

FTSE Canada 0+ Year Real Return Bond Index Series

v1.2



**FTSE
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Section 1

Introduction

1. Introduction

1.1 FTSE Canada 0+ Year Real Return Bond Index Series

1.1.1 The following indices are included in this series:

FTSE Canada 0+ Year Real Return Bond Index

FTSE Canada 0+ Year Federal Non-Agency Real Return Bond Index

FTSE Canada 0+ Year Provincial Real Return Bond Index

FTSE Canada 0-1 Year Real Return Bond Index

FTSE Canada Short Term Overall Real Return Bond Index

FTSE Canada Mid Term Overall Real Return Bond Index

FTSE Canada Long Term Overall Real Return Bond Index

1.2 The FTSE Canada 0+ Year Real Return Bond Index Series does not take account of ESG factors in its index design.

1.3 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.

1.4 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 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

1.5 These Ground Rules

1.5.1 This document sets out the Ground Rules for the construction and management of the FTSE Canada 0+ Year Real Return Bond Index Series.

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., FTSE Fixed Income Europe Limited, FTSE Fixed Income LLC, The Yield Book Inc and Beyond Ratings).

1.7 Index Series objectives

The FTSE Canada 0+ Year Real Return Bond Index is a benchmark of the performance of inflation indexed bonds issued in Canadian Dollars

1.8 Credit Rating categories

The FTSE Canada 0+ Year Real Return Index is not classified into the broad credit rating categories of AAA/AA, A, and BBB.

1.9 Capital Index (also known as the Price Index or the Clean Price Index)

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

1.10 Total Return Index (also known as the Performance Index)

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

1.10.2 In addition to the Capital Index and Total Return Index, the following index analytics are also calculated:

- Average Coupon
- Average Yield to Maturity
- Average Time to Maturity
- Value of 01
- Average Macaulay Duration
- Average Modified Duration
- Average Convexity
- The sum of the nominal value of all bonds in each index
- The number of bonds in each Index, and
- The weight of the index in relation to its relevant aggregated index (when applicable)

1.11 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 Universe Bond 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 Universe Bond 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 using 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 using the links below:

3.1 Queries and Complaints

FTSE Russell's complaints procedure can be accessed using 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 using 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 using 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 using 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 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](#)

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

Eligibility criteria

4. Eligibility criteria

4.1 Eligible bonds

Minimum issue size	100 Million (before inflation compensation)
Minimum number buyers	10 institutional buyers at issue.
Minimum sector size (i.e. Federal, Provincial, Corporate, Municipal)	1.5 Billion
Minimum Credit Rating	BBB
Remaining Term	At least 1 day
Coupon	The real coupon must be fixed rate. Step-up coupon structures are eligible, provided that the coupon increases in a predetermined way
Currency	Canadian dollars
Country of issuance	Canada
Country of issuing entity	Canada
Security Structures Specifically Excluded	Floating rate securities, securities targeted to the retail market, convertible bonds, mortgage-backed securities, other prepayable asset-backed securities, or securities that are not legally considered to be debt obligations of the issuing company or government
Sub Index Eligibility:	
RRB Federal Non Agency Index	Government of Canada Issues Only
RRB Provincial Index	Provincial Government Issues Only

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.

4.2 Weighting

The FTSE Canada 0+ Year Real Return Bond index Series is capitalisation-weighted. That is, each bond contributes to the return on the index in proportion to its nominal market value. The total amount outstanding of each issue is adjusted so that Bank of Canada holdings and stripped securities are excluded, and reconstituted securities are included.

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
- 5.2 Prices in the FTSE Canada Bond Index Series represent a mid-side price as of 4:00pm (Toronto time), unless otherwise stated in published index methodologies.
- 5.3 Verification and price challenges**
 - 5.3.1 Statistical techniques are used to identify pricing anomalies based on day-over-day changes and comparisons across peer groups by maturity, asset type, etc.
 - 5.3.2 Any price challenges from index users and possible outliers from the verification process are reviewed with our third-party pricing provider.
 - 5.3.3 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 change to the portfolios

6. Periodic change to the portfolios

6.1 Rebalancing the indices

- 6.1.1 The FTSE Canada 0+ Year Real Return Bond Index Series is rebalanced on a daily basis.

6.2 Addition of constituents

- 6.2.1 A new issue enters the index on/after the day it is issued or auctioned (when all eligibility criteria are verified). The bond is included in the calculation of index risk statistics such as duration on the day of issue, though it does not affect the return on the index until the following business day. The new security does not begin to accrue interest until the new issue settlement date. The cut-off time for inclusion on the day of issue is 3:00pm EST.

6.3 Removal of constituents

- 6.3.1 A bond is removed from the index on its Maturity Date.
- 6.3.2 When a bond is downgraded below BBB, it is removed from the index 30 days after the initial downgrade.

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
IR_t	index ratio 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
$Coupon_i$	coupon rate of a constituent bond i
$y_{i,t}$	yield to maturity of a constituent bond i as of valuation day t
$MacDur_{i,t}$	Macaulay duration of a constituent bond i as of valuation day t
$ModDur_{i,t}$	Modified duration of a constituent bond i as of valuation day t
$Dval01_{i,t}$	Dollar duration of a constituent bond i as of valuation day t
$Convexity_{i,t}$	Convexity of a constituent bond i as of valuation day t

Clean Price Index (Capital Index)

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

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

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

Total Return Index

The total return index (TRI) is given by

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

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

Average Coupon

The index level average coupon (C) is given by

$$C_t = \frac{\sum_i (P_{i,t} + A_{i,t}) \times N_{i,t} \times IR_t \times Coupon_i}{\sum_i (P_{i,t} + A_{i,t}) \times N_{i,t} \times IR_t}$$

Average Yield to Maturity

The index level average yield to maturity (Y) is given by

$$Y_t = \frac{\sum_i (P_{i,t} + A_{i,t}) \times N_{i,t} \times IR_t \times y_{i,t}}{\sum_i (P_{i,t} + A_{i,t}) \times N_{i,t} \times IR_t}$$

Average Macaulay Duration

The index level average Macaulay duration (D) is given by

$$D_t = \frac{\sum_i (P_{i,t} + A_{i,t}) \times N_{i,t} \times IR_t \times \text{MacDur}_{i,t}}{\sum_i (P_{i,t} + A_{i,t}) \times N_{i,t} \times IR_t}$$

Average Modified Duration

The index level average Modified duration (MD) is given by

$$MD_t = \frac{\sum_i (P_{i,t} + A_{i,t}) \times N_{i,t} \times \text{ModDur}_{i,t}}{\sum_i (P_{i,t} + A_{i,t}) \times N_{i,t} \times IR_t}$$

Average Value of 01

The index level average value of Dval01 ($DV01$) is given by

$$DV01_t = \frac{\sum_i (P_{i,t} + A_{i,t}) \times N_{i,t} \times IR_t \times \text{Dval01}_{i,t}}{\sum_i (P_{i,t} + A_{i,t}) \times N_{i,t} \times IR_t}$$

Average Convexity

The index level average convexity ($Conv$) is given by

$$\text{Conv}_t = \frac{\sum_i (P_{i,t} + A_{i,t}) \times N_{i,t} \times IR_t \times \text{Convexity}_{i,t}}{\sum_i (P_{i,t} + A_{i,t}) \times N_{i,t} \times IR_t}$$

Appendix B

Further information

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

[Fixed Income Glossary of Terms.pdf](#)

For further information on the FTSE Canada 0+ Year Real Return Bond 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.

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