Ground Rules

October 2022

FTSE Eurozone Government Bill Hedged Index

v1.2

FTSE RUSSELL
An LSEG Business

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Section 1

Introduction

1. Introduction

1.1 FTSE Eurozone Government Bill Hedged Index

1.2 These rules provide description of the currency hedging methodology, which is applied to FTSE Eurozone Government Bill Hedged Index.

1.3 The currency hedged indices are constructed by adding a layer of currency forward contracts to the underlying unhedged indices. The forward rates are standard one month contracts that are rolled at each rebalance day.

1.4 These Ground Rules should be read in conjunction with the Ground Rules of the underlying unhedged indices.

1.5 The FTSE Eurozone Government Bill Hedged Index does not take account of ESG factors in its design.

1.6 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, The Yield Book Inc. and Beyond Ratings.

FTSE Russell hereby notifies users of the index 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 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.

1.7 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 nor its group companies (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.

1.8 These Ground Rules

1.8.1 This document sets out the Ground Rules for the construction and management of the FTSE Eurozone Government Bill Hedged Indices.

1.9 Index Series objectives

1.9.1 The FTSE Eurozone Government Bill Hedged Index allows exposure to the returns of the foreign assets in the index without being exposed to the volatility of the foreign exchange rates.

1.10 Publication of index and underlying data

1.10.1 FTSE Eurozone Government Bill Hedged Index will be calculated at the end of each working day and will follow the underlying unhedged index holiday calendar.

1.11 FTSE Eurozone Government Bill Index Series

The FTSE Eurozone Government Bill Index Series is a family of indices that measure the total return of a portfolio of sovereign bills issued by countries belonging to the Eurozone and listed on the Refinitiv Evaluated Pricing Service (REPS)[1].

The series comprises indices grouped by the following maturity bands: 0-3 months, 0-6 months and 0-12 months. In the 0-6 months maturity bucket, two indices are produced, one of which is capped, meaning that each issuer is capped within the index to a maximum of 34.5%. The 0-3 month, 0-12 month and remaining 0-6 month indices are weighted by market capitalisation without issuer capping.

The FTSE Eurozone Government Bill indices are calculated at 17:15 CET.

[1] With effect from 10 October 2022, REPS replaced prices from MTS platform.

Section 2

Management responsibilities

2. Management responsibilities

2.1 FTSE International Limited (FTSE)

2.1.1 FTSE is the benchmark administrator of the index[2].

2.1.2 FTSE Russell is responsible for the daily calculation, production and operation of the FTSE Eurozone Government Bill Indices 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.

2.2 FTSE EMEA Fixed Income Advisory Committee

2.2.1 The FTSE EMEA Fixed Income Advisory Committee has been established by FTSE Russell. The Committee may recommend changes to the Ground Rules for approval by the FTSE Russell Index Governance Board.

2.2.2 The Terms of Reference of the FTSE EMEA Fixed Income Advisory Committee are set out on the FTSE Russell website and can be accessed through the following link:

FTSE_EMEA_Fixed_Income_Advisory_Committee.pdf

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 continue to best reflect the aims of the index. Any proposals for significant amendments to these Ground Rules will be subject to consultation with the FTSE EMEA Fixed Income Advisory Committee 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 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 Rules should subsequently be updated to provide greater clarity.

[2] 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).

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 through the links below:

3.1 Queries and Complaints

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

Benchmark_Determination_Complaints_Handling_Policy.pdf

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 Index Governance Board.

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

Statement_of_Principles_Fixed_Income_Indexes.pdf

3.3 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 info@ftserussell.com.

Fixed_Income_Recalculation_Policy_and_Guidelines.pdf

3.4 Index Policy in the Event Clients are Unable to Trade a Market or a Security

3.4.1 Details of FTSE Russell's treatment can be accessed through the following link:

Index_Policy_in_the_Event_Clients_are_Unable_to_Trade_a_Market_or_a_Security.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 through the following link:

Policy_for_Benchmark_Methodology_Changes.pdf

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[3], the European benchmark regulation[4] and the UK benchmark regulation[5]. The FTSE Russell Governance Framework can be accessed through the following link:

FTSE_Russell_Governance_Framework.pdf

[3] IOSCO Principles for Financial Benchmarks Final Report, FR07/13 July 2013.

[4] 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.

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

Section 4
Currency data

4. Currency data

4.1 WM Refinitiv 16:00 GMT service mid rates will be used as part of the index calculation.

4.2 Where rates are not published by WM Refinitiv, the previous day’s rates will be used in the index calculation.

4.3 **Unavailability of currency data due to an extraordinary market event**

4.3.1 If an extraordinary market event occurs that causes WM Refinitiv to be unable to provide the relevant currency values, FTSE Russell may suspend the hedging of the respective currency.

Section 5

Currency hedged index calculation

5. Index calculation

The Indices hedge each currency in two stages. The first stage calculates the impact of hedging for each country; the second stage applies this calculation to the hedged index.

Impact of hedging

$$IH(t) = HF \times \left(\frac{s(m-1)}{FIR(t)} - \frac{s(m-1)}{s(t)}\right)$$

The hedging period is defined as the last working day (Mon-Fri) of the calendar month to the following last working day (Mon-Fri) of the calendar month.

Where:

$IH(t)$	=	Impact of hedging on calculation day t
HF	=	Hedging factor (between 0 and 1), this is the proportion to be hedged

The FTSE Currency Hedged Indices are based on a hedging factor of 1.

$s(m-1)$	=	Spot exchange rate at the close of the previous hedging period
$s(t)$	=	Spot exchange rate at the close of the current calculation date
$FIR(t)$	=	Forward interpolated rate at the close of the current calculation date

Hedged capital index

$$HI(t) = HI(m-1) \times \left(\frac{UI(t)}{UI(m-1)} + IH(t)\right)$$

The hedged capital index is derived from the unhedged capital index performance and the impact of hedging at the current calculation date.

Where:

$HI(m-1)$	=	Hedged capital index at the close of the previous hedging period
$UI(m-1)$	=	Unhedged capital index at the close of the previous hedging period in the hedged currency
$UI(t)$	=	Unhedged capital index at the close of the current calculation date in the hedged currency
$IH(t)$	=	Impact of hedging at the close of the current calculation date

Hedged total return index

$$HTRI(t) = HTRI(m-1) \times \left(\frac{UTRI(t)}{UTRI(m-1)} + IH(t)\right)$$

The hedged total return index is derived from the unhedged total return index performance and the impact of hedging at the current calculation date.

Where:

$HTRI(m-1)$	=	Hedged total return index at the close of the previous hedging period
$UTRI(m-1)$	=	Unhedged total return index at the close of the previous hedging period in the hedged currency
$UTRI(t)$	=	Unhedged total return index at the close of the current calculation date in the hedged currency
$IH(t)$	=	Impact of hedging at the close of the current calculation date

Forward rates and spot rates

FTSE will use WM Refinitiv 16:00 hrs GMT mid-price spot and forward rates in its currency hedged indices calculation. All rates are the last working day of the relevant market month direct USD quotes.

Where rates are not published by WM Refinitiv the previous day's rates will be used in the index calculation.

Forward interpolated rates

$$(t) = fwd(m-1) + \left(\frac{(s(m-1) - fwd(m-1)) \times N(d-t)}{N(d)}\right)$$

Forward interpolated rates enable FTSE to value a forward contract on a particular intermonth period. They do this by calculating the spot/forward discount/premium at the beginning of the contract period, and then discount this over the life of the contract.

Where:

$N(d-t)$	=	Number of days left of forward contract
$N(d)$	=	Number of calendar days of forward contract until the rebalance date
$fwd(m-1)$	=	The forward contract (rate) bought at the close of the previous hedging period
$s(m-1)$	=	Spot rate at the close of the previous hedging period

Below is an example of the calculation for FTSE Eurozone Government Bill 0-6 Month Capped MXN Hedged Index (HI).

Unhedged index values (MXN)		
	30/06/2016	**14/07/2016**
Unhedged Index	121.90630	120.99806

Spot rates		
	30/06/2016	**14/07/2016**
MXN/EUR	0.048790	0.049148

Forward rate	
	30/06/2016
MXN/EUR	0.048596

Forward interpolated rate

Hedge date	=	2016-06-30
Rebalance date	=	2016-07-29
Days in the period	=	29
Days left	=	15

Forward interpolated rate ($FIR(t)$) =

$$0.048696 = 0.048596 + \left(\frac{(0.048790 - 0.048596) \times 15}{29}\right)$$

Impact of hedging ($IH(t)$) =

$$0.009213 = 1 \times \left(\frac{0.048790}{0.048696} - \frac{0.048790}{0.049148}\right)$$

Hedged index ($HI(t)$) =

$$100.176300 = 100 \times \left(\frac{120.99806}{121.90630} + (0.009213)\right)$$

Appendix A

The FTSE Eurozone Government Bill Hedged Indices

Index	Hedged currency
FTSE Eurozone Government Bill 0-6 Month Capped MXN Hedged Index	MXN

Distribution

The indices are distributed via Bloomberg and Reuters with the following tickers:

Index	Bloomberg
FTSE Eurozone Government Bill 0-6 Month Capped MXN Hedged Index	EMT6CHMX

Appendix B

Further information

A glossary of terms used in FTSE Russell's Ground Rule documents can be found through the following link:

Fixed_Income_Glossary_of_Terms.pdf

For further information on the FTSE Eurozone Government Bill Index Ground Rules please visit www.lseg.com/en/ftse-russell/ or e-mail info@ftserussell.com.

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