

Bloomberg Rolling FX Forward Indices Methodology

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Introduction

This methodology (the "Methodology") has been made available by Bloomberg Index Services Limited ("BISL") and sets out the rules, criteria, risk factors and other information application to the Bloomberg Rolling Forward Indices (the "Indices" and each, an "Index"). Capitalized terms used in this Methodology but not otherwise defined have the meanings set forth in Appendix I (Glossary).

Objectives and Key Features

The Bloomberg Rolling FX Forward Indices aim to reflect the performance of entering into a rolling long or short forward position in a Currency against an Index Currency, which are rolled at Roll Day.

Section 1: Calculation

Index calculation

With respect to each Index, the Closing Index Value on the Index Base Date shall be the Index Base Value. Thereafter, the Index Value with respect to each subsequent Index Business Day, t , and Fixing, f , shall be calculated in accordance with the following formula, subject to Section 1 ("Rounding"):

$$I_{(t,f)} = I_{(t-1,close)} + UnitsReturn_{(t,f)} \quad (1)$$

Where:

$t - 1$ means the Index Business Day immediately preceding t ;

$close$ means the Closing Fixing;

$I_{(t,f)}$ and $I_{(t-1,close)}$ mean the Index Values for Fixing f on Index Business Day t and the Closing Fixing $close$ on Index Business Day $t - 1$ respectively;

$UnitsReturn_{(t,f)}$ means the return attributed to the Units at Fixing f on Index Business Day t , calculated in accordance with the following formula:

$$UnitsReturn_{(t,f)} = \sum_{Fwd(r,ccy) \in FWD} U_t^{Fwd(r,ccy)} \times \left(P_{(t,f)}^{Fwd(r,ccy)} - P_{(t-1,close)}^{Fwd(r,ccy)} \right) \quad (2)$$

Where:

$Fwd(r,ccy)$ means the Forward Position of Currency ccy against the Index Currency with Roll Day r ;

FWD means the set of Forward Positions;

$U_t^{Fwd(r,ccy)}$ means the Units for Forward Position $Fwd(r,ccy)$ on Index Business Day t ;

$P_{(t,f)}^{Fwd(r,ccy)}$ means the Price of Forward Position $Fwd(r,ccy)$ at Fixing f on Index Business Day t ; and

$P_{(t-1,close)}^{Fwd(r,ccy)}$ means the Price of Forward Position $Fwd(r,ccy)$ at the Closing Fixing $close$ on Index Business Day $t - 1$.

Units

With respect to each Forward Position, $Fwd(r,ccy)$, the Units on Index Base Date shall be 0 (zero). Thereafter, the Units with respect to each Forward Position, $Fwd(r,ccy)$, and subsequent Index Business Day, t , shall be calculated in accordance with the following method:

$$U_t^{Fwd(r,ccy)} = U_{t-1}^{Fwd(r,ccy)} + IU_{t-1}^{Fwd(r,ccy)} \quad (4)$$

Where:

$t - 1$ means the Index Business Day immediately preceding t ;

$U_t^{Fwd(r,ccy)}$ and $U_{t-1}^{Fwd(r,ccy)}$ mean the Units for Forward Position $Fwd(r,ccy)$ on Index Business Days t and $t - 1$ respectively; and

$IU_{t-1}^{Fwd(r,ccy)}$ means the Incremental Units for Forward Position $Fwd(r,ccy)$ on Index Business Day $t - 1$.

Incremental Units

With respect to each Forward Position, $Fwd(r,ccy)$, the Incremental Units for each Index Business Day, t , shall be calculated in accordance with the following method:

If Index Business Day t is the Index Base Date:

$$IU_t^{Fwd(r,ccy)} = TU_t^{Fwd(r,ccy)} \quad (5)$$

If Index Business Day t is a Roll Day:

$$IU_t^{Fwd(r,ccy)} = TU_t^{Fwd(r,ccy)} - U_t^{Fwd(r,ccy)} \quad (6)$$

Else:

$$IU_t^{Fwd(r,ccy)} = 0 \quad (7)$$

Where:

$IU_t^{Fwd(r,ccy)}$ means the Incremental Units for Forward Position $Fwd(r,ccy)$ on Index Business Day t ;

$TU_t^{Fwd(r,ccy)}$ means the Target Units for Forward Position $Fwd(r,ccy)$ on Index Business Day t ; and

$U_t^{Fwd(r,ccy)}$ means the Units for Forward Position $Fwd(r,ccy)$ on Index Business Day t .

Target Units

With respect to Forward Position, $Fwd(r,ccy)$, the Target Units for each Index Business Day, t , shall be calculated on the Determination Date for t in accordance with the following method:

If Index Business Day t is the Index Base Date or a Roll Day:

If Unit Type is 'Notional':

$$TU_t^{Fwd(r,ccy)} = Direction \times \left(\frac{I_{(obs,close)}}{P_{(obs,close)}^{Fwd(r,ccy)}} \right) \quad (10)$$

Else if Unit Type is 'Constant':

$$TU_t^{Fwd(r,ccy)} = Direction \times 1 \quad (11)$$

Else if Unit Type is 'Fixed Notional':

$$TU_t^{Fwd(r,ccy)} = Direction \times \left(\frac{I_{(obs,close)}}{Notional} \right) \quad (12)$$

Else:

$$TU_t^{Fwd(r,ccy)} = TU_{t-1}^{Fwd(r,ccy)} \quad (13)$$

Where:

$t - 1$ means the Index Business Day immediately preceding t ;

close means the Closing Fixing;

obs means, with respect to Index Business Day t , the Observation Date;

$I_{(obs,close)}$ means the Index Value for the Closing Fixing on Observation Date *obs*;

Notional means the Fixed Notional;

$TU_t^{Fwd(r,ccy)}$ and $TU_{t-1}^{Fwd(r,ccy)}$ mean the Target Units for Forward Position $Fwd(r,ccy)$ on Index Business Days t and $t - 1$ respectively;

$P_{(obs,close)}^{Fwd(r,ccy)}$ means the Price of Forward Position $Fwd(r,ccy)$ for the Closing Fixing *close* on Observation Date *obs*.

Forward Position Price

The Price of a Forward Position, $Fwd(r,ccy)$, is the value, expressed as a forward rate, determined by considering the offsetting forward rate required to unwind the existing position. On Index Base Date, the Price of a Forward Position, $Fwd(r,ccy)$, prior to its Horizon Date will be the same as the Price on its Horizon Date. And the Price of a Forward Position, $Fwd(r,ccy)$, beyond its Forward Position Expiry Date will be the same as the Price on its Forward Position Expiry Date.

With respect to a Forward Position, $Fwd(r,ccy)$, the Price for each Index Business Day, t , shall be calculated in accordance with the following formula:

$$P_{(t,f)}^{Fwd(r,ccy)} = FR_{(r,enter)}^{Settle(Fwd(r,ccy))} + \left(\left(FR_{(t,f,unwind)}^{Settle(Fwd(r,ccy))} - FR_{(r,enter)}^{Settle(Fwd(r,ccy))} \right) \times PVF_{(t,f)}^{Settle(Fwd(r,ccy))} \right) \quad (14)$$

Where:

$P_{(t,f)}^{Fwd(r,ccy)}$ means the Price for Forward Position $Fwd(r,ccy)$ for Fixing f on Index Business Day t ;

$Settle(Fwd(r,ccy))$ means the Forward Instrument Settlement Date of the Forward Position $Fwd(r,ccy)$;

$FR_{(r,enter)}^{Settle(Fwd(r,ccy))}$ means the Forward Rates to Forward Position Settlement Date $Settle(Fwd(r,ccy))$ at Enter Quote Side *enter* on Roll Day r ;

$FR_{(t,f,unwind)}^{Settle(Fwd(r,ccy))}$ mean the Forward Rates to Forward Position Settlement Date $Settle(Fwd(r,ccy))$ for Fixing f at Unwind Quote Side *unwind* on Index Business Day t ; and

$PVF_{(t,f)}^{Settle(Fwd(r,ccy))}$ means the Present Value Factor for Forward Position Settlement Date $Settle(Fwd(r,ccy))$ for Fixing f on Index Business Day t .

Present Value Factor

With respect to a Forward Position Settlement Date, $Settle(Fwd(r,ccy))$, the Present Value Factor for each Index Business Day, t , shall be calculated in accordance with the following formula:

If Discount Type is 'None':

$$PVF_{(t,f)}^{Settle(Fwd(r,ccy))} = 1 \quad (15)$$

Else if Discount Type is 'Simple':

$$PVF_{(t,f)}^{Settle(Fwd(r,ccy))} = \frac{1}{1 + (DR_{(t,f)}^{Settle(Fwd(r,ccy))}) \times DCF_t^{Settle(Fwd(r,ccy))}} \quad (16)$$

Else if Discount Type is 'Continuous':

$$PVF_{(t,f)}^{Settle(Fwd(r,ccy))} = e^{-DR_{(t,f)}^{Settle(Fwd(r,ccy))} \times DCF_t^{Settle(Fwd(r,ccy))}} \quad (17)$$

Where:

$PVF_{(t,f)}^{Settle(Fwd(r,ccy))}$ means the Present Value Factor for Forward Position Settlement Date $Settle(Fwd(r,ccy))$ for Fixing f on Index Business Day t ;

$DCF_t^{Settle(Fwd(r,ccy))}$ means the Day Count Fraction for Forward Position Settlement Date $Settle(Fwd(r,ccy))$ on Index Business Day t , calculated in accordance with the following formula:

$$DCF_t^{Settle(Fwd(r,ccy))} = \frac{Days(Settle(Fwd(r,ccy)), SpotSettle(t))}{DCC} \quad (18)$$

Where:

$Days(\alpha, \beta)$, where α and β can take dates $Settle(Fwd(r,ccy))$, $SpotSettle(t)$, $Settle(SDT_t)$ or $Settle(LDT_t)$, means the number of Calendar Days from and including α to and excluding β ;

$SpotSettle(t)$ means the Spot Settlement Date on Index Business Day t ; and

DCC means the Day Count Convention.

$DR_{(t,f)}^{Settle(Fwd(r,ccy))}$ means the Discount Rate for Forward Position Settlement Date $Settle(Fwd(r,ccy))$ for Fixing f on Index Business Day t , calculated in accordance with the following formula:

$$DR_{(t,f)}^{Settle(Fwd(r,ccy))} = \frac{R_{(t,f)}^{Settle(SDT_t)} \times Days(Settle(Fwd(r,ccy)), Settle(LDT_t)) + R_{(t,f)}^{Settle(LDT_t)} \times Days(Settle(SDT_t), Settle(Fwd(r,ccy)))}{Days(Settle(SDT_t), Settle(LDT_t))} \quad (19)$$

Where:

SDT_t and LDT_t mean the Short Tenor Discount Instrument and Long Tenor Discount Instrument on Index Business Day t respectively;

$R_{(t,f)}^{Settle(SDT_t)}$ and $R_{(t,f)}^{Settle(LDT_t)}$ mean the Discount Instrument Rates of the Short and Long Tenor for Fixing f on Index Business Day t respectively; and

$Settle(SDT_t)$ and $Settle(LDT_t)$ mean the Settlement Dates of the Short Tenor Discount Instrument and Long Tenor Discount Instrument on Index Business Day t respectively.

Discount Instrument Settlement Dates

The Settlement Dates of the Short Tenor and Long Tenor Discount Instruments shall be calculated for each Index Business Day, t , in accordance with the following method:

If Discount Settlement Type is "Match FX Tenor", with respect to a Discount Instrument Tenor, the Settlement Dates of the Discount Instruments are determined as the following:

- (a) if the Discount Instrument Tenor is one (1) day (1D), the Discount Instrument Settlement Date follows the same settlement date as the Spot FX Instrument settlement date;
- (b) otherwise the Discount Instrument Settlement Date follows the same settlement date as the Forward Position Settlement Dates obtained from the FX Data Source.

Else if Discount Settlement Type is “Simple Rate Convention”, with respect to a Discount Instrument Pricing Day and a Discount Instrument Tenor, the Settlement Dates of the Discount Instruments are determined as the following:

- (a) if the Discount Instrument Tenor is one (1) day (1D), one (1) week (1W), two (2) weeks (2W) or three (3) weeks (3W), the Calendar Day that is one (1), seven (7), fourteen (14) or twenty one (21) Calendar Days immediately following such Discount Instrument Pricing Day, rolled forward to the next Discount Instrument Pricing Day if such resulting Calendar Day is not an Discount Instrument Pricing Day;
- (b) if the Discount Instrument Tenor is one (1) month (1M), two (2) months (2M) or three (3) months (3M), the Calendar Day that is on the same day of the month as such Discount Instrument Pricing Day in the month that is one (1), two (2) or three (3) months immediately following such Discount Instrument Pricing Day, rolled forward to the next Discount Instrument Pricing Day under a modified following convention if such resulting Calendar Day is not an Discount Instrument Pricing Day. For the avoidance of doubt, if the target month does not contain the day of the month as such Discount Instrument Pricing Day, it shall be the last Discount Instrument Pricing Day of such target month.

Forward Rate

Forward rates for a given settlement date are determined by interpolating between (or extrapolating from) the rates of certain quoted forward tenors.

With respect to a Forward Position Settlement Date, $Settle(Fwd(r, ccy))$, the Forward Rate for each Index Business Day, t , shall be calculated in accordance with the following interpolation formula:

$$FR_{(t,f,q)}^{Settle(Fwd(r, ccy))} = \frac{FR_{(t,f,q)}^{Settle(STFI_t)} \times Days(Settle(Fwd(r, ccy)), Settle(LTFI_t)) + FR_{(t,f,q)}^{Settle(LTFI_t)} \times Days(Settle(STFI_t), Settle(Fwd(r, ccy)))}{Days(Settle(STFI_t), Settle(LTFI_t))} \quad (20)$$

Where:

$STFI_t$ and $LTFI_t$ mean the Short Tenor FX Instrument and Long Tenor FX Instrument on Index Business Day t respectively;

$Settle(STFI_t)$ and $Settle(LTFI_t)$ mean the Forward Instrument Settlement Dates of the Short Tenor FX Instrument and Long Tenor FX Instrument on Index Business Day t respectively;

$FR_{(t,f,q)}^{Settle(STFI_t)}$ and $FR_{(t,f,q)}^{Settle(LTFI_t)}$ mean the Forward Rates to the Forward Instrument Settlement Dates of the Short Tenor FX Instrument and the Long Tenor FX Instrument for Fixing f at Quote Side q on Index Business Day t respectively; and

$Days(\alpha, \beta)$, where α and β can take dates $Settle(Fwd(r, ccy))$, $Settle(STFI_t)$ or $Settle(LTFI_t)$, means the number of Calendar Days from and including α to and excluding β .

Forward Position Settlement Dates

With respect to a Forward Position $Fwd(r, ccy)$, the Forward Position Settlement Date shall be calculated in accordance with the following formula:

If Settlement Type is ‘Schedule’:

(The settlement date of each Forward Position $Fwd(r, ccy)$ is set such that it matches what would be the settlement date of a spot transaction entered into on the Expiry Date.)

$$\text{Settle}(Fwd(r, ccy)) = \text{SpotSettle}(EXP^{Fwd(r, ccy)}) \quad (21)$$

Else if Settlement Type is 'Clean Tenor':

If Index Business Day t is the Index Base Date or a Roll Day:

(The settlement date of each Forward Position $Fwd(r, ccy)$ is set such that it matches what would be the settlement date of the Index Tenor Forward Instrument.)

$$\text{Settle}(Fwd(r, ccy)) = \text{Settle}(Tenor) \quad (22)$$

Else:

(The settlement date of each Forward Position $Fwd(r, ccy)$ is set such that it matches what would be the settlement date of a spot transaction entered into on the Expiry Date.)

$$\text{Settle}(Fwd(r, ccy)) = \text{SpotSettle}(EXP^{Fwd(r, ccy)}) \quad (23)$$

Where:

$EXP^{Fwd(r, ccy)}$ means the Expiry Date of Forward Position $Fwd(r, ccy)$;

$\text{SpotSettle}(EXP^{Fwd(r, ccy)})$ means the Spot Settlement Date of Forward Position Expiry Date, $EXP^{Fwd(r, ccy)}$; and

$\text{Settle}(Tenor)$ means the Index Tenor Forward Instrument Settlement Date.

Forward Position Expiry Dates

With respect to a Forward Position, $Fwd(r, ccy)$, the Forward Position Expiry Date, $EXP^{Fwd(r, ccy)}$, shall be calculated on each Horizon Date in accordance with the following expiry determination method:

If Settlement Type is 'Schedule':

The Expiry Date of Forward Position, $Fwd(r, ccy)$, is the earliest Index Business Day for which the Spot Settlement Date is the Settlement Date for the Roll Day, $R_{next}(r)$, where $R_{next}(r)$ means the Roll Day immediately following Roll Day r .

Else if Settlement Type is 'Clean Tenor':

The Expiry Date of Forward Position, $Fwd(r, ccy)$, is the earliest Index Business Day for which the Spot Settlement Date is the Settlement Date of the Index Tenor Forward Instrument.

Once determined on the Horizon Date of a Forward Position, the Expiry Date of Forward Position is fixed and does not update should there be a change to the settlement dates due to calendar changes.

Tenor Instrument Determination

This section describes the methodology of selecting the two closest Available FX and Discount Rate Instruments for interpolating/extrapolating the Forward and Discount Rates. The description below applies to both the FX and Discount Tenor Instrument determination.

Short Tenor Instrument is determined in accordance with the following:

1. If the Forward Position Settlement Date is the same as the Instrument Settlement Date of an Available Instrument, then such Available Instrument.

2. Otherwise, if the Forward Position Settlement Date is prior to the Instrument Settlement Dates of all Available Instruments, then the Available Instrument with the earliest Instrument Settlement Date.
3. Otherwise, if the Forward Position Settlement Date is later than the Instrument Settlement Dates of all Available Instruments, then the Available Instrument with the latest Instrument Settlement Date that is prior to the Instrument Settlement Date of the Long Tenor Instrument.
4. Otherwise, the Available Instrument with the latest Instrument Settlement Date that is prior to the Forward Position Settlement Date.

Long Tenor Instrument is determined in accordance with the following:

1. If the Forward Position Settlement Date is the same as the Instrument Settlement Date of an Available Instrument, then such Available Instrument.
2. Otherwise, if the Forward Position Settlement Date is later than the Instrument Settlement Dates of all Available Instruments, then the Available Instrument with the latest Instrument Settlement Date.
3. Otherwise, if the Forward Position Settlement Date is prior to the Instrument Settlement Dates of all Available Instruments, then the Available Instrument with the earliest Instrument Settlement Date that is later than the Instrument Settlement Date of the Short Tenor Instrument.
4. Otherwise, the Available Instrument with the earliest Instrument Settlement Date that is later than the Forward Position Settlement Date.

Rounding

The Index Values shall be calculated without rounding and published to 4 decimal places.

Section 2: Backtest assumptions

The rules outlined above are applied historically, however the following assumptions have been made:

Prior to the inception date of the BFIX calendar, which is January 2016, the Index follows a holiday schedule which excludes Christmas Day, New Year's Day and Good Friday as business days. In the event that such holiday falls on a weekend, the holiday replacement will be the following calendar day, provided it does not fall on a Saturday, in which case there will be no holiday replacement.

Section 3: Stakeholder engagement, risk, and limitations

Limitations of the index

Though the Index is designed to be representative of the markets it measures or otherwise aligns with its stated objective, it may not be representative in every case or achieve its stated objective in all instances. It is designed and calculated strictly to follow the rules of this Methodology, and any Index level or other output is limited in its usefulness to such design and calculation.

Markets can be volatile, including those market interests that the Index measures or upon which the Index is dependent to achieve its stated objective. For example, illiquidity can have an impact on the quality or amount of data available to the administrator for calculation and may cause the Index to produce unpredictable or unanticipated results.

In addition, changes to the availability and/or accuracy of trade, liquidity or forward rates data, may render the objective of the Index unachievable or to become impractical to replicate by investors. They are for the indicative purpose.

In particular, the Index measures FX Forwards with the Index Currency. As with all investing, the Index is exposed to market risk. The value of FX Forwards fluctuate with the changes in economic forecasts, interest rate policies established by central banks and perceived geo-political risk. The Index does not take into account the cost of replication and as a result, a tracking portfolio's returns will underperform the Index with all else equal. As the Index is designed to measure those markets, it could be materially impacted by market movements, thus significantly impacting the use or usefulness of the fixings for some or all users.

Section 4: Benchmark oversight and governance

Benchmark governance, audit, and review structure

Please refer to the BISL Benchmark Procedures Handbook available [here](#).

Index and Methodology Changes

Please refer to the BISL Benchmark Procedures Handbook available [here](#).

Expert judgement and Discretion

Please refer to the BISL Benchmark Procedures Handbook available [here](#).

Conflicts of interest

Please refer to the BISL Benchmark Procedures Handbook available [here](#).

Restatement policy

Please refer to the BISL Benchmark Procedures Handbook available [here](#).

Cessation Policy

Please refer to the BISL Benchmark Procedures Handbook available [here](#).

Appendix I: Glossary

Available Discount Instrument	The Discount Instruments for which the Discount Instrument Source can provide rates on an Index Business Day.
Available FX Instrument	The FX Instruments for which the FX Data Source can provide rates on an Index Business Day.
Calendar Day	Any day.
Closing Fixing	The Fixing corresponding to the end of day valuation.
Closing Index Value	The value of the Index on any given Index Business Day at the Closing Fixing.
Forward Positions	The Eligible Forward Positions.
Forward Position Currency	The Currency in which a given Forward Position is represented.
Currency	A medium of exchange for goods and services.
Currency Pair	The two currencies for which an FX rate is quoted where the Currency listed first is the Currency and the other is the Index Currency.
Day Count Convention	The number of Calendar Days that determines how interest accrues over time.
Day Count Fraction	The number of actual Calendar Days in a period over the day count convention.
Determination Business Days	The days on which an index may make determinations with respect to changing units.
Determination Date	For an Index Business Day, the Determination Business Day occurring the Determination Lag number of Determination Business Days prior.
Determination Lag	The number of Determination Business Days before any determinations made by an index should become effective.
Direction	Means going 'long' (1) or 'short' (-1).
Discount Instrument	The Discount Instrument Rates used to calculate the Present Value Factor.
Discount Instrument Prices	On a Discount Instrument Pricing Day, the value of the Discount Instrument as determined from the Discount Instrument Source with respect to the Fixing. Otherwise, the value of such Discount Instrument as determined from the Discount Instrument Source with respect to the Closing Fixing on the immediately preceding Discount Instrument Pricing Day.
Discount Instrument Pricing Day	The days on which Discount Instrument Prices for the Discount Instruments are considered to be available.
Discount Instrument Pricing Offset	The pricing offset used to determine the Discount Instrument Rate.
Discount Instrument Price Type	The classification of the price defined for the Discount Instrument.
Discount Instrument Rate	The Fixing obtained from the Discount Instrument Source on the number of Discount Instrument Pricing Offset Discount Instrument Pricing Days immediately preceding either an Index Business Day, if such date is a Discount Instrument Pricing Day, or the immediately preceding Discount Instrument Pricing Day.
Discount Instrument Settlement Date	The settlement date of the Discount Instrument, as determined in accordance with the methodology described in Section 1: Calculation.
Discount Instrument Source	The source of Discount Instrument data for a Fixing.
Discount Instrument Tenor	The time to expiry of the Discount Instrument.
Discount Rate	The discount rate interpolated/extrapolated using the Short and Long Tenor Discount Instruments and its respective Discount Instrument Settlement Dates on an Index Business Day.
Discount Settlement Type	The method to determine the Discount Instrument Settlement Date.
Discount Type	The method to calculate the Present Value Factor.
Enter Quote Side	The quote used for the entering into the Forward Position.
Eligible Forward Positions	The set of Forward Positions that the index may hold.
Fixed Notional	The fixed notional amount that is used for target unit calculation if Unit Type is 'Fixed Notional'.
Fixing	A given time, specified with respect to a location or time zone.
Forward Instrument Settlement Date	On an Index Business Day, the settlement date of the Forward Instrument provided by the FX Data Source. Otherwise, the settlement date of the Forward Instrument provided by the FX Data Source on the immediately preceding Index Business Day that is also an FX Instrument Pricing Day.
Forward Position	The FX forward contract long or short the Currency against the Index Currency entered into on such Roll Day.
Forward Position Expiry Date	The date on which the Forward Position expires.

Forward Position Settlement Date	The settlement date of the Forward Position.
Forward Rate	The outright rate for an FX forward contract entered into on a Calendar Day for settlement on the Forward Position Settlement Date as determined by interpolation using the Available FX Instruments.
Forward Instrument	The Outright Forward FX Rates.
FX Data Source	The source of FX data for a Fixing.
FX Instruments	The Spot Exchange Rate and Forward Instruments.
FX Instrument Pricing Day	The days on which Prices for the FX Instruments are considered to be available.
Horizon Date	The date on which the Forward Position is entered into.
Incremental Units	The difference in Units attributed to an action or activity on a Fixing.
Index	Has the meaning set forth in the Introduction.
Index Base Date	The first date on which an Index publishes a value.
Index Base Value	The value of an Index on and prior to the Index Base Date.
Index Business Day	The days on which the Index is calculated.
Index Commencement Day	The date on which an index is first published.
Index Currency	The currency in which an index is published.
Index Tenor	The tenor used to calculate the Forward Position Settlement Date on a Roll Day.
Index Value	The value of the Index at a given Fixing on an Index Business Day.
Long Tenor Discount Instrument	The Discount Instrument that has the longer length of time remaining before expiry, as determined in accordance with the methodology described in Section 1: Calculation.
Long Tenor FX Instrument	The FX Instrument that has the longer length of time remaining before expiry, as determined in accordance with the methodology described in Section 1: Calculation.
Market Disruption Event	A situation wherein markets cease to function in a regular manner. See Appendix II: Market Disruptions.
Observation Business Days	The days from which data used for making determinations may be taken.
Observation Date	For an Index Business Day, the Observation Business Day occurring the Observation Lag number of Observation Business Days prior.
Observation Lag	The number of Observation Business Days prior to the effective date of a determination from which data used for such determination should be taken.
Outright Forward FX Rate	The exchange rate for delivery in the future for a Currency Pair.
Present Value Factor	The factor used to discount forward rates back to the Index Business Day.
Price	On an Index Business Day, the price of a Forward Position is the value, expressed as a forward rate. Otherwise, the price of a Forward Position is the value, expressed as a forward rate, on the immediately preceding Index Business Day that is also an FX Instrument Pricing Day.
Price Currency	The currency in which the Prices of the Forward Positions are quoted.
Quote Side	The quote used for the Forward Rates, which is either Enter Quote Side or Unwind Quote Side.
Roll Business Days	The days on which a roll may be performed.
Roll Day	The day on which a new Forward Position is entered in.
Settlement Type	The method to determine the Forward Position Settlement Date.
Short Tenor Discount Instrument	The Discount Instrument that has the shorter length of time remaining before expiry, as determined in accordance with the methodology described in Section 1: Calculation.
Short Tenor FX Instrument	The FX Instrument that has the shorter length of time remaining before expiry, as determined in accordance with the methodology described in Section 1: Calculation.
Spot Exchange Rate	The rate used to convert one unit of a Currency into the Index Currency at a given Fixing on an Index Business Day as determined from the FX Data Source.
Spot Settlement Date	The settlement date for the spot rate of a Currency against the Index Currency from the FX Data Source.
Target Units	The Units of a Forward Position that an index intends to hold after trading activities are performed.
Units	The number of units of each Forward Position held on opening of an Index Business Day.

Unit Type	The type of Target Unit calculation.
Unwind Quote Side	The quote used for unwinding the Forward Position or price defined for the Discount Instrument.

Appendix II: Market Disruptions

Please refer to the BISL Benchmark Procedures Handbook available [here](#).

Cases where the price of an FX or Discount Instrument required by the Index is unavailable may be considered as a market disruption event.

The index methodology is designed to handle missing prices under certain circumstances by considering the set of Available FX or Discount Instruments on each Index Business Day. However, under the assumption that all FX or Discount Instruments are available, the Index shall be considered to be disrupted should any FX or Discount Instrument that would be selected as either a Short or Long Tenor Instrument, be subject to missing prices for at least three consecutive FX or Discount Instrument Pricing Days as of such Index Business Day.

Notwithstanding the above, should there be less than two Available FX or Discount Instruments on a given Index Business Day, the index may use the set of Available FX or Discount Instruments and their prices (but not their settlement dates) from the most recent FX or Discount Instrument Pricing Day for which there are at least two Available Instruments as long as such FX or Discount Instrument Pricing Day is no more than three FX or Discount Instrument Pricing Days prior to such Index Business Day. The index may use the same set of Available FX or Discount Instruments used for the prices from the most recent FX or Discount Instrument Pricing Day to calculate the FX or Discount Instrument Settlement Dates of the Short and Long Tenor on such Index Business Day.

Other situations during Market Disruption Event

Outside of these aforementioned situations, if on any Index Business Day, a Market Disruption Event occurs or is occurring that BISL determines, in its sole discretion, materially affects the Index, the impact of the market disruption will be assessed, and actions are determined as per the rules stated in Section 4: Benchmark oversight and governance.

Appendix III: ESG Disclosures

EXPLANATION OF HOW ESG FACTORS ARE REFLECTED IN THE KEY ELEMENTS OF THE BENCHMARK METHODOLOGY	
1. Name of the benchmark administrator.	Bloomberg Index Services Limited ("BISL")
2. Type of benchmark	Other Benchmark
3. Name of the benchmark or family of benchmarks.	Bloomberg Rolling FX Forward Indices
4. Does the benchmark methodology for the benchmark or family of benchmarks take into account ESG factors?	No
<p>5. Where the response to Item 4 is positive, please list below, for each family of benchmarks, those ESG factors that are taken into account in the benchmark methodology, taking into account the ESG factors listed in Annex II to Delegated Regulation (EU) 2020/1816.</p> <p>Please explain how those ESG factors are used for the selection, weighting or exclusion of underlying assets.</p> <p>The ESG factors shall be disclosed at an aggregated weighted average value at the level of the family of benchmarks.</p>	
a) List of environmental factors considered:	Selection, weighting or exclusion: N/A
b) List of social factors considered:	Selection, weighting or exclusion: N/A
c) List of governance factors considered:	Selection, weighting or exclusion: N/A
<p>6. Where the response to Item 4 is positive, please list below, for each benchmark, those ESG factors that are taken into account in the benchmark methodology, taking into account the ESG factors listed in Annex II to Delegated Regulation (EU) 2020/1816, depending on the relevant underlying asset concerned.</p> <p>Please explain how those ESG factors are used for the selection, weighting or exclusion of underlying assets.</p> <p>The ESG factors shall not be disclosed for each Forward Position of the benchmark, but shall be disclosed at an aggregated weighted average value of the benchmark.</p> <p>Alternatively, all of this information may be provided in the form of a hyperlink to a website of the benchmark administrator included in this explanation. The information on the website shall be easily available and accessible. Benchmark administrators shall ensure that information published on their website remains available for five years</p>	
a) List of environmental factors considered:	Selection, weighting or exclusion: N/A
b) List of social factors considered:	Selection, weighting or exclusion: N/A
c) List of governance factors considered:	Selection, weighting or exclusion: N/A

7. Data and standards used.	
<p>a) Data input.</p> <p><i>(i) Describe whether the data are reported, modelled or, sourced internally or externally.</i></p> <p><i>(ii) Where the data are reported, modelled or sourced externally, please name the third party data provider.</i></p>	N/A
<p>b) Verification of data and guaranteeing the quality of those data.</p> <p><i>Describe how data are verified and how the quality of those data is ensured.</i></p>	N/A
<p>c) Reference standards</p> <p><i>Describe the international standards used in the benchmark methodology.</i></p>	N/A
Date on which information has been last updated and reason for the update:	21 March 2024

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