# FTSE US Treasury STRIPS Principal 25+ Years Index – Japanese Investment Trust

v1.0



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# Introduction

### 1. Introduction

- 1.1 This document sets out the Ground Rules for the construction and management of the FTSE US Treasury STRIPS Principal 25+ Years Index Japanese Investment Trust. Copies of these Ground Rules are available from FTSE International Limited (FTSE).
- 1.2 The FTSE US Treasury STRIPS Principal 25+ Years Index Japanese Investment Trust is designed to represent the performance of the US Treasury STRIPS principal with maturity greater than or equal to 25 years.
- 1.3 The FTSE US Treasury STRIPS Principal 25+ Years Index Japanese Investment Trust does not take account of ESG factors in its index design.

#### 1.4 FTSE Russell

FTSE Russell is a trading name of FTSE International Limited, Frank Russell Company, FTSE Global Debt Capital Markets Limited (and its subsidiaries FTSE Global Debt Capital Markets Inc. and FTSE Fixed Income Europe Limited), FTSE Fixed Income LLC, FTSE (Beijing) Consulting Limited, Refinitiv Benchmark Services (UK) Limited, Refinitiv Limited and Beyond Ratings.

- 1.5 FTSE Russell hereby notifies users of the index series that it is possible that circumstances, including external events beyond the control of FTSE Russell, may necessitate changes to, or the cessation of, the index series and therefore, any financial contracts or other financial instruments that reference the index series or investment funds which use the index series to measure their performance should be able to withstand, or otherwise address the possibility of changes to, or cessation of, the index series.
- Index users who choose to follow this index series or to buy products that claim to follow this index series should assess the merits of the index series rules-based methodology and take independent investment advice before investing their own or client funds. No liability whether as a result of negligence or otherwise is accepted by FTSE Russell for any losses, damages, claims and expenses suffered by any person as a result of:
  - any reliance on these Ground Rules, and/or
  - any inaccuracies in these Ground Rules, and/or
  - any non-application or misapplication of the policies or procedures described in these Ground Rules, and/or
  - any inaccuracies in the compilation of the index series or any constituent data.

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# Management responsibilities

## Management responsibilities

### 2.1 FTSE Fixed Income LLC (FTSE)

- 2.1.1 FTSE is the benchmark administrator of the index series.<sup>1</sup>
- 2.1.2 FTSE is responsible for the daily calculation, production and operation of the FTSE US Treasury STRIPS Principal 25+ Years Index Japanese Investment Trust and will:
  - maintain records of the index weightings of all constituents;
  - make changes to the constituents and their weightings in accordance with the Ground Rules;
  - carry out the periodic index reviews of the index series and apply the changes resulting from the reviews as required by the Ground Rules;
  - publish changes to the constituent weightings resulting from their ongoing maintenance and the periodic reviews;
  - disseminate the indices.

### 2.2 Amendments to these Ground Rules

- 2.2.1 These Ground Rules shall be subject to regular review (at least once a year) by FTSE Russell to ensure that they best reflect the aim of the index series. Any proposals for significant amendments to these Ground Rules will be subject to consultation with FTSE Russell advisory committees and other stakeholders if appropriate. The feedback from these consultations will be considered by the FTSE Russell Product Governance Board before approval is granted.
- As provided for in the Statement of Principles for FTSE Russell Fixed Income Indices, where FTSE Russell determines that the Ground Rules are silent or do not specifically and unambiguously apply to the subject matter of any decision, any decision shall be based as far as practical on the Statement of Principles. After making any such determination, FTSE Russell shall advise the market of its decision at the earliest opportunity. Any such treatment will not be considered as an exception or change to the Ground Rules, or to set a precedent for future action, but FTSE Russell will consider whether the Ground Rules should subsequently be updated to provide greater clarity.

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<sup>&</sup>lt;sup>1</sup> The term administrator is used in this document in the same sense as it is defined in Regulation (EU) 2016/1011 of the European Parliament and of the Council of 8 June 2016 on indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investment funds (the European Benchmark Regulation) and The Benchmarks (Amendment and Transitional Provision) (EU Exit) Regulations 2019 (the UK Benchmark Regulation). FTSE Fixed Income LLC administers the Index Series in line with the third country transitional provisions contained within Article 51(5) of the European Benchmark Regulation and the third country transitional provisions as amended by Article 42(5) of the UK Benchmark Regulation.

# FTSE Russell index policies

## FTSE Russell index policies

3.1 These Ground Rules should be read in conjunction with the following policy documents which can be accessed using the links below:

#### 3.2 Statement of Principles for FTSE Fixed Income Indices (the Statement of Principles)

Indices need to keep abreast of changing markets and the Ground Rules cannot anticipate every eventuality. Where the Ground Rules do not fully cover a specific event or development, FTSE Russell will determine the appropriate treatment by reference to the Statement of Principles for FTSE Fixed Income Indices which summarises the ethos underlying FTSE Russell's approach to index construction. The Statement of Principles is reviewed annually and any changes proposed by FTSE Russell are presented to the FTSE Russell Policy Advisory Board for discussion before approval by the FTSE Russell Product Governance Board.

The Statement of Principles can be accessed using the following link:

Statement of Principles.pdf

### 3.3 Queries and Complaints

FTSE Russell's complaints procedure can be accessed using the following link:

Benchmark Determination Complaints Handling Policy.pdf

### 3.4 Recalculation Policy and Guidelines

The Recalculation Policy and Guidelines for Fixed Income Indices document is available from the FTSE Russell website through the link below or by contacting <a href="mailto:info@ftserussell.com">info@ftserussell.com</a>.

Fixed\_Income\_Recalculation\_Policy\_and\_Guidelines.pdf

#### 3.5 Policy for Benchmark Methodology Changes

3.5.1 Details of FTSE Russell's policy for making benchmark methodology changes can be accessed using the following link:

Policy\_for\_Benchmark\_Methodology\_Changes.pdf

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### 3.6 FTSE Russell Governance Framework

3.6.1 To oversee its indices, FTSE Russell employs a governance framework that encompasses product, service and technology governance. The framework incorporates the London Stock Exchange Group's three lines of defence risk management framework and is designed to meet the requirements of the IOSCO Principles for Financial Benchmarks<sup>2</sup>, the European benchmark regulation<sup>3</sup> and the UK benchmark regulation<sup>4</sup>. The FTSE Russell Governance Framework can be accessed using the following link:

FTSE Russell Governance Framework.pdf

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<sup>&</sup>lt;sup>2</sup> IOSCO Principles for Financial Benchmarks Final Report, FR07/13 July 2013.

Regulation (EU) 2016/1011 of the European Parliament and of the Council of 8 June 2016 on indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investment funds.

The Benchmarks (Amendment and Transitional Provision) (EU Exit) Regulations 2019.

# Composition and design criteria

# Composition and design criteria

- 4.1 The FTSE US Treasury STRIPS Principal 25+ Years Index Japanese Investment Trust ("Index") measures the performance of the US STRIPS Principal with maturity greater than or equal to 25 years.
- The Index is designed to serve as a benchmark for performance evaluation by Japanese investment trusts. The calculation methodology is based on the evaluation standards of the Investment Trusts Association of Japan.
- For full details on the design criteria and calculation assumptions for Japanese Investment Trust (JIT), please refer to the FTSE Fixed Income Index Guide which can be accessed using the following link: <a href="FTSE">FTSE</a>
  Fixed Income Index Guide

### 4.4 Design criteria and calculation assumptions for the FTSE US Treasury STRIPS Principal 25+ Years Index - Japanese Investment Trust

Coupon	Zero coupon	
Minimum maturity	Greater than or equal to 25 years	
Minimum issue size	None, but derived from bonds with at least USD 5 billion amount outstanding	
Composition	Principal payments of U.S. Treasury STRIPS.  Only those STRIPS derived from bonds in the FTSE US Treasury Index are included	
Weighting	Market capitalization	
Rebalancing	Once a month at the end of the month	
Reinvestment of cash flows	Intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.	
Pricing	Refinitiv	
Exchange Rate	MUFG Bank telegraphic transfer spot middle rate (TTM) as quoted at 10:00 a.m. Tokyo time <sup>5</sup>	
Calculation frequency	Daily	
Settlement date	Monthly: Settlement is on the last calendar day of the month.  Daily: Same day settlement except if the last business day of the month is not the last calendar day of the month; then, settlement is on the last calendar day of the month.	
Fixing date	Each month, the upcoming month's index constituents are "fixed" on the profile fixing date. Each year's scheduled fixing dates are published on the website.	
Base date	December 31, 2006	

### 4.5 Exchange rates

4.5.1 MUFG Bank telegraphic transfer spot middle rate (TTM) as quoted at 10:00 a.m. Tokyo time. WM/Refinitiv quotes are used for currencies during periods in which MUFG Bank quotes are not available.

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<sup>&</sup>lt;sup>5</sup> WM/Refinitiv quotes are used for currencies during periods in which MUFG Bank quotes are not available.

4.5.2 On rare occasions, the Japanese Ministry of Finance intervenes in foreign exchange markets. If such event occurs on the last business day after 10:00 a.m. Tokyo and MUFG Bank officially revises the 10:00 a.m. rates, FTSE Russell will restate the last business day UST-JIT returns and monthly returns if they differ significantly from the originally published returns.

### 4.6 Chronological summary of events

- 4.6.1 The construction of FTSE US Treasury STRIPS Principal 25+ Years Index Japanese Investment Trust is driven by the same events that mark the FTSE US Treasury STRIPS Index, for more information, please see the FTSE Fixed Income Index Guide.
- 4.7 Ticker for the FTSE US Treasury STRIPS Principal 25+ Years Index Japanese Investment Trust

Ticker	Index
CFIISP25	FTSE US Treasury STRIPS <b>Principal</b> 25+ Years Index - Japanese Investment Trust, in JPY terms
CFIISP2C	FTSE US Treasury STRIPS Principal 25+ Years Index – Japanese Investment Trust, currency-hedged in JPY terms

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# Calculation method

## Calculation method

### 5.1 Market value computation

5.1.1 The following notations are used in the formulas. The notation of UST and UST-JIT refer to the returns and analytics of each individual bond in the US Treasury STRIPS Principal Index under the methodologies of standard (non-JIT)<sup>6</sup> and JIT versions.

Notation	
t	Today
m	Current month
е	Last business day of previous month
P_UST	UST clean price
A_UST	UST accrued interest
P_USTJIT	UST-JIT clean price
A_USTJIT	UST-JIT accrued interest
UST_PAR	UST par amount
UST_MODDUR	UST modified duration
UST_RORP	UST daily principal return
UST_MTDRORP	UST month-to-date principal return
UST_MTDRORI	UST month-to-date income return
UST_HGAMT	UST hedged amount
USTJIT_RORP	UST-JIT daily principal return
USTJIT_MTDRORP	UST-JIT month-to-date principal return
USTJIT_MTDRORI	UST-JIT month-to-date income return
USTJIT_MTDRORT	UST-JIT month-to-date total return
USTJIT_HGAMT	UST-JIT hedged amount

5.1.2 For the UST, the current month's index profile market value is calculated using the prices and accrued interests of the last business day of the previous month for all its constituents. For the UST-JIT, the prices of the previous business day would be applied.

USTJIT\_MKV(m)=(P\_USTJIT(m)+A\_USTJIT(m))×UST\_PAR(m)=(P\_UST(e-1)+A\_UST(e))×UST\_PAR(m)

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<sup>&</sup>lt;sup>6</sup> The standard (non-JIT) methodology refers to index methodology as defined in the FTSE Fixed Income Index Guide

5.1.1 To convert the market value into JPY, the spot exchange rates used are the telegraphic transfer middle (TTM) rates provided by MUFG Bank.

#### 5.2 Return computation

5.2.1 The returns are computed by modifying the previous day's principal return as well as the current day's income return.

### 5.3 Month-to-date returns in local currency terms

5.3.1 Step 1: Calculate the first business day principal return

The first business day principal returns of UST-JIT constituents are computed first as they will be utilized throughout the UST-JIT calculations. For the existing bonds of the UST/UST-JIT, their principal returns of the first day are calculated using the UST prices and accrued interests of the last two business days before month end.

$$USTJIT\_RORP(1) = \frac{P\_UST(e)-P\_UST(e-1)}{P\_UST(e-1)+A\_UST(e)} \times 100$$

For the bonds that are newly added to the UST/UST-JIT, their principal returns of the first day are calculated based on the UST-JIT principal returns of the bonds that have the closest WAL (weighted average life) to each of them respectively. These UST-JIT principal returns are adjusted by duration ratios to account for the differences in modified duration.

$$USTJIT\_RORP(1) = USTJIT\_RORP_{CLOSEST(1)}X \ \left( \frac{UST\_MODDUR(m)}{UST\_MODDUR_{CLOSEST(m)}} \right)$$

5.3.2 Step 2: Calculate the month-to-date principal return

The month-to-date principal return is calculated by compounding the previous day's UST\_MTDRORP and the first business day's USTJIT RORP. This is equivalent to shifting the prices of all securities by one day.

$$\label{eq:ust_it_rorp} \\ \text{USTJIT\_MTDRORP(t)=USTJIT\_RORP(1)+UST\_MTDRORP(t-1)x} \left[ 1 + \left( \frac{\text{USTJIT\_RORP(1)}}{100} \right) \right]$$

5.3.3 Step 3: Calculate the month-to-date income return

The month-to-date income return is calculated based on the current month's market value at the beginning of the month. It is adjusted by the first business day principal return.

$$USTJIT\_MTDRORI(t) = UST\_MTDRORI(t) \times \left[1 + \left(\frac{USTJIT\_RORP(1)}{100}\right)\right]$$

5.3.4 Step 4: Calculate the month-to-date total return

The total return is the sum of the month-to-date UST-JIT principal and income returns.

#### 5.4 Month-to-date total return in JPY terms

5.4.1 The UST-JIT uses the same standard calculation to convert the local currency returns to base currency returns. The exchange rates used are the telegraphic transfer middle (TTM) rates provided by MUFG Bank. If the TTM rates are not available, the WM/Refinitiv rates are used.

$$USTJIT\_MTDRORT(t)_{JPY} = \left\{ \left[ 1 + \left( \frac{USTJIT\_MTDRORT(t)_{LCL}}{100} \right) \right] x \left[ 1 + \left( \frac{CRCY\_RTN(t)_{TTM}}{100} \right) \right] - 1 \right\} x 100$$

#### 5.5 Hedge amount computation

5.5.1 The calculation of the hedge amount of the UST-JIT follows the standard index methodology as defined in the FTSE Fixed Income Index Guide.

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- 1. Reduce the par amount of the bond by any sinking fund payments, calls, prepays, etc.
- 2. Allow for these cash receipts plus any re-investment income on these amounts to the end-of-period date.
- 3. Add any coupons that will be paid during the period, together with re-investment income.
- 4. Re-price the remaining par amount, using the beginning-of-month yield and the end-of-period date as the new settlement date, including Accrued Interest on this date.
- 5. The sum of these amounts (2, 3 and 4) will be the amount of foreign currency sold forward.
- 6. This amount, converted back to base currency at the appropriate forward rate to give the "assumed hedged value," will be the predominant component of the end-of-period value in currency-hedged base-currency terms.

Note that in step 4, the beginning-of-month yield of the UST-JIT is the UST yield of the previous business day before month-end. For the bonds that are newly added to the UST, the UST-JIT hedge amounts are calculated based on the UST hedge amounts adjusted by the UST-JIT principal returns of the first business day.

```
USTJIT_HGAMT_{(t)} = UST_HGAMT_{(t)} / [1 + (USTJIT_RORP_{(1)} / 100)]
```

### 5.6 Month-to-date returns in JPY terms (hedged)

5.6.1 In order to calculate UST-JIT in JPY (Hedged) return, we use forward rates that are consistent with publication timing of TTM spot rates.

Note that intra-month forward rates are linearly interpolated from the spot rates and one month forward rates at the end of the previous month rather than derived from the forward rate term structure.

### 5.7 Daily total return in local currency and JPY terms

5.7.1 Daily total return is calculated using today's and the previous day's month-to-date returns.

```
\label{eq:ust_interpolation} \begin{split} \text{USTJIT\_RORT}_{(t)} = & \{ \left[ \left( 1 + \text{USTJIT\_MTDRORT}_{(t)} \, / \, 100 \right) \, / \, \left( 1 + \text{USTJIT\_MTDRORT}_{(t-1)} \, / \, 100 \right) \right] - 1 \} \, x \, 100 \\ \text{USTJIT\_RORT}_{(t)\text{JPY}} = & \{ \left[ \left( 1 + \text{USTJIT\_MTDRORT}_{(t)\text{JPY}} \, / \, 100 \right) \, / \, \left( 1 + \text{USTJIT\_MTDRORT}_{(t-1)\text{JPY}} \, / \, 100 \right) \right] - 1 \} \, x \, 100 \\ \text{100} \end{split}
```

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# Appendix A

# **Further information**

A Glossary of Terms used in FTSE Russell's Ground Rule documents can be found using the following link:

Fixed\_Income\_Glossary\_of\_Terms.pdf

Further information on the FTSE US Treasury STRIPS Principal 25+ Years Index – Japanese Investment Trust is available from FTSE Russell.

For contact details please visit the FTSE Russell website or contact FTSE Russell client services at <a href="mailto:info@ftserussell.com">info@ftserussell.com</a>.

Website: www.lseg.com/en/ftse-russell/

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