

FTSE Blossom Fixed Income Index Series

v1.0

The index series is not, and is not intended to be, used by supervised entities in the European Union or the United Kingdom and accordingly, the European Benchmark Regulation* and the UK Benchmark Regulation# do not apply to the index series. Consequently, supervised entities within the European Union and the United Kingdom are not permitted to use any of the indices within the index series as a benchmark as set out in article 3(1)(7) of the European Benchmark Regulation.

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* [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 \(which amends the European benchmark regulation in the United Kingdom\)](#)



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Section 1

Introduction

1. Introduction

1.1 FTSE Blossom Fixed Income Index Series

1.1.1 This document sets out the Ground Rules for the construction and management of the FTSE Blossom Fixed Income Index Series.

1.1.2 The FTSE Blossom Fixed Income Index Series consists of the following:

- FTSE Blossom Japan Fixed Income Index is designed to measure the performance of Japanese Yen-denominated corporate bonds issued by public traded companies in Japan demonstrating specific environmental, social and governance (ESG) practices. Based on the underlying FTSE Japanese Broad Bond Index (JPBBI), the FTSE Blossom Japan Fixed Income Index focuses on bonds issued by Japanese public companies and selects issuers from the members of the FTSE Blossom Japan Sector Relative Index and their subsidiaries.
- FTSE Blossom World Fixed Income Index is designed to measure the performance of global investment-grade corporate bonds issued by public traded companies demonstrating specific environmental, social and governance (ESG) practices. Based on the underlying FTSE non-JPY World Broad Investment-Grade Bond Index (WorldBIG), the FTSE Blossom World Fixed Income Index derives its issuers from the members of the FTSE Blossom World Composite Sector Relative Index which consists of the FTSE Blossom Europe Sector Relative Index, the FTSE Blossom Asia Pacific ex Japan Sector Relative Index and the FTSE Blossom US Sector Relative Index.

1.1.3 The FTSE Blossom Fixed Income Index Series takes account of ESG factors in its index design.

1.2 Index construction

1.2.1 Semi-annual reconstitution

The issuers of the FTSE Blossom Fixed Income Index Series and its sub-indices are reconstituted in alignment with the FTSE Blossom Japan Sector Relative Index and the FTSE Blossom World Composite Sector Relative Index. The FTSE Blossom Japan Sector Relative Index and the FTSE Blossom World Composite Sector Relative Index are reconstituted semi-annually in June and December of each year.

1.2.2 Monthly rebalancing

Constituents are rebalanced at month-end in accordance with the FTSE Fixed Income Index Guide (Index Profile-Monthly rebalancing). Monthly rebalancing also reflects changes in the FTSE Blossom Fixed Income Index Series issuers' corporate actions applied to the FTSE Blossom Japan Sector Relative Index and the FTSE Blossom World Composite Sector Relative Index throughout the month and are reflected at month-end rebalancing. These changes may include, but are not limited to, mergers, acquisitions, and spin-offs.

Rebalancing activities are reflected on month-end, except when month-end coincides with the semi-annual reconstitution, in which case such changes are captured through semi-annual reconstitution.

- 1.3 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.
- 1.4 FTSE Russell hereby notifies users of the index that it is possible that factors, including external factors beyond the control of FTSE Russell, may necessitate changes to, or the cessation, of the index and therefore, any financial contracts or other financial instruments that reference the index or investment funds which use the index to measure their performance should be able to withstand, or otherwise address the possibility of changes to, or cessation of, the index.
- 1.5 Index users who choose to follow this index or to buy products that claim to follow this index should assess the merits of the index's 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 or any members of the FTSE Russell Policy Advisory Board (or any person concerned with the preparation or publication of these Ground Rules) 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 or any constituent data.

Section 2

Management responsibilities

2. Management responsibilities

2.1 FTSE International Limited (FTSE)

2.1.1 FTSE is the benchmark administrator of the index series¹.

2.1.2 FTSE is responsible for the daily calculation, production and operation of the index series and will:

- maintain records of all the constituents
- be responsible for the addition and deletion of bonds and changes of nominal amounts, in accordance with the Ground Rules
- disseminate the indices.

2.2 Status of these Ground Rules

2.2.1 These Ground Rules set out the methodology and provide information about the publication of the FTSE Blossom Fixed Income Index Series.

2.3 Amendments to these Ground Rules

2.3.1 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 Index Governance Board before approval is granted.

2.3.2 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.

¹ FTSE is not the benchmark administrator of the Index Series as the term administrator is defined in the [IOSCO Principles for Financial Benchmarks](#) and [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).

Section 3

FTSE Russell index policies

3. FTSE Russell index policies

These Ground Rules should be read in conjunction with the following policy documents which can be accessed using the links below or by contacting info@ftserussell.com. These policies are reviewed annually, and any changes are approved by the FTSE Russell Index Governance Board.

3.1 **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 Index Governance Board.

The Statement of Principles for Fixed Income Indices can be accessed using the following link:

[Statement of Principles Fixed Income Indices.pdf](#)

3.2 **Queries and Complaints**

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

[Benchmark Determination Complaints Handling Policy.pdf](#)

3.3 **Recalculation Policy and Guidelines**

The Recalculation Policy and Guidelines for Fixed Income Indices document is available from the FTSE Russell website using the link below or by contacting info@ftserussell.com.

[Fixed Income Recalculation Policy and Guidelines.pdf](#)

3.4 **Policy for Benchmark Methodology Changes**

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

[Policy for Benchmark Methodology Changes.pdf](#)

3.5 **FTSE Russell Governance Framework**

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 Benchmarks², the European benchmark regulation³ and the UK benchmark regulation⁴. The FTSE Russell Governance Framework can be accessed using the following link:

[FTSE Russell Governance Framework.pdf](#)

3.6 **Real Time Status Definitions**

Please refer to the following guide for details of real time status definitions for indices that are calculated in real time.

[Real Time Status Definitions.pdf](#)

3.7 **FTSE Blossom Japan Sector Relative Index Construction and Methodology**

Details of FTSE Blossom Japan Sector Relative Index construction methodology can be accessed using the following link:

[ftse-blossom-japan-sector-relative-index-ground-rules.pdf \(Iseg.com\)](#)

3.8 **FTSE Japanese Broad Bond Index Construction and Management**

Details of FTSE Japanese Broad Bond Index construction and management can be accessed using the following link:

[FTSE Japanese Broad Bond Index Ground Rules \(Iseg.com\)](#)

3.9 **FTSE Blossom World Composite Sector Relative Index Construction and Methodology**

Details of FTSE Blossom World Composite Sector Relative Index Series construction methodology can be accessed using the following link:

3.10 **[FTSE Blossom World Sector Relative Index Ground Rules](#) FTSE World Broad Investment-Grade Bond Index Construction and Management**

Details of FTSE World Broad Investment-Grade Bond Index construction and management can be accessed using the following link:

[FTSE Fixed Income Guide](#)

² IOSCO Principles for Financial Benchmarks Final Report, FR07/13 July 2013.

³ 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.

⁴ The Benchmarks (Amendment and Transitional Provision) (EU Exit) Regulations 2019.

Section 4

Issuer mapping and corporate actions

4. Issuer mapping and corporate actions

- 4.1 FTSE Russell maintains a mapping between the stocks of corporate entities tracked by its equity indices and the debt of the corporate entities and their subsidiaries, tracked by its fixed income indices.
- 4.1.1 An organisation is considered to be a subsidiary in the following situations and in accordance with LSEG Data & Analytics Hierarchical Methodology:
 - A. If an organisation is reported as subsidiary of another company or its subsidiary in an official filing only, regardless of holding percentage;
 - B. If an organisation is reported as majority owned by another company or its subsidiary in an official filing only, regardless of holding percentage;
 - C. If an organisation is reported as indirect subsidiary of another company or its subsidiary in an official filing only, regardless of holding percentage, while direct parent is not known;
 - D. If an organisation is reported as indirectly majority owned by another company or its subsidiary in an official filing only, regardless of holding percentage, while the direct owner is not known;
 - E. If an organisation is held more than 50% voting stocks by another organisation or subsidiary of such organisation;
 - F. If no wording “subsidiary” “majority owned” is mentioned in an official filing only, and an organisation is indirectly held more than 50% by another organisation or subsidiary of such organisation while direct holding is not known.
- 4.2 Debt that are included in the FTSE Japanese Broad Bond Index and issued by corporate entities with stocks eligible for the FTSE Blossom Japan Sector Relative Index and their subsidiaries are included in the FTSE Blossom Japan Fixed Income Index and corresponding sub-indices. Debt that are included in the FTSE World Broad Investment-Grade Bond Index and issued by corporate entities with stocks eligible for the FTSE Blossom World Composite Sector Relative Index and their subsidiaries are included in the FTSE Blossom World Fixed Income Index and corresponding sub-indices.
- 4.2.1 In the event that a subsidiary of a corporate entity with a stock eligible for the FTSE Blossom Japan Sector Relative Index or the FTSE Blossom World Composite Sector Relative Index no longer meets subsidiary definition because of a corporate action, such as a spin off or divestment, its bonds will exit the FTSE Blossom Fixed Income Index Series at the next monthly rebalance after the effective date of the corporate action.
- 4.2.2 In the event that a subsidiary of a corporate entity with a stock eligible for the FTSE Blossom Japan Sector Relative Index or the FTSE Blossom World Composite Sector Relative Index newly meets subsidiary definition, due to a corporate action, such as an acquisition or increased ownership stake, its index-eligible debt will be added to the FTSE Blossom Fixed Income Index Series at the next monthly rebalance after the effective date of the corporate action.
- 4.2.3 In the event that an existing subsidiary of a corporate entity with a stock eligible for the FTSE Blossom Japan Sector Relative Index or the FTSE Blossom World Composite Sector Relative Index issues index-

eligible debt for the first time, it will be added to the FTSE Blossom Fixed Income Index Series at the next monthly rebalance.

- 4.3 Asset-backed securities where the ultimate corporate borrower is a corporate entity with stocks eligible for the FTSE Blossom Japan Sector Relative Index or the FTSE Blossom World Composite Sector Relative Index are not eligible for the FTSE Blossom Fixed Income Index Series.

Section 5

ESG data inputs

5. ESG data inputs

- 5.1.1 The FTSE Blossom Japan Fixed Income Index derives its issuers from the members of the FTSE Blossom Japan Sector Relative Index.
- Please refer to the following Ground Rules for details of ESG datasets used in the construction of the FTSE Blossom Japan Sector Relative Index.
- [ftse-blossom-japan-sector-relative-index-ground-rules.pdf \(Iseg.com\)](#)
- 5.1.2 The FTSE Blossom World Fixed Income Index derives its issuers from the members of the FTSE Blossom World Composite Sector Relative Index.
- Please refer to the following Ground Rules for details of ESG datasets used in the construction of the FTSE Blossom World Sector Relative Index.
- [FTSE Blossom World Sector Relative Index Ground Rules](#)

Section 6

Composition and design criteria

6. Composition and design criteria

6.1 FTSE Blossom Japan Fixed Income Index

The FTSE Blossom Japan Fixed Income Index is designed to measure the performance of Japanese Yen-denominated corporate bonds issued by public traded companies demonstrating specific environmental, social and governance (ESG) practices in Japan. Based on the underlying FTSE Japanese Broad Bond Index (JPBBI), the FTSE Blossom Japan Fixed Income Index focuses on bonds issued by Japanese public companies and selects issuers from the members of the FTSE Blossom Japan Sector Relative Index and their subsidiaries.

Design criteria and calculation assumptions for the FTSE Blossom Japan Fixed Income Index

Composition	JPBBI Corporate
Semi-annual Reviews	The issuers of the FTSE Blossom Japan Fixed Income Index and its sub-indices are reconstituted in alignment with the FTSE Blossom Japan Sector Relative Index semi-annually.
Base date	31 December, 2017

6.2 FTSE Blossom World Fixed Income Index

The FTSE Blossom World Fixed Income Index is designed to measure the performance of global investment-grade corporate bonds issued by public companies that are also members of the FTSE Blossom World Composite Sector Relative Index and their subsidiaries. The index comprises of non-JPY denominated bonds that are included in the FTSE World Broad Investment-Grade Bond index (WorldBIG).

Design criteria and calculation assumptions for the FTSE Blossom World Fixed Income Index

Composition	Non-JPY WorldBIG Corporate
Semi-annual Reviews	The issuers of the FTSE Blossom World Fixed Income Index and its sub-indices are reconstituted in alignment with the FTSE Blossom World Sector Relative Index Series semi-annually.
Base date	31 December, 2017

6.3 Holiday calendar

- 6.3.1 The index is calculated Monday through Friday except Christmas Day (observed) and New Year's Day (observed). Each local market will observe its own holiday calendar; if a local market is on holiday, the closing prices used for that day will be the closing prices from the previous day.

6.4 Index quality

- 6.4.1 An index quality is assigned to each index bond as of profile fixing. The quality is first mapped to the Standard & Poor's Financial Services LLC ("S&P") rating. If a bond is not rated by S&P but it is rated by Moody's Investors Service, Inc ("Moody's"), the S&P equivalent of the Moody's rating is assigned to the index quality. If a bond is rated by neither S&P nor Moody's, the bond is not assigned an index quality. If a

bond is rated as investment-grade by one rating agency and high-yield by the other, the S&P equivalent of the investment-grade rating is assigned to the index quality. These ratings remain unchanged for the entire performance month. Rating and Investment Information, Inc. ("R&I") ratings are used for screening but are not taken into account for index quality assignment.

6.5 Return computation

6.5.1 Total returns are computed on the assumption that each security is purchased at the beginning of the period and sold at the end of the period. An issue's total rate of return is the percentage change in its total value over the measurement period. The components of total return for each security are price change, principal payments, coupon payments and accrued interest. The total returns are market capitalisation-weighted using the security's beginning-of-period market value (see Figure 1).

Figure 1. Total rate of return calculation methodology

Beginning-of-period value	-	(Beginning price + Beginning accrued) x Beginning par amount outstanding
End-of-period value	-	[(Ending price + Ending accrued) x (Beginning par amount outstanding – Principal payments)] + Coupon payments + Principal payments
Total rate of return (%)	-	[(End-of-period value/Beginning-of-period value) – 1] x 100

A note on precision: Returns are computed to at least six decimal places but reported to a maximum of four. In addition, owing to rounding inaccuracies inherent in computer floating-point arithmetic, the last digit in any reported value may sometimes be off by one from its true value

6.6 Tickers for the FTSE Blossom Fixed Income Index Series

Ticker	Index
SBBJFIJ	FTSE Blossom Japan Fixed Income Index, in JPY terms
SBBWFIJ	FTSE Blossom World Fixed Income Index, in JPY terms
SBBWFIJJ	FTSE Blossom World Fixed Income Index – Japanese Investment Trust, in JPY terms

6.7 Chronological summary of events

Year	Monthly highlights
2024	December: FTSE Blossom Fixed Income Index Series and its sub-indices are introduced. FTSE Blossom Japan Fixed Income Index is launched.
2025	April: FTSE Blossom World Fixed Income Index is launched.

6.8 Related indices

6.8.1 FTSE Blossom World Fixed Income Index – Japanese Investment Trust

6.8.1.1 The FTSE Blossom World Fixed Income Index – Japanese Investment Trust (JIT) 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.

Following standards of the Investment Trusts Association of Japan, the FTSE Blossom World Fixed Income Index – JIT uses the telegraphic transfer middle (TTM) exchange rates provided by MUFG Bank as of mid-morning, 10:00 a.m. Tokyo time. The bonds in the Blossom World Fixed Income Index – JIT are priced as of yesterday's market close and the Blossom World Fixed Income Index – JIT's return and market value calculations are the same as the non-yen securities of the World Government Bond Index – Japanese Investment Trust Index, described in detail in the appendix.⁵

⁵ For a detailed description of the market value and return calculations for non-yen sectors of the WGBI-JIT, please see Appendix A.

If a currency is not among the ones for which MUFG Bank provides TTM quotes, rates from LSEG Data & Analytics are used. This follows the consistency stipulation on alternate rates of the Business Management Committee of Investment Trusts.

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 time and MUFG Bank officially revises the 10:00 a.m. rates, FTSE Russell will restate the last business day Blossom World Fixed Income Index - JIT returns and monthly returns if they differ significantly from the originally published returns.

6.8.1.2 Base Index Universe

The index composition is based on the global sovereign markets and constituents of the FTSE Blossom World Fixed Income Index. A new market entering the Blossom World Fixed Income Index will also enter the Blossom World Fixed Income Index – JIT at the same time. Markets being removed from the Blossom World Fixed Income Index because they are subjected to Blossom World Fixed Income Index's exit criteria will also be removed from the Blossom World Fixed Income Index – JIT.

6.8.1.3 FTSE Blossom World Fixed Income Index – Japanese Investment Trust Calculation Methodology

The methodology for the Blossom World Fixed Income Index – JIT follows the Blossom World Fixed Income Index with the exception of the differences which are highlighted in the following table.

Year	Blossom World Fixed Income – JIT	Blossom World Fixed Income
Exchange rate	MUFG Bank telegraphic transfer spot middle rate (TTM) as quoted at 10:00 a.m. ⁶ Tokyo time. In the event that TTM rates are unavailable, rates from WMR FX Benchmarks are used.	WMR FX Benchmarks — Median rate based on snapshots taken at regular intervals centred on fixing time of 4:00 p.m. London time
Pricing	Markets ex. Japan: previous trading day's local market close.	All markets: same day local market close.
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.	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.
Base date	31 December, 2017	31 December, 2017

⁶ WM/Reuters quotes are used for currencies during periods in which MUFG Bank quotes are not available. Historically, WM/Reuters rates were used for Polish zloty (prior to December 2003) and Malaysian Ringgit (prior to January 2007). Reuters is now LSEG Data & Analytics.

Appendix A

Market value and return calculations for the WGBI-JIT

7. Market value and return calculations for non-yen sectors of the WGBI-JIT

7.1 Japanese yen sectors are calculated using current WGBI methodology. The following notations are used in the formulas. The WGBI and WJIT refer to the non-yen component of the index.

Notation	
t	Today
m	Current month
e	Last business day of previous month
WGBI_MODDUR	WGBI modified duration
WGBI_RORP	WGBI daily principal return
WGBI_MTDROP	WGBI month-to-date principal return
WGBI_MTDROI	WGBI month-to-date income return
WJIT_RORP	WGBI-JIT daily principal return
WJIT_MTDROP	WGBI-JIT month-to-date principal return
WJIT_MTDROI	WGBI-JIT month-to-date income return
WJIT_MTDROT	WGBI-JIT month-to-date total return

7.2 Market value computation

For the WGBI, the current month's index profile market value is calculated using the prices of the last business day of the previous month for all its constituents. For the WGBI-JIT, the market value is adjusted by the principal returns and the modified duration.

$$WJIT_MKV(m) = \frac{WGBI_MKV(m)}{1 + \left(\frac{WGBI_RORP(e)}{100} \times \frac{WGBI_MODDUR(m)}{WGBI_MODDUR(e)} \right)}$$

7.3 Return computation

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

7.4 Month-to-date returns in local currency terms

7.4.1 Step 1: Calculate the first business day principal return

The first business day principal return is calculated based on the last business day principal return of the previous month. The last business day principal return is adjusted by a duration ratio to account for the change in portfolio.^{7, 8}

$$WJIT_RORP(1) = WGBI_RORP(e) \times \left(\frac{WGBI_MODDUR(m)}{WGBI_MODDUR(e)} \right)$$

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

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

$$WJIT_MTDRORP(t) = WJIT_RORP(1) + WGBI_MTDRORP(t-1) \times \left[1 + \left(\frac{WJIT_RORP(1)}{100} \right) \right]$$

7.4.3 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.

$$WJIT_MTDRORI(t) = WGBI_MTDRORI(t) \times \left[1 + \left(\frac{WJIT_RORP(1)}{100} \right) \right]$$

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

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

$$WJIT_MTDRORT(t) = WJIT_MTDRORP(t) + WJIT_MTDRORI(t)$$

7.5 Month-to-date total return in JPY terms

The WGBI-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 Bank of Tokyo-Mitsubishi UFJ. If the TTM rates are not available, WMR FX Benchmarks rates are used.

$$WJIT_MTDRORT(t)_{JPY} = \left\{ \left[1 + \left(\frac{WJIT_MTDRORT(t)_{LCL}}{100} \right) \right] \times \left[1 + \left(\frac{CRCY_RTN(t)_{TTM}}{100} \right) \right] - 1 \right\} \times 100$$

7.6 Daily total return in local currency terms

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

$$WJIT_RORT(t) = \left\{ \left[\frac{\left(1 + \frac{WJIT_MTDRORT(t)}{100} \right)}{\left(1 + \frac{WJIT_MTDRORT(t-1)}{100} \right)} \right] - 1 \right\} \times 100$$

7.7 Estimate daily return of the non-yen WGBI-JIT: calculation methodology

The Non-Yen WGBI-JIT estimate daily return is calculated based on the previous day's WGBI Month-to-Date Total Return and today's TTM exchange rates, provided by the MUFG Bank at 10:00 a.m. JST.

For the first business day estimate daily return calculation, the previous day's return is simply the WGBI principal return of the last business day of the previous month. For subsequent days, the previous day's return is the WGBI principal return of the last business day of the previous month plus the previous day's WGBI Month-to-Date Total Return.

7.7.1 Step 1: Calculate the currency return using 10:00 a.m. JST TTM rates

$$Currency_Return_{Today, LCL:Base} = \left(\frac{TTM_{Today} - TTM_{EOM}}{TTM_{EOM}} \right) \times 100$$

⁷ Prior to January 1999, WGBI_MODDUR(e) was not available, therefore the default ratio is set to 1.

⁸ If WGBI_RORP(e) is not available, WJIT_RORP(1) is set to 0.0. For example, the initial principal returns for PL_TSY and MY_TSY is set to 0.0 because these sectors start after the WGBI-JIT inception date of December 31, 1996.

TTM_{EOM} = TTM rate as of the beginning of month

TTM_{Today} = TTM rate as of 10:00 a.m. JST today

7.7.2 Step 2: Estimate month-to-date total return in JPY terms

For the first business day:

$$EST_MTD_RORT_{Today,JPY,WJIT} = \left[\left(1 + \frac{RORT_{EOM,LCL,WGBI}}{100} \right) \times \left(1 + \frac{CRCY_RTN_{Today,LCL:Base}}{100} \right) - 1 \right] \times 100$$

For second business day onward:

$$EST_MTD_RORT_{Today,JPY,WJIT} = \left[\left(1 + \frac{(RORP_{EOM,LCL,WGBI} + MTD_RORT_{PrevDay,LCL,WGBI})}{100} \right) \times \left(1 + \frac{(CRCY_RTN_{Today,LCL:Base})}{100} \right) - 1 \right] \times 100$$

$RORP_{EOM,LCL,WGBI}$ = WGBI previous month's last day principal return in local currency terms

$MTD_RORT_{PrevDay,LCL,WGBI}$ = WGBI previous day's month-to-date total return in local currency terms

$CRCY_RTN_{Today,LCL:Base}$ = from Step 1

7.7.3 Step 3: Estimate daily return in JPY terms

$$EST_DAILY_RORT_{Today,JPY,WJIT} = \left[\frac{\left(1 + \frac{EST_MTD_RORT_{Today,JPY,WJIT}}{100} \right)}{\left(1 + \frac{MTD_RORT_{PrevDay,JPY,WJIT}}{100} \right)} - 1 \right] \times 100$$

$EST_MTD_RORT_{Today,JPY,WJIT}$ = from step 2

$MTD_RORT_{PrevDay,JPY,WJIT}$ = WGBI-JIT previous day's month-to-date total return in JPY terms

7.7.4 Step 4: Estimate month-to-date return for the non-yen WGBI-JIT in JPY terms

$$EST_MTD_RORT_{Today,JPY,WJIT} = \frac{(\sum_{i=1}^N ST_MTD_RORT(i)_{Today,JPY,WJIT} \times MKV(i)_{BOM})}{\sum_{i=1}^N MKV(i)_{BOM}}$$

i = each country in the non-yen WGBI-JIT

$MKV(i)_{BOM}$ = Beginning-of-month market value of each country.

Appendix B

Further information

For contact details please visit the FTSE Russell website or contact FTSE Russell client services at info@ftserussell.com.

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

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