2017	13 Dec 2021
BKBM BID	RBNZ OCR	1 Month	29 Jan 2009	03 Mar 2014	03 Mar 2014	13 Dec 2021
BKBM BID	RBNZ OCR	2 Months	29 Jan 2009	31 Mar 2014	31 Mar 2014	13 Dec 2021
BKBM BID	RBNZ OCR	3 Months	29 Jan 2009	01 May 2014	01 May 2014	13 Dec 2021
BKBM BID	RBNZ OCR	4 Months	29 Jan 2009	02 Jun 2014	02 Jun 2014	13 Dec 2021
BKBM BID	RBNZ OCR	5 Months	29 Jan 2009	01 Jul 2014	01 Jul 2014	13 Dec 2021
BKBM BID	RBNZ OCR	6 Months	29 Jan 2009	31 Jul 2014	31 Jul 2014	13 Dec 2021
BKBM FRA	RBNZ OCR	1 Month	29 Jan 2009	03 Mar 2014	03 Mar 2014	13 Dec 2021
BKBM FRA	RBNZ OCR	2 Months	29 Jan 2009	31 Mar 2014	31 Mar 2014	13 Dec 2021
BKBM FRA	RBNZ OCR	3 Months	29 Jan 2009	01 May 2014	01 May 2014	13 Dec 2021
BKBM FRA	RBNZ OCR	4 Months	29 Jan 2009	02 Jun 2014	02 Jun 2014	13 Dec 2021
BKBM FRA	RBNZ OCR	5 Months	29 Jan 2009	01 Jul 2014	01 Jul 2014	13 Dec 2021
BKBM FRA	RBNZ OCR	6 Months	29 Jan 2009	31 Jul 2014	31 Jul 2014	13 Dec 2021
STIBOR	SWESTR	Tomorrow Next	04 Jan 2016	07 Jan 2021	07 Jan 2021	13 Dec 2021
STIBOR	SWESTR	1 Week	04 Jan 2016	13 Jan 2021	13 Jan 2021	13 Dec 2021
STIBOR	SWESTR	1 Month	04 Jan 2016	08 Feb 2021	08 Feb 2021	13 Dec 2021
STIBOR	SWESTR	2 Months	04 Jan 2016	08 Mar 2021	08 Mar 2021	13 Dec 2021
STIBOR	SWESTR	3 Months	04 Jan 2016	06 Apr 2021	06 Apr 2021	13 Dec 2021
STIBOR	SWESTR	6 Months	04 Jan 2016	06 Jul 2021	06 Jul 2021	07 Jan 2022
U.S. Dollar LIBOR	SOFR	Overnight	24 Feb 1998	06 Jan 2006	06 Jan 2006	17 Jul 2020
U.S. Dollar LIBOR	SOFR	1 Week	20 Feb 1998	03 Mar 2003	03 Mar 2003	17 Jul 2020
U.S. Dollar LIBOR	SOFR	1 Month	20 Feb 1998	24 Mar 2003	24 Mar 2003	17 Jul 2020
U.S. Dollar LIBOR	SOFR	2 Months	20 Feb 1998	22 Apr 2003	22 Apr 2003	17 Jul 2020
U.S. Dollar LIBOR	SOFR	3 Months	20 Feb 1998	22 May 2003	22 May 2003	17 Jul 2020
U.S. Dollar LIBOR	SOFR	6 Months	20 Feb 1998	22 Aug 2003	22 Aug 2003	17 Jul 2020
U.S. Dollar LIBOR	SOFR	12 Months	20 Feb 1998	23 Feb 2004	23 Feb 2004	17 Jul 2020

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. In addition, for the Overnight Tenor only, days that are also not the following Euro Public Holidays: <ul style="list-style-type: none"> • Labour Day (1st May)
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
KLIBOR	MYR	0	365	Bank Negara Malaysia (BNM)	Days on which commercial banks are open for general business in Kuala Lumpur, Malaysia

BKBM BID	NZD	0	365	New Zealand Financial Benchmark Facility (NZFBF)	Days on which commercial banks are open for general business in New Zealand, including on Auckland and Wellington Anniversary Days
BKBM FRA	NZD	0	365	New Zealand Financial Benchmark Facility (NZFBF)	Days on which commercial banks are open for general business in New Zealand, including on Auckland and Wellington Anniversary Days
NIBOR	NOK	2	360	Norske Finansielle Referanser AS (NoRe)	Days on which the Norges Bank's settlement system (NBO) is open
STIBOR	SEK	2	360	Swedish Financial Benchmark Facility (SFBF)	Days on which commercial banks are open for general business in Stockholm, Sweden
U.S. Dollar LIBOR	USD	2	360	ICE Benchmark Administration Limited	Days on which commercial banks are open for general business in London, England. In addition, for the Overnight Tenor only, days that are also not the following U.S. Dollar Public Holidays: <ul style="list-style-type: none"> • Martin L King's Birthday • Presidents' Day • Independence Day (4th July) • Labour Day • Columbus Day • Veterans Day • Thanksgiving Day

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	EE000/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	HIHDO1M Index
HIBOR	2 Months	HIHDO2M Index
HIBOR	3 Months	HIHDO3M Index
HIBOR	6 Months	HIHDO6M Index
HIBOR	12 Months	HIHD12M Index
Sterling LIBOR	Overnight	BP000/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	TI0001W Index
Yen TIBOR	1 Month	TI0001M Index
Yen TIBOR	3 Months	TI0003M Index
Yen TIBOR	6 Months	TI0006M Index

Yen TIBOR	12 Months	TI0012M Index
KLIBOR	1 Month	KLIB1M Index
KLIBOR	3 Months	KLIB3M Index
KLIBOR	6 Months	KLIB6M Index
NIBOR	1 Week	NIBOR1W Index
NIBOR	1 Month	NIBOR1M Index
NIBOR	2 Months	NIBOR2M Index
NIBOR	3 Months	NIBOR3M Index
NIBOR	6 Months	NIBOR6M Index
BKBM BID	1 Month	NFIX1BID Index
BKBM BID	2 Months	NFIX2BID Index
BKBM BID	3 Months	NFIX3BID Index
BKBM BID	4 Months	NFIX4BID Index
BKBM BID	5 Months	NFIX5BID Index
BKBM BID	6 Months	NFIX6BID Index
BKBM FRA	1 Month	NFIX1FRA Index
BKBM FRA	2 Months	NFIX2FRA Index
BKBM FRA	3 Months	NFIX3FRA Index
BKBM FRA	4 Months	NFIX4FRA Index
BKBM FRA	5 Months	NFIX5FRA Index
BKBM FRA	6 Months	NFIX6FRA Index
STIBOR	Tomorrow Next	STIB1D Index
STIBOR	1 Week	STIB1W Index
STIBOR	1 Month	STIB1M Index
STIBOR	2 Months	STIB2M Index
STIBOR	3 Months	STIB3M Index
STIBOR	6 Months	STIB6M Index
U.S. Dollar LIBOR	Overnight	US000/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, England	0.0001%	SONIO/N Index
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
MYOR	365	0	Days on which commercial banks are open for general business in Kuala Lumpur, Malaysia	0.00001%	MYORRATE Index
RBNZ OCR	365	0	Days on which commercial banks are open for general business in New Zealand, including on Auckland and Wellington Anniversary Days	0.00001%	NZOCRS Index
NOWA	365	2	Days on which the Norges Bank's settlement system (NBO) is open	0.00001%	NOWA Index
SWESTR	360	2	Days on which commercial banks are open for general business in Stockholm, Sweden	0.00001%	SWESTR 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