

FTSE Goldman Sachs US Treasury Index

v1.4



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Section 1

Introduction

1. Introduction

1.1 FTSE Goldman Sachs US Treasury Index

1.2 The FTSE Goldman Sachs US Treasury Index (index) measures the performance of fixed-rate, US government bonds. The index is created from a starting universe of the FTSE US Broad Investment-Grade Treasury Bond Index (base index) and utilizes an optimization process to select securities and determine weights such that projected return, net of transaction costs, for a given level of risk is maximized. The index aims to maximize one-month projected return, net of estimated transaction costs, by ensuring the return volatility of the index remains below a pre-set level, the term structure is constrained within a band relative to the base index, and the duration matches the base index.

1.2.1 The FTSE Goldman Sachs US Treasury Index does not take account of ESG factors in its design.

1.3 FTSE Russell

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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.

1.4.1 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;
- any inaccuracies in these Ground Rules;
- 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 Fixed Income LLC (FTSE)

2.2 FTSE is the benchmark administrator of the index¹.

2.2.1 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; and
- disseminate the indices.

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 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.

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 fi.index@lseg.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 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](#)

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 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](#)

3.7 Real Time Status Definitions

- 3.7.1 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](#)

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

Composition and design criteria

4. Composition and design criteria

- 4.1 The FTSE Goldman Sachs US Treasury Index selects securities from the constituents of the FTSE US Broad Investment-Grade Treasury Bond Index and assigns weights based on an optimization process.
- 4.2 The methodology for the FTSE US Broad Investment-Grade Treasury Bond Index can be found in the [FTSE Fixed Income Index Guide](#). Figure one details the design criteria and calculation assumptions for the FTSE Goldman Sachs US Treasury Index.

Figure one: design criteria and calculation assumptions for the FTSE Goldman Sachs US Treasury Index

Coupon	Fixed rate
Currency	USD
Minimum maturity	At least one year
Minimum issue size	USD 5 billion public amount outstanding (excludes Federal Reserve holdings)
Composition	<p>Securities included: fixed-rate US Treasury securities</p> <p>Securities excluded: variable rate, floating rate, index-linked, retail directed, bills, stripped zero coupon, convertibles, savings and private placements</p> <p>Additional exclusion*: on-the-run US Treasury securities (considered as the most recently issued bond of a given original tenor). Once a new on-the-run security is issued for a given tenor, the bond rolling off will become eligible for the index after a six (6) month seasoning period.</p>
Weighting	Alternatively weighted according to reconstitution/optimization.
Reconstitution/optimization*	<p>Each month eligible bonds are divided into maturity sectors based on their weighted average life (WAL) in years as of the rebalancing month end (maturity sectors) as follows: one to three, three to five, five to seven, seven to 10, 10 to 15, 15 to 20 and 20+.</p> <p>Bond weights are optimized with a goal to maximize projected one-month return net of transaction costs. Projected returns for each security are computed by setting the settlement date forward by one month and assuming constant yield curve and OAS.</p> <p>The optimization constraints include:</p> <ol style="list-style-type: none"> 1. each maturity sector's market value can vary from 0% to 200% relative to the corresponding maturity sector of the base index; 2. allocations to the bonds within a maturity bucket is weighted in proportion to the security's market capitalization; 3. index return variance (weekly over the prior year) is not to exceed 125% of that of the base index in USD; and 4. the modified duration and total market value of the index is set to the base index. <p>In the case where the optimization produces infeasible results, constraints will be loosened to achieve a solution. First the volatility cap will be repeatedly increased by multiplying by 1.02. If that optimization fails to find a feasible result, the sector caps are repeatedly increased by 0.05% until a viable solution is found.</p> <p>Optimization utilizes pricing and amounts outstanding of the base index in order to reconstruct index holdings and weights.</p>

Transaction costs**	Transaction costs are calculated at the security level, as the product of the increase in market value (compared to the previous month's market value) times a cost factor of the relevant WAL bucket for the bond. The cost factor is assessed on an annual basis each December by averaging the relative spread between bid price and ask price of securities in the index profile in that month and applied in subsequent rebalances. Cost factor may be periodically reviewed and adjusted for market conditions.
Rebalancing	Once a month on the last business day of the month (pricing as of the last business day of the monthly 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 ⁵ .
Pricing	Refinitiv mid-market 16:00 (New York) ⁶
Calculation frequency	Daily
Settlement date	Monthly: last calendar day 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, 2008

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 two). The components of total return for each security are price change, principal payments, coupon payments and accrued interest. The total returns are market capitalization weighted using the security's beginning-of-period market value.

Figure two: 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

⁵ Prior to November 1, 2022, reinvestment income was included in the total return calculation.

⁶ Back-tested data from base date to May 30, 2020 uses Refinitiv bid-side 15:00.

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.

Ticker for the FTSE Goldman Sachs US Treasury Index

Ticker	Index
CFIIGGOV	FTSE Goldman Sachs US Treasury Index

4.6 Chronological summary of events

The construction of the FTSE Goldman Sachs US Treasury Index is also driven by the same events that mark the FTSE US Broad Investment-Grade Treasury Bond Index. For more information, please see the FTSE Fixed Income Index Guide.

4.7 FTSE Goldman Sachs US Treasury Index summary of event

Year	Highlight
2022	November: intra-month cash flows from interest and principal payments are not reinvested as part of monthly index total return calculations.
2021	June: change in source from IDC to Refinitiv and snap time used for pricing.
2020	March: the FTSE Goldman Sachs US Treasury Index is introduced.

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 \(ftserussell.com\)](#)

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

Website: www.ftserussell.com

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