

# **BLOOMBERG U.S. GNMA INDEX TTM JPY CURRENCY HEDGED**

## **Index Methodology Handbook**

Publication Date: 27 October 2021

Last Updated: 27 October 2021

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## Section 1. Introduction

*Unless otherwise specified or defined, all capitalized terms referred to in this Index Methodology Handbook are defined in Section 3 (“Definitions”).*

This Index Methodology Handbook has been made available by the Index Administrator and sets out the rules and risk factors applicable to the Index.

The Index is the intellectual property of the Index Owner and its licensors. The Index Owner and its licensors own the copyright and all other intellectual property rights in the Index as set out in this Index Methodology Handbook. Any use of these intellectual property rights must be with the prior written consent of BISL.

The administration of the Index will be solely performed by the Index Administrator. The Index Administrator controls the creation and operation of the Index's administration process, including all stages and processes involved in the production and dissemination of the Index. Notwithstanding that the Index relies on information from third party sources, the Index Administrator has primary responsibility for all aspects of the Index's administration and determination process.

The information in this Index Methodology Handbook reflects the policies of, and is subject to change by the Index Administrator. The Index Administrator makes certain determinations and calculations in respect of the Index and publishes the Index Value as further described in this Index Methodology Handbook. The Index Administrator may discontinue publication of the Index Value, subject to the transition policies of the Index Administrator, which are available upon written request. The Index Administrator will use reasonable efforts to make available the Index Value in respect of each Index Business Day. The Index is published on the relevant Bloomberg Pages (Appendix A). Certain information with respect to the Index (or a subset thereof) may also be published on the Bloomberg Website (defined below).

Historical records relating to the past performance of the Index are available on the relevant Bloomberg Page.

Any publication described in this Section 1 (“Introduction”) may be restricted by means determined as appropriate for such purpose by the Index Administrator in its sole and absolute discretion, including, but not limited to, password protection restricting access to a limited set of persons in accordance with arrangements agreed between the Index Administrator and such persons.

BISL accepts no legal liability to any person for publishing or not continuing to publish for any period of time any Index Value at any particular place or any particular time.

This version of the Index Methodology Handbook is provided as of the date specified on the cover of this Index Methodology Handbook (the “**Publication Date**”). Upon each update to this Index Methodology Handbook, 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 Index Methodology Handbook and the most recent version, the most recent version shall prevail. The Index Administrator will use reasonable efforts to provide notice of such updates. The Index Administrator shall provide additional information about any such updates upon written request.

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

The information contained in this Index Methodology Handbook includes the methodology and material rules and risks relating to the Index. This information is subject to change.

## **Section 2. Overview of the Index**

### **2.1 Objective**

This Index Methodology Handbook describes the calculation of the Bloomberg U.S. GNMA Index TTM JPY Currency Hedged. The Index is a JPY-hedged version of the Bloomberg U.S. GNMA Index (LGNMTRUU Index). MUFG Bank TTM rates are used to calculate the FX appreciation and hedged return of the Index.

Additional resources relating to the calculation of the Bloomberg U.S. GNMA Index can be found in the Additional Resources section in Appendix A.

The Index is calculated in the Index Currency (JPY) as specified in Table 1 ("*Index Information*") in Appendix A.

### **2.2 Determination of the Index Value**

The Index Value is calculated by the Index Administrator and is based on the value of each of the relevant Index Constituents as determined in accordance with Section 4.1 ("*Calculation of Index Value*") on each Index Business 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 the Index Value is not calculated, no Index Value shall be published in respect of such day, subject to the provisions set out below. Certain provisions in this document are expressed in both formulaic and descriptive terms. In the event of conflict between a descriptive term and a formula, the formula shall govern.

### **2.3 Determination of the value of each Index Constituent**

The Index has been established and designed only for the purpose of seeking to achieve the objectives stated in this Section 2 ("*Overview of the Index*"). They have not been designed to reflect the performance of the wider foreign exchange market, equity market, bond market or other financial markets. The Index Value shall be a function of the price, level or value of the relevant Index Constituents. In the absence of a Market Disruption Event or Index Adjustment Event, the Index Value shall be calculated in accordance with the formulae in the methodology (including in circumstances where the market for an Index Constituent is illiquid or fragmented). This Section 2 ("*Overview of the Index*") only provides a summary of the Index and is subject to, and qualified by, the remainder of this Index Methodology Handbook. Prospective Product Investors should therefore carefully read the whole of this Index Methodology Handbook.

Prospective Product Investors should also note that any purposes, aims and intentions expressed in this Index Methodology Handbook may not be achieved.

### Section 3. Definitions

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

**“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/product/indices/> or any successor thereto;

**“Currency Business Day”** means a day that is a Tokyo Business Day;

**“Currency Pair”** means USDJPY;

**“Data Source”** means,

- (i) with respect to the Spot Rate, the Bloomberg Page with respect to ‘CSBSUSD TMUQ Curncy’; and
- (ii) with respect to the Forward Outright, the Bloomberg Page with respect to ‘JNOFUS1 Index’;

**“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 Index Administrator and that the Index Administrator determines, in its sole discretion, affects the Index, any Index Constituent or the methodology on which the relevant Index is based or the Index Administrator’s ability to calculate and publish the relevant Index;

**“Forward Outright”** means, with respect to the Currency Pair and an Index Business Day, the one-month forward outright at mid quoted in market convention as obtained from the Data Source;

**“Index”** means the Bloomberg U.S. GNMA Index TTM JPY Currency Hedged;

**“Index Adjustment Event”** means, with respect to the Index, any of the following:

- (a) a change shall have been made to any of the Index Constituents or there shall have occurred any other event that would make the calculation of any Index impossible or infeasible, technically or otherwise, or that makes the Index non-representative of market prices of the Index Constituents or undermines the objectives of the relevant Index;
- (b) the administrator of an Index Constituent makes or announces that it will make a material change in the weighting or composition of, formula for or method of calculating, such Index Constituent or modifies or announces that it will modify in any other way such Index Constituent in a material manner (other than a modification prescribed in that formula or method to maintain such Index Constituent in the event of permitted changes in its constituents and/or other routine events);
- (c) the level or value of any Index Constituent has been calculated by reference to data that, in the determination of the Index Administrator, does not reflect the true market trading prices, values or levels of such Index Constituent and/or the related underlying contract;
- (d) the administrator of an Index Constituent permanently cancels the Index Constituent;
- (e) the exchange rate for the Index Constituent Currency or Index Currency splits into dual or multiple exchange rates;
- (f) an event occurs that generally makes it impossible or impracticable to convert the Index Constituent Currency or Index Currency into US Dollars, Euros or Japanese Yen through customary legal channels in any relevant jurisdiction, as determined by the Index Administrator;

- (g) an event occurs that generally makes it impossible or impracticable to deliver US Dollars, Euros or Japanese Yen from accounts inside the country where the Index Constituent Currency or Index Currency is the official currency to accounts outside such country, or to deliver the Index Constituent Currency or Index Currency between accounts inside such country or to a party that is a non-resident of such country;
- (h) the occurrence of a default, event of default or other similar condition or event with respect to any security or indebtedness of, or guaranteed by, any governmental authority in relation to the Index Constituent Currency or Index Currency;
- (i) any change in, or amendment to, the laws or regulations, including those laws or regulations that relate to capital controls or government control of exchange rates, prevailing in the country where the Index Constituent Currency or Index Currency is the official currency, or any change in any application or official interpretation of such laws or regulations, or any other governmental action that the Index Administrator determines, acting in a commercially reasonable manner, may cause another market disruption event to occur or that leads or may lead to the introduction of a currency peg regime;
- (j) the occurrence of an event that makes it impossible or not reasonably practicable to obtain a firm quote for a currency exchange rate relevant to the Index;
- (k) the Index Administrator determines that there is a material difference in a relevant currency rate as determined by reference to the rate source for the Index and any other customary and generally available market source, which more accurately reflects market levels;
- (l) it becomes impossible to obtain a relevant currency exchange rate, either from the specified source for that rate or by the Index Administrator itself acting in good faith in a commercially reasonable manner by reference to a generally available source;
- (m) the Index Administrator determines that an issuer or dealer (or any of their Affiliates) of Index-linked notes or other Index-linked transactions would be unable, after using commercially reasonable efforts, to acquire, establish, re-establish, substitute, maintain, unwind, or dispose of any hedge position relating to such Index-linked notes or other Index-linked transactions, or to realize, recover or remit the proceeds of any such transactions; or
- (n) the Index Constituent Currency or Index Currency, in the determination of the Index Administrator, is subject to currency control against the US Dollar, Euro, and/or Japanese Yen;

**“Index Administrator”** means Bloomberg Index Services Limited (“BISL”);

**“Index Base Date”** means, with respect to the Index, the date the Index Value is set to 100.0000, and is as specified in Table 1 (“*Index Information*”) in Appendix A;

**“Index Business Day”** means a day that is either a Tokyo Business Day or an Underlying Index Business Day;

**“Index Commencement Date”** means the date the Index is first made available on the relevant Bloomberg Page, and is as specified in Table 1 (“*Index Information*”) in Appendix A;

**“Index Constituent”** means, with respect to the Index, the Index Constituent Currency, Index Currency and each Spot Rate, Forward Rate, Underlying Index Month-to-Date Return and Underlying Index Yield-to-Worst used to calculate the Index Values of the Index;

**“Index Constituent Currency”** means the index currency of the Underlying Index, and is as specified in Table 1 (“*Index Information*”) in Appendix A;

**“Index Currency”** means the currency the Index is represented in, and is as specified in Table 1 (“*Index Information*”);

**“Index Owner”** means Bloomberg Index Services Limited (“BISL”);



**“Index Value”** means, with respect to the Index and an Index Business Day, the value on such Index Business Day calculated in accordance with the methodology described in Section 4 (*“Index Calculation”*);

**“Tokyo Business Day”** means a day on which commercial banks and foreign exchange markets settle payments and are open for general business in Tokyo;

**“Market Disruption Event”** means, with respect to the Index, the occurrence of one or more of the following events if, in the discretion of the Index Administrator, such event is material with respect to the Index:

- (a) the occurrence or existence (in the reasonable judgment of the Index Administrator), on any Index Business Day, in relation to the Index Constituent Currency or Index Currency of:
  - any suspension of, or limitation imposed on, trading the Index Constituent Currency, Index Currency or any tradable instrument, including forwards or options, in respect of the Index Constituent Currency or Index Currency;
  - any event that disrupts or impairs (as determined by the Index Administrator acting in a reasonable manner) the ability of market participants in general to affect transactions (including any tradable instrument, such as forwards or options) or to obtain market values, each in relation to the Index Constituent Currency or Index Currency;
- (b) the Index Administrator observes on any Index Business Day that there has been a declaration of a general moratorium in respect of banking activities in any relevant jurisdiction;
- (c) a change in law, such that on or after the Index Base Date (a) due to the adoption or announcement of any change in any applicable law or regulation (including, without limitation, any tax law or limitations on the repatriation of invested capital in the jurisdiction of the underlying), or (b) due to the promulgation of or any change in the interpretation by any court, tribunal or regulatory authority with competent jurisdiction of any applicable law or regulation (including any action taken by a taxing authority), the Index Administrator determines that the continued administration and distribution of the Index is illegal or a materially different undertaking to administer;
- (d) the imposition or removal of or change in any tax (including without limitation, any excise, severance, sales, use, value-added, transfer, stamp, documentary, recording or similar tax) on, or in relation to any Index Constituent or any component thereof, by any government or taxation authority on or after the Index Base Date, if the effect of such imposition, change or removal is to raise or lower the price, value or level at which such Index Constituent or any component thereof trades on the relevant exchange or in the relevant market on any relevant date from what it would have been without that imposition, change or removal;
- (e) a temporary or permanent failure by the applicable exchange or other fixing source to announce or publish the value of any Index Constituent Currency or Index Currency on any Index Business Day on which the level of such Index Constituent Currency or Index Currency was scheduled to be announced or published;
- (f) the occurrence or existence of a lack of, or material decline in, the liquidity in the market for trading of any Index Constituent Currency or Index Currency on any Index Business Day;
- (g) a Force Majeure Event;

**“Product”** means any product based on or in relation to the Index;

**“Product Investor”** means any investor buying, selling, entering into or holding Products;

**“Prospective Product Investor”** means any investor who may be seeking to buy, sell, enter into or hold Products;

**“Rebalance Date”** means the first (1<sup>st</sup>) Index Business Day of each calendar month;

**“Spot Rate”** means, with respect to the Currency Pair and an Index Business Day,

- (i) the spot rate at mid for such Index Business Day, quoted in market convention as obtained from the Data Source, if such Index Business Day is also a Currency Business Day; otherwise
- (ii) the spot rate at mid for the Currency Business Day immediately preceding such Index Business Day, quoted in market convention as obtained from the Data Source;

**“Underlying Index”** means the Bloomberg U.S. GNMA Index (LGNMTRUU Index);

**“Underlying Index Business Day”** means a day on which the Underlying Index is scheduled to be published;

**“Underlying Index Month-to-Date Return”** means, with respect to the Underlying Index and an Index Business Day,

- (i) the month to date total return of the Underlying Index for such Index Business Day, as obtained from the Bloomberg Index Services Limited (“BISL”), if such Index Business Day is also an Underlying Index Business Day; otherwise
- (ii) the month to date total return of the Underlying Index for the Underlying Index Business Day immediately preceding such Index Business Day, as obtained from the Bloomberg Index Services Limited (“BISL”); and

**“Underlying Index Yield-to-Worst”** means, with respect to the Underlying Index and an Index Business Day,

- (i) the lowest yield of the yield to maturity, yield to call or yield to refunding determined with respect to the Underlying Index for such Index Business Day, as obtained from the Bloomberg Index Services Limited (“BISL”), if such Index Business Day is also an Underlying Index Business Day; otherwise
- (ii) the lowest yield of the yield to maturity, yield to call or yield to refunding determined with respect to the Underlying Index for the Underlying Index Business Day immediately preceding such Index Business Day, as obtained from the Bloomberg Index Services Limited (“BISL”).

## Section 4. Index Calculation

### 4.1 Calculation of Index Value

The Index Value on the Index Base Date shall be 100.0000. The Index Value with respect to each subsequent Index Business Day shall be calculated by the Index Administrator in accordance with the following formula:

$$I_t = I_R \times \left(1 + \frac{HMTD_t}{100}\right)$$

Where:

$t$  means an Index Business Day;

$R$  means, with respect to Index Business Day  $t$ , the immediately preceding Rebalance Date. For the avoidance of doubt, if Index Business Day  $t$  is a Rebalance Date, then  $R$  shall refer to the immediately preceding Rebalance Date;

$I_t$  and  $I_R$  mean the Index Value on Index Business Day  $t$  and Rebalance Date  $R$  respectively;

$HMTD_t$  means the month-to-date total return of the (JPY-hedged) Index on Index Business Day  $t$  calculated as follows:

$$HMTD_t = (H_R \times FR_t \times 100) + UHMTD_t$$

Where:

$H_R$  means the size of the hedge calculated as follows:

$$H_R = \left(1 + \frac{YTW_{R-1}}{200}\right)^{\frac{1}{6}}$$

Where:

$YTW_{R-1}$  means, with respect to Rebalance Date  $R$ , the Underlying Index Yield-to-Worst on the Index Business Day immediately preceding such Rebalance Date  $R$ ;

$FR_t$  means the USDJPY forward return on Index Business Day  $t$  calculated as follows:

$$FR_t = \frac{IF_t - S_t}{S_R}$$

Where:

$S_t$  and  $S_R$  mean, with respect to USDJPY, the Spot Rate on Index Business Day  $t$  and Rebalance Date  $R$  respectively;

$IF_t$  means, with respect to USDJPY, the interpolated forward rate on Index Business Day  $t$  calculated as follows:

$$IF_t = \left[(F_R - S_R) \times \frac{DC_t}{30}\right] + S_R$$

Where:

$F_R$  means, with respect to USDJPY, the Forward Outright on Rebalance Date  $R$ ;

$DC_t$  means, with respect to Index Business Day  $t$ ; the day count since the immediately preceding Rebalance Date  $R$  determined as follows:

$$DC_t = 30 \text{ if } t \text{ is a Rebalance Date; otherwise}$$

$$DC_t = \min(\text{DayOfMonth}(t) - 1, 30)$$

$UHMTD_t$  means the JPY-unhedged month-to-date total return on Index Business Day  $t$  calculated as follows:

$$UHMTD_t = MTD_{t-1} + SR_t + \left( \frac{MTD_{t-1}}{100} \times SR_t \right)$$

Where:

$t - 1$  means, with respect to Index Business Day  $t$ , the immediately preceding Index Business Day;

$MTD_{t-1}$  means the Underlying Index Month-to-Date Return on Index Business Day  $t - 1$ ;

$SR_t$  means the USDJPY spot return on Index Business Day  $t$  calculated as follows:

$$SR_t = \left( \frac{S_t}{S_R} - 1 \right) \times 100$$

## 4.2 Rounding

The Index Values shall be published rounded to four (4) decimal places.

## **Section 5. General Rules**

### **5.1 Consequences of a Market Disruption Event**

If, on any Index Business Day, a Market Disruption Event occurs or is occurring that the Index Administrator determines, in its sole discretion, materially affects the Index, the Index Administrator may:

- 5.1.1 defer or suspend the calculation and publication of the Index Value and any other information relating to the Index until the next Index Business Day on which such disruption event is not continuing; and/or
- 5.1.2 make such determinations and/or adjustments in relation to (a) the methodology used to calculate that Index as the Index Administrator considers necessary in order to maintain the objectives of the Index, or (b) the Index Value of the Index as the Index Administrator considers appropriate in order to preserve the underlying objectives of the Index, including but not limited to calculating a substitute level for the Index based on but not restricted to the last published price, level or value of any disrupted Index Constituent and such price, level or value may be zero, where, in the reasonable view of the Index Administrator, this would give an objective and accurate determination; and/or
- 5.1.3 make any adjustment or determination as it sees fit to the terms of this Index Methodology Handbook or an Index Value in order to take into account the Market Disruption Event; and/or
- 5.1.4 determine, where such Index Business Day would have been, but for the occurrence of the Market Disruption Event, as the case may be, a Rebalance Date, that such roll date is not a Rebalance Date, and accordingly adjust such Rebalance Date to the next Index Business Day on which it determines that no such Market Disruption Event as the case may be, exists; and/or
- 5.1.5 discontinue supporting the relevant Index or terminate the calculation of the Index Value and the publication of the Index Value for such Index if the Index Administrator determines that the foregoing measures provided in clauses 5.1.1 through 5.1.4 above would produce results that are not consistent with the objectives of such Index; and/or
- 5.1.6 if such Market Disruption Event persists for four consecutive Index Business Days immediately following the original Index Business Day on which such Market Disruption Event occurs, then the Index Administrator shall determine what further actions it may reasonably take.

### **5.2 Consequences of an Index Adjustment Event**

If, on any Index Business Day, an Index Adjustment Event occurs that the Index Administrator determines affects the Index, the Index Administrator may:

- 5.2.1 make such determinations and/or adjustments as the Index Administrator considers necessary in order to maintain the objectives of such Index, in relation to (a) the methodology used to calculate such Index or (b) the Index Value for such Index; and/or
- 5.2.2 select, in its sole, good faith discretion, a successor Index Constituent to replace the Index Constituent affected by the Index Adjustment Event; and/or
- 5.2.3 defer or suspend publication of the Index Value and any other information relating to the relevant Index until it determines that no Index Adjustment Event is continuing; and/or
- 5.2.4 discontinue supporting such Index or terminate the calculation of the Index Value for such Index, subject to the Index Administrator's termination and transition policies, if the Index Administrator determines that the

foregoing measures provided in clauses 5.2.1 through 5.2.3 above are not feasible or would produce results that are not consistent with the objectives of such Index.

### **5.3 Change in Methodology**

The Index Administrator shall employ the methodology described herein and its application of such methodology shall be conclusive and binding, absent manifest error. While the Index Administrator 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 Index Constituents) will not arise that would, in its view necessitate a modification or change of such methodology or termination of the Index.

5.3.1 The Index Administrator assumes no obligation to implement any modification or change to the methodology set out herein as a result of any 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 Index Constituents). Where the Index Administrator elects to make a modification or change in the methodology, the Index Administrator will make reasonable efforts to do so in a way that will result in a methodology that is as consistent with the methodology described herein as is practicable under the circumstances.

5.3.2 If any modifications, changes, suspension or termination are effected pursuant to Sections 5.3.1 or 5.4.1, the Index Administrator will publish such modifications or changes on Bloomberg page INP, generated by: entering INP + <GO> on the Bloomberg Terminal®.

### **5.4 Termination**

5.4.1 The Index Administrator may, at any time and in its sole discretion, terminate the calculation and/or publication of the Index Value in respect of any Index, subject to the termination and transition policies of the Index Administrator. The Index Administrator will publish an announcement of such event as soon as reasonably practicable on Bloomberg page INP, generated by: entering INP + <GO> on the Bloomberg Terminal.

### **5.5 Data Providers and Data Extrapolation**

The Index is rules-based, and its construction is designed to consistently produce Index Values without the exercise of discretion. Except as otherwise described in Section 4.1 (*"Calculation of Index Value"*), the Index is produced without the interpolation or extrapolation of input data.

In addition, the Index Administrator seeks to avoid contributions of input data that may be subject to the discretion of the source of such data and instead seeks to use input data that is readily available and/or distributed for a number of non-index or benchmark creation purposes. Accordingly, the Index requires no 'contributors' to produce and no codes of conduct with any such sources are required.

### **5.6 Expert Judgment**

BISL may use expert judgment with regards to the following:

- Index restatements

- Extraordinary circumstances during a market emergency
- Data interruptions, issues, and closures

When expert judgment is required, BISL undertakes to be consistent in its application, with recourse to written procedures outlined in this Index Methodology Handbook and internal procedures manuals. In certain circumstances exercises of expert judgment are reviewed by senior members of BISL management and Bloomberg Compliance teams, and are reported to the PROC (defined below). BISL also maintains and enforces a code of ethics to prevent conflicts of interest from inappropriately influencing index construction, production, and distribution, including the use of expert judgment.

## **5.7 Errors and Adjustments**

The Index Administrator reserves the right to make adjustments to correct errors contained in previously published information relating to the Index, including but not limited to the Index Value, 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 Index Administrator will determine in good faith whether to adjust or correct any previously published information in order to maintain the objectives of the Index. The Index Administrator will provide notice of such adjustments. The Index Administrator will provide additional information about any such adjustments it makes upon written request.

If the level of an Index Constituent is subsequently corrected and the correction is announced or published by the relevant exchange and/or data source, then the Index Administrator shall make reasonable efforts to use the corrected level of the Index Constituent in its calculation of the Index Value in respect of immediately prior Index Business Day. However, for cases in which the level of the Index Constituent is being used to calculate a signal or a new allocation, then this calculation may not be subsequently changed if the change in signal or change in allocation has already come into effect.

## **5.8 Index and Data Reviews**

The Index Administrator will review the Index (both the rules of construction and data inputs) on a periodic basis, not less frequently than annually, to determine whether they continue to reasonably measure the intended underlying market interest, the economic reality or otherwise align with their stated objective. More frequent reviews may result from extreme market events and/or material changes to the applicable underlying market interests.

Criteria for data inputs include reliable delivery and active underlying markets. Whether an applicable market is active depends on whether there are sufficient numbers of transactions (or other indications of price, such as indicative quotes) in the applicable constituents (or similar underlying constituent elements) that a price (or other value, as applicable) may be supplied for such constituent(s).

There are no minimum liquidity requirements for Index constituents and/or minimum requirements or standards for the quantity or quality of the input data.

The review will be conducted by product managers of the Index at least annually or as otherwise appropriate in light of significant market changes or other developments.

Any resulting change to the Index Methodology Handbook deemed to be material (discussed below) will be subject to the review of the PROC under the oversight of the BOC, each of which committees shall be provided all relevant information and materials it requests relating to the change. Details regarding the PROC and BOC are described below in Section 7 ("*Index Oversight and Governance*").

Material changes will be reflected and tracked in updated versions of this Index Methodology Handbook.

BISL's index administration is also subject to Bloomberg's Compliance function, which periodically reviews various aspects of its businesses in order to determine whether it is adhering to applicable policies and procedures, and assess whether applicable controls are functioning properly.

Material changes related to the Index will be made available in advance to affected stakeholders whose input will be solicited. The stakeholder engagement will set forth the rationale for any proposed changes as well as the timeframe and process for responses. The Index Administrator will endeavour to provide at least two weeks for review prior to any material change going into effect. In the event of exigent market circumstances, this period may be shorter. Subject to requests for confidentiality, stakeholder feedback and the Index Administrator's responses will be made accessible upon request. Because the Index is a strategy index and not a widely-available benchmark index, this stakeholder engagement will be conducted on a bespoke basis rather than a more open and public consultation that might be more appropriate for benchmark indices.

Material changes for which stakeholder engagement will be conducted are those that substantially affect the principles of the construction of the Index and/or those that, if not made, would render the Index unable to measure its intended market interest or otherwise achieve its stated objective. For example, adopting a new method of calculating the JPY-hedged or JPY-unhedged month-to-date total return in Section 4.1 ("*Calculation of Index Value*") would constitute a material change, whereas changing the Data Source or simple rules corrections that do not functionally change the Index, would not necessarily be a material change leading to stakeholder engagement. Regardless, the Index Administrator reserves the right to consult with stakeholders on all changes whether or not they are deemed by the Index Administrator to be material.

## **5.9 Construction of this Index Methodology Handbook**

This Index Methodology Handbook is made available by the Index Administrator. In the event of any inconsistency between the English language version of this Index Methodology Handbook 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 Index Methodology Handbook, the Index Administrator shall, in its sole and absolute discretion, construe the relevant provision(s) in order to determine the correct interpretation, and the decision of the Index Administrator shall be final, conclusive and binding.

## **5.10 Availability and Publication of Index Values and Adjustments**

### **5.10.1 Index Publication**

The Index Administrator will endeavour to make available the Index Values as soon as reasonably practicable for each Index Business Day. The Index Value shall be published on the Bloomberg Page or on such other information source as the Index Administrator may select from time to time.

The Index Administrator accepts no liability to any person for publishing or not continuing to publish for any period of time, as the case may be, any Index Value at any particular place or any particular time.

### **5.10.2 Adjustments**

The Index Administrator will endeavour to make available any adjustments made to any Index.

The Index Owner may, at any time, change the name of the Index. The Index Administrator may, at any time, change with respect to the Index, the place and time of the publication of the Index Value, and the frequency of the publication of the Index Value for such Index, upon reasonable notice.



### **5.11 Index Administrator**

Subject to other provisions of this Index Methodology Handbook, all determinations made by the Index Administrator will be made by it (a) acting in its sole discretion by reference to such factors as the Index Administrator deems appropriate and (b) will be final, conclusive and binding in the absence of manifest error.

### **5.12 Reinvestment of Dividends and Coupons**

Dividends and coupon payments play no direct role in this Index Methodology Handbook, and are therefore not accounted for by the Index.

## **Section 6. Backtest Assumptions**

For the simulation of the hypothetical historical performance, the Index Administrator relied on the following assumptions:

### **6.1 Forward Outright prior to 2 June 2017:**

Prior to 2 June 2017 the Forward Outright was computed as the average of USDJPY one-month forward outright at bid and ask, quoted in market convention and obtained from the same Data Source.

## Section 7. Index Oversight and Governance

### 7.1 Benchmark Governance, Audit and Review Structure

BISL uses two primary committees to provide overall governance and effective oversight of its benchmark administration activities:

- The Product, Risk & Operations Committee (“**PROC**”) provides direct governance and is responsible for the first line of controls over the creation, design, production and dissemination of benchmark indices, strategy indices and fixings administered by BISL, including the Index. The PROC is composed of Bloomberg personnel with significant experience or relevant expertise in relation to financial benchmarks. Meetings are attended by Bloomberg Legal & Compliance personnel.
- The oversight function is provided by Bloomberg’s Benchmark Oversight Committee (“**BOC**”). The BOC is independent of the PROC and is responsible for reviewing and challenging the activities carried out by the PROC. In carrying out its oversight duties, the BOC receives reports of management information both from the PROC as well as Bloomberg Legal & Compliance members engaged in second level controls.

On a quarterly basis, the PROC reports to the BOC on governance matters, including but not limited to client complaints, the launch of new benchmarks, operational incidents (including errors & restatements), major announcements and material changes concerning the benchmarks, the results of any reviews of the benchmarks (internal or external) and material stakeholder engagements.

#### Internal and External Reviews

BISL’s index administration is also subject to Bloomberg’s Compliance function, which periodically reviews various aspects of its businesses in order to determine whether it is adhering to applicable policies and procedures, and assess whether applicable controls are functioning properly. In addition, Bloomberg may from time to time appoint an independent external auditor with appropriate experience and capability to review adherence to benchmark regulation. The frequency of such external reviews will depend on the size and complexity of the operations and the breadth and depth of the Index use by stakeholders.

### 7.2 Conflicts of Interest

The Index confers on BISL discretion in making certain determinations, calculations and corrections from time to time. In making those determinations, calculations and corrections, the Index Administrator has no obligation to take the needs of any Product Investor or any other party into consideration.

BISL is committed to avoiding and, where necessary, managing actual or potential conflicts of interest in the BISL decision-making process and has established a Conflicts of Interest Policy to minimise or resolve actual or potential conflicts of interest.

BISL does not create, trade or market Products.

### 7.3 Control Framework

The Index Administrator has implemented and maintains the “**Bloomberg Benchmarks Control Framework**” (the “**Control Framework**”), a summary of which is available upon written request to the Index Administrator at [info@bloombergindices.com](mailto:info@bloombergindices.com). Neither the Control Framework nor the summary of its features may form part of any prospectus into which this Index Methodology Handbook may be incorporated.

## **Section 8. Limitations of the Index**

Though the Index is designed to be representative of the markets it measures or otherwise align 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 Index Methodology Handbook, and any Index Value or other output is limited in its usefulness to such design and calculation.

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

In addition, market trends and changes to market structure may render the objective of the Index unachievable or to become impractical to replicate by investors.

The Index aims to capture the returns of a JPY-hedged version of the Bloomberg U.S. GNMA Index (LGNMTRUU Index). The Index is therefore subject to the effectiveness of such investment strategy and the underlying volatility and uncertainty of FX markets.

## **Section 9. Licensing and Trademark**

The Bloomberg U.S. GNMA Index TTM JPY Currency Hedged is a trademark of Bloomberg.

## Appendix A

**Table 1 - Index Information**

Index	Ticker	Currency Pair	Index Constituent Currency	Index Currency	Index Commencement Date	Index Base Date
Bloomberg U.S. GNMA Index TTM JPY Currency Hedged	BTSIGMJH	USDJPY	USD	JPY	27 Oct 2021	01 Sep 2003

### Additional Resources

Bloomberg Fixed Income Index Methodology

<https://www.bloomberg.com/professional/product/indices/bloomberg-fixed-income-indices-fact-sheets-publications/>

(Direct Link: <https://assets.bbhub.io/professional/sites/27/Fixed-Income-Index-Methodology.pdf>)

Factsheet for Bloomberg U.S. GNMA Index

Available under the FACTSHEET link for the US GNMA (USD Unhedged) index at

<https://www.bloomberg.com/professional/product/indices/bloomberg-fixed-income-indices/#/ucits>

(Direct Link: <https://assets.bwbx.io/documents/users/ijjWHBFdfxIU/ruxQNpc3SXPY/v0>)

Constituent information for Bloomberg U.S. GNMA Index

Available under the CONSTITUENTS link for the US GNMA (USD Unhedged) index at

<https://www.bloomberg.com/professional/product/indices/bloomberg-fixed-income-indices/#/ucits>

(Direct Link: <https://www.bloomberg.com/professional/product/indices/bloomberg-fixed-income-indices/#/index/LGNMTRUU>)

General Index Announcements for the Bloomberg indices are published under the Announcements section of the Bloomberg website at

<https://www.bloomberg.com/professional/product/indices/>