Ground Rules

October 2024

FTSE Canada Buy-and-Hold Treasury Bill Index

v1.0

FTSE RUSSELL
An LSEG Business

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Section 1
Introduction

1. Introduction

1.1 FTSE Canada Buy-and-Hold Treasury Bill Index Series

1.1.1 The FTSE Canada Buy-and-Hold Treasury Bill Index Series consists of benchmarks designed to track the performance of Government of Canada Treasury Bills, with the term buckets defined by the on-the-run 1-month, 2-month, 3-month, 6-month, and 1-year Treasury Bills. The on-the-run Treasury Bills for the relevant term switches into the new Treasury Bill on the settlment date of each auction.

1.1.2 The index series consist of the following sub-indices based on maturity:

- FTSE Canada Buy-and-Hold Treasury Bill Index
- FTSE Canada 0-1 Month Buy-and-Hold Treasury Bill Index
- FTSE Canada 0-2 Month Buy-and-Hold Treasury Bill Index
- FTSE Canada 0-3 Month Buy-and-Hold Treasury Bill Index
- FTSE Canada 0-6 Month Buy-and-Hold Treasury Bill Index
- FTSE Canada 1-2 Month Buy-and-Hold Treasury Bill Index
- FTSE Canada 1-3 Month Buy-and-Hold Treasury Bill Index
- FTSE Canada 1-6 Month Buy-and-Hold Treasury Bill Index
- FTSE Canada 1-12 Month Buy-and-Hold Treasury Bill Index
- FTSE Canada 2-3 Month Buy-and-Hold Treasury Bill Index
- FTSE Canada 2-6 Month Buy-and-Hold Treasury Bill Index
- FTSE Canada 2-12 Month Buy-and-Hold Treasury Bill Index
- FTSE Canada 3-6 Month Buy-and-Hold Treasury Bill Index
- FTSE Canada 3-12 Month Buy-and-Hold Treasury Bill Index
- FTSE Canada 6-12 Month Buy-and-Hold Treasury Bill Index

The FTSE Canada Buy-and-Hold Treasury Bill Index Series does not take account of ESG factors in its index design.

1.2 FTSE hereby notifies users of the index series that it is possible that circumstances, including external events beyond the control of FTSE, 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.

1.3 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 rule-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 nor its subsidiary undertakings (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.

1.4 These Ground Rules

1.4.1 This document sets out the Ground Rules for the construction and management of the FTSE Canada Buy-and-Hold Treasury Bill Index Series.

1.5 FTSE Russell

1.5.1 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.

1.6 Capital index (also known as the Price Index)

1.6.1 The capital index tracks the notional weighted average change in the prices of the index constituents and is calculated every business day.

1.7 Total return index (also known as the Performance Index)

1.7.1 A total return index is calculated for all the indices. A total return index takes into account the price changes and interest accrual and payments of each index constituent.

1.8 The base currency of the benchmark is Canadian Dollars (CAD).

Section 2

Management responsibilities

2. Management responsibilities

2.1 FTSE International Limited (FTSE)

2.1.1 FTSE is the benchmark administrator of the index series[1].

2.1.2 FTSE is responsible for the daily calculation, production and operation of the FTSE Canada Buy-and-Hold Treasury Bill 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.

2.1.3 These Ground Rules set out the methodology and provide information about the publication of the FTSE Canada Buy-and-Hold Treasury Bill Index Series.

2.2 FTSE Canada Fixed Income Advisory Committee

2.2.1 The FTSE Canada Fixed Income Advisory Committee is established by FTSE Russell.

2.2.2 The purpose of the Committee is to provide a forum for FTSE Russell to interact with index users and other stakeholders with a view to enhancing the underlying methodologies of FTSE Russell indices.

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

FTSE_Canada_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 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 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.

[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).

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_Indices.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 fi.index@lseg.com.

Fixed_Income_Recalculation_Policy_and_Guidelines.pdf

3.4 Policy for Benchmark Methodology Changes

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

Policy_for_Benchmark_Methodology_Changes.pdf

3.5 FTSE Russell Governance Framework

3.5.1 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[2], the European benchmark regulation[3] and the UK benchmark regulation[4]. The FTSE Russell Governance Framework can be accessed through the following link:

FTSE_Russell_Governance_Framework.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

Index methodology

4. Index methodology

4.1 Eligible securities

Issuer	Canada
Security Type	Treasury Bill (T-Bill)
Remaining Term	1 business day Prior to May 27, 2024, treasury bills exit from the index when they fall below 2 business days to maturity.
Currency	Canadian dollars

4.1.1 In order to be eligible for the indices, bonds must have a price assigned from a price source as specified in Section 5 of these Ground Rules. The indices use mid prices for index calculations with a 3:00pm EST snapshot.

4.2 Sub-Index eligibility

4.2.1 Treasury Bills follow the on-the-run Treasury Bill to determine the term bucket:

Term Bucket	Upper Bound (inclusive)
0-1 Month	Maturity date of the 1-Month on-the-run T-Bill
1-2 Month	Maturity date of the 2-Month on-the-run T-Bill
2-3 Month	Maturity date of the 3-Month on-the-run T-Bill
3-6 Month	Maturity date of the 6-Month on-the-run T-Bill
6-12 Month	Maturity date of the 12-Month on-the-run T-bill

4.2.2 For example, the 1-3 Month Buy-and-Hold Treasury Bill Index will include T-Bills with longer maturity than the 1-Month on-the-run T-Bill up to the 3-Month on-the-run T-Bill.Prior to March 1, 2024, the Treasury Bills Indices followed the below term classification:

Term Bucket	Upper Bound (inclusive)
0-1 Month	42 Days to Maturity
1-2 Month	70 Days to Maturity
2-3 Month	98 Days to Maturity
3-6 Month	182 Days to Maturity
6-12 Month	364 Days to Maturity

For example, the 1-3 Month Buy-and-Hold Treasury Bill Index will include Treasury Bills with greater than 42 days to maturity and less than or equal to 98 days to maturity.

4.2.3 Newly auctioned Treasury Bills are added to the index on their settlement dates, as specified in Section 6 of these Ground Rules.

Section 5

Price sources

5. Price sources

5.1 Constituents prices are provided by CanDeal Data and Analytics (“CanDeal DNA”) in accordance with its Composite pricing methodology[5].

Prices in the FTSE Canada Buy-and-Hold Treasury Bill Index Series represent a mid-side price as of 3:00pm (Toronto time).

5.2 Verification and price challenges

5.2.1 Statistical techniques are used to identify pricing anomalies based on day-over-day changes and comparisons across peer groups by maturity, asset type, etc.

5.2.2 Any price challenges from index users and possible outliers from the verification process are reviewed with our third-party pricing provider.

5.2.3 In the event that an issue is not able to be resolved in a timely manner, FTSE Russell may exercise expert judgement and roll prices from the previous day. Any exercise of expert judgement is recorded.

[5] The change from the use of the FTSE Canada Multi Dealer Pricing Methodology to use the CanDeal DNA composite pricing methodology was announced on 22 January 2022 and effective from 17 May 2022.

Section 6

Periodic changes to the Index

6. Periodic changes to the index

6.1 Rebalancing the indices

6.1.1 The index rebalances on the settlement dates of the Government of Canada Treasury Bill auction schedules. Newly auctioned treasury bills are added to the index on the settlement dates.

6.1.2 Prior to June 3, 2024, the Treasury Bills auctions occured on alternating Tuesdays and reflected a market T+2 settlement convention. Effective June 3, 2024, all Government of Canada auctions of its Treasury Bills reflected a market T+1 settlement convention. This change was in line with the Canadian secondary market transition to T+1 settlement, which occured on May 27, 2024.[6]

6.2 Rolling of the Buy-and-Hold Treasury Bill indices

6.2.1 On the settlement date after the Treasury Bills auction, the upper bounds of each term bucket in the index switch to the new on-the-run benchmarks. All Treasury Bills in the index roll to the term bucket based on the new on-the-run Treasury Bills for 1-month, 3-month, 6-month, and 12-month, as specified in Section 4 of these Ground Rules.

6.2.2 When new Treasury Bills are auctioned, they are added to the term bucket with relevant term to maturity. The 3-month index switches the upper bound from previous Treasury Bill to the newly auctioned 3-month Treasury Bill based on the auction schedule of 3-month Treasury Bill. The 6-month and 1-year indices switch the upper bound from previous Treasury Bill to the newly auctioned 6-month and 12-month Treasury Bill based on the auction schedule of 6-month and 1-year Treasury Bills.

6.2.3 In the event that there is not an auction for an original tenor two-month Treasury Bill, it will be assigned as the instrument with the closest maturity to 2-months at the same time as the settlement of the 3-month Treasury Bill auction. Therefore, the upper bound for 2-month term bucket will switch to the new benchmark on the same day as the settlement date of the Treasury Bills auctions.

[6] Move to T+1 settlement for Government of Canada securities auctions - Bank of Canada

Appendix A

Index calculations

The following notation is used in the following calculations:

$P_{i,t}$ clean price of a constituent bond i on valuation day t

$A_{i,t}$ accrued interest of a constituent bond i as of valuation day t

$N_{i,t}$ nominal value of a constituent bond i on valuation day t

$C_{i,t}$ value of any coupon payment received from the bond i for the assumed settlement date at time t. If none the value = 0

Clean Price Index (Capital Index)

The clean price (*PI*) or capital index is given by

$$PI_{i,0} = 100$$

$$PI_{i,t} = PI_{i,t-1} \times \frac{\sum_i P_{i,t} \times N_{i,t-1}}{\sum_i P_{i,t-1} \times N_{i,t-1}}$$

Total Return Index

The total return index (*TRI*) is given by

$$TRI_{i,0} = 100$$

$$TRI_{i,t} = TRI_{i,t-1} \times \frac{\sum_i (P_{i,t} + A_{i,t} + C_{i,t}) \times N_{i,t-1}}{\sum_i (P_{i,t-1} + A_{i,t-1}) \times N_{i,t-1}}$$

Appendix B

Further information

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

Glossary.pdf

For further information on the FTSE Canada Treasury Bill Index Series Ground Rules please visit www.lseg.com/en/ftse-russell/ or e-mail fi.index@lseg.com. Contact details can also be found on this website.