FTSE 30-Year TIPS (Treasury Rate-Hedged) Index

v1.6



Contents

Section 1 Introduction	3
Section 2 Management responsibilities	4
Section 3 FTSE Russell Index policies	5
Section 4 Composition and design criteria	7
Appendix A Further information	10

Introduction

1. Introduction

1.1 FTSE 30-Year TIPS (Treasury Rate-Hedged) Index

- 1.1.1 The FTSE 30-Year TIPS (Treasury Rate-Hedged) Index is designed to measure the performance of the Break Even Rate of Inflation (BEI) which is the difference in yield between a US Treasury bond and a US Treasury Inflation Protected Securities (TIPS). The index includes three positions the first is a long position of the most recently issued 30-Year TIPS, the second is a short position of a US Treasury bond¹, and the third is a cash equivalent security that represents the reportate earned on the short position.
- 1.1.2 The index's short position is the Cheapest-to-Deliver (CTD) Treasury bond for the Nearest-to-Expiry Ultra US Treasury Bond Futures Contract. The par amount of the index's short position is determined by creating a modified duration dollar neutral position between the CTD Treasury Bond (short position) relative to the 30-Year TIPS (long position), see the Hedging Methodology section.
- 1.1.3 The FTSE 30-Year TIPS (Treasury Rate-Hedged) Index does not take account of ESG factors in its design.

1.2 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.

- 1.2.1 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.
- 1.2.2 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 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.

FTSE Russell 3 of 11

The CTD Treasury bond is determined using the Yield Book's Treasury Future Option Model.

Management responsibilities

Management responsibilities

2.1 FTSE International Limited (FTSE)

- 2.1.1 FTSE is the benchmark administrator of the index series.²
- 2.1.2 FTSE is responsible for the daily calculation, production and operation of the index series 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;
 - 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 Index 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.

FTSE Russell 4 of 11

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 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 fi.index@lseg.com. These policies are reviewed annually, and any changes are approved by the FTSE Russell Product 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 Index Advisory Board for discussion before approval by the FTSE Russell Product 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 fi.index@lseg.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 using 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

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

Policy for Benchmark Methodology Changes.pdf

FTSE Russell 5 of 11

FTSE 30-Year TIPS (Treasury Rate-Hedged) Index, v1.6, January 2023

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 Benchmarks³, the European benchmark regulation⁴ and the UK benchmark regulation⁵. The FTSE Russell Governance Framework can be accessed using the following link:

FTSE Russell Governance Framework.pdf

FTSE Russell 6 of 11

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.

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

Composition and design criteria

4. Composition and design criteria

Design criteria and calculation assumptions for the FTSE 30-Year TIPS (Treasury Rate-Hedged) Index

Coupon	Fixed rate			
Currency	USD			
Minimum maturity	At least one year			
Minimum issue size	TIPS (Long Position): USD 5 billion US Treasury bond (Short Position): USD 5 billion public amount outstanding (excludes Federal Reserve holdings)			
Minimum credit quality	BBB- by S&P or Baa3 by Moody's			
Composition	30-Year TIPS, Cheapest-to-Deliver (CTD) US Treasury bond, cash equivalent security			
Rebalancing	Once a month on the last business day of the month (pricing as of the last business day of the month and settlement as of the last calendar day 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. ⁶			
Pricing	IDC bid-side at 3:00 p.m. (New York)			
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	February 28, 2010			

FTSE Russell 7 of 11

⁶ Prior to 1 November 2022, reinvestment income was included in the total return calculation.

4.1 Hedging methodology

4.1.1 On Fixing Day, the modified duration dollars⁷ of the 30-Year TIPS is calculated. Modified duration dollars are defined as:

Modified Duration Dollars = DV01 * Par Amount

where DV01 is the magnitude of the price change for the security when the yield curve moves one basis point.

4.1.2 The CTD of the Nearest-to-Expiry Ultra US Treasury Bond Futures Contract is determined using the Yield Book's Treasury Future Option Model. The par amount for this short position is the amount such that the modified duration dollars of the short position is equal to the modified duration dollars of the long position, as defined below:

DV01_{TIPS Position} * Par Amount_{TIPS Position} = DV01_{Treasury Position} * Par Amount_{Treasury Position}

4.1.3 After the par amount of the short position is determined, a cash equivalent security is added to represent the repo rate earned on the short position. The amount of the cash position is equal to the market value of the short position as of Fixing Date.

4.2 Return calculation methodology

4.2.1 Returns are calculated based on the dollar return of each position in the index. Any coupon paid during the month from the long position is reinvested at the daily average of the one-month Euro deposit rate, calculated from the actual scheduled payment date of the cash flow through the end of the reporting period. The cash equivalent security is reinvested at the average of the bid and ask prices on the 1-Month Government Repo Rate as of the Fixing Date. The overall index return is calculated based on the summation of the dollar returns of each position divided by the beginning market value of the long position:

 $\frac{Dollar\ Return_{Long\ Position}\ +\ Dollar\ Return_{Short\ Position}\ +\ Dollar\ Return_{Cash\ Position}}{Beginning\ Market\ Value_{Long\ Position}}$

4.3 Holiday calendar

4.3.1 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.

4.4 Index quality

4.4.1 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.

4.5 Return computation

4.5.1 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 (see Figure 1). The components of total return are price change, principal payments, coupon payments and accrued interest. The total returns use each individual security's beginning-of-period market value.

FTSE Russell 8 of 11

7

Prior to November 30, 2016, the par amount of the short position was determined using effective duration dollars.

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 errors inherent in computer floating-point arithmetic, the last digit in any reported value may sometimes be off by one from its true value.

Ticker for the FTSE 30-Year TIPS (Treasury Rate-Hedged) Index

Ticker	Index
CFIIRINF	FTSE 30-Year TIPS (Treasury Rate-Hedged) Index

FTSE Russell 9 of 11

Appendix A

Further information

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

Glossary_of_terms_FTSE_Fixed_Income.pdf

For contact details please visit the FTSE Russell website or contact FTSE Russell client services at fi.index@lseg.com.

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

FTSE Russell 10 of 11

Disclaimer

© 2023 London Stock Exchange Group plc and its applicable group undertakings (the "LSE Group"). The LSE Group includes (1) FTSE International Limited ("FTSE"), (2) Frank Russell Company ("Russell"), (3) FTSE Global Debt Capital Markets Inc. and FTSE Global Debt Capital Markets Limited (together, "FTSE Canada"), (4) FTSE Fixed Income Europe Limited ("FTSE FI Europe"), (5) FTSE Fixed Income LLC ("FTSE FI"), (6) The Yield Book Inc ("YB") and (7) Beyond Ratings S.A.S. ("BR"). All rights reserved.

The FTSE 30-Year TIPS (Treasury Rate-Hedged) Index is calculated by or on behalf of FTSE Fixed Income LLC or its affiliate, agent or partner. FTSE International Limited is authorised and regulated by the Financial Conduct Authority as a benchmark administrator.

FTSE Russell® is a trading name of FTSE, Russell, FTSE Canada, FTSE FI, FTSE FI Europe, YB and BR. "FTSE®", "Russell®", "FTSE Russell®", "FTSE Adood®", "ICB®", "The Yield Book®" "Beyond Ratings®" and all other trademarks and service marks used herein (whether registered or unregistered) are trademarks and/or service marks owned or licensed by the applicable member of the LSE Group or their respective licensors and are owned, or used under licence, by FTSE, Russell, FTSE Canada, FTSE FI, Europe, YB or BR.

All information is provided for information purposes only. Every effort is made to ensure that all information given in this publication is accurate, but no responsibility or liability can be accepted by any member of the LSE Group nor their respective directors, officers, employees, partners or licensors for any errors or for any loss from use of this publication or any of the information or data contained herein.

No member of the LSE Group nor their respective directors, officers, employees, partners or licensors make any claim, prediction, warranty or representation whatsoever, expressly or impliedly, either as to the results to be obtained from the use of FTSE 30-Year TIPS (Treasury Rate-Hedged) Index or the fitness or suitability of the Index Series for any particular purpose to which it might be put.

No member of the LSE Group nor their respective directors, officers, employees, partners or licensors provide investment advice and nothing in this document should be taken as constituting financial or investment advice. No member of the LSE Group nor their respective directors, officers, employees, partners or licensors make any representation regarding the advisability of investing in any asset. A decision to invest in any such asset or whether such investment creates any legal or compliance risks for the investor. Indices cannot be invested in directly. Inclusion of an asset in an index is not a recommendation to buy, sell or hold that asset nor confirmation that any particular investor may lawfully buy, sell or hold the asset or an index containing the asset. The general information contained in this publication should not be acted upon without obtaining specific legal, tax, and investment advice from a licensed professional.

No part of this information may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior written permission of the applicable member of the LSE Group. Use and distribution of the LSE Group index data and the use of their data to create financial products require a licence with FTSE, Russell, FTSE Canada, FTSE FI, FTSE FI Europe, YB, BR and/or their respective licensors.

