

FTSE Canada 1-5 Year Laddered Corporate Bond Index

v3.4



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Section 1

Introduction

1. Introduction

1.1 FTSE Canada 1-5 Year Laddered Corporate Bond Index

1.1.1 The FTSE Canada 1-5 Year Laddered Corporate Bond Index measures the return of a 1-5 year bond ladder in Corporate Bonds (rated BBB or higher).

1.1.2 The FTSE Canada 1-5 Year Laddered Corporate Bond Index Ground Rules should be read in conjunction with the FTSE Canada Universe Bond Index Series Ground Rules.

[FTSE Canada Universe and Maple Bond Index Series.pdf](#)

1.2 The FTSE Canada 1-5 Year Laddered Corporate Bond Index does not take account of ESG factors in its index design.

1.3 IOSCO

1.3.1 FTSE International Limited (FTSE) considers that the FTSE Canada 1-5 Year Laddered Corporate Bond Index meets the IOSCO Principles for Financial Benchmarks as published in July 2013.

Full details can be accessed at www.iosco.org.

Details of FTSE Russell's Statement of Compliance with respect to the IOSCO Principles can be accessed using the following link:

[IOSCO Statement of Compliance](#).

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

1.5 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

1.6 These Ground Rules

1.6.1 This document sets out the Ground Rules for the construction and management of the FTSE Canada 1-5 Year Laddered Corporate Bond Index.

1.7 FTSE Russell

1.7.1 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.

1.8 Ladder construction overview

1.8.1 Selected securities are placed into 5 maturity buckets. Maturity buckets are 1-1.99 years, 2-2.99 years, 3-3.99 years, 4-4.99 years, and 5-5.99 years. On each annual rebalancing on 15 July, the bonds from each maturity roll out to the next lower bucket. Bonds with a remaining maturity of less than one year are sold, with the proceeds being used to invest in the longest maturity bucket. On each semi-annual rebalancing on 15 January, additional eligible bonds are added without reweighting buckets. The rebalance process is described in more detail in Section 6.

1.9 Index ratings¹

1.9.1 Bonds in the index are classified based on information from Dominion Bond Rating Service, Standard and Poor's Corporation, Moody's Investors Service and Fitch. The index does not distinguish between minor ratings notches, such as plus or minus signs or their equivalent within a broad letter category. Thus, the ratings A+, A-, and A are viewed as equivalent for the purposes of the index. Additionally, the index does not take into account a rating agency's outlook for a credit rating, or whether a particular rating may be under review by an agency.

In cases where the agencies do not agree on the credit rating, the bond will be classified according to the following rules:

- If two agencies rate a security, use the lower of the two ratings;
- If three agencies rate a security, use the middle of the three ratings;
- If four agencies rate a security, use the middle of the three lowest ratings

1.9.2 An issuer rating may be applied for bonds classified as Government or Financial if security-level ratings are not available.

1.9.3 A rating that is un-solicited at issuance is not used for the purpose of determining index eligibility; however, if a rating is changed from solicited to un-solicited, it will still be incorporated.

1.9.4 Private ratings are not used for the purpose of determining index eligibility.

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

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

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

1.11.1 A total return index is calculated for the index. A total return index takes into account the price changes and interest accrual and payments of each bond

1.11.2 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

¹ Effective 15 April 2019.

- 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)

1.12 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.²

2.1.2 FTSE is responsible for the daily calculation, production and operation of the FTSE Canada 1-5 Laddered Corporate Bond Index 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 1-5 Year Laddered Corporate Bond Index.

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. 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.

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

3.5.1 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](#)

3.6 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](#)

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

Eligibility criteria

4. Eligibility criteria

4.1 Eligible bonds

4.1.1 To be eligible for the FTSE Canada 1-5 Year Laddered Corporate Bond Index, bonds must meet the following criteria:

Minimum Issue Size: \$300 million CAD

Remaining Effective Term to Maturity: At least one and up to five years, as defined in Section 6

4.1.2 To be eligible for the index, securities must be constituents of the FTSE Canada Universe Bond Index.

4.2 Exclusions

4.2.1 Bonds classified as Corporate Securitization (mainly ABS) and amortizing issues are excluded.

4.2.2 Regulatory capital that counts towards Additional Tier 1 (AT1) debt for deposit taking institutions, Tier 1 capital for life insurers, and Category B capital for property and casualty, and mortgage insurers is excluded.

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.⁶

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.

⁶ 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 indices

6. Periodic changes to the indices

6.1 Rebalancing the Indices

6.1.1 The FTSE Canada 1-5 Year Laddered Corporate Bond Index is reviewed annually on 15 July using data from 30 June. There are also mid-year rebalancing updates on 15 January using data from 31 December. Each index rung will contain securities with maturities between 1 August and 31 July of the respective year.

6.2 Rolling buckets

6.2.1 Bonds roll out to the next lower bucket on the review date. Bonds with less than 1 year to maturity roll out of the first bucket at mid-market prices on that day. The index will reinvest the full market value of all roll out securities into the longest bucket at full units.

6.3 Addition of constituents

6.3.1 All eligible bonds in the desired maturity range will be selected, with weights within the rung (which could be zero) assigned by an optimizer (see Appendix B) so each rung has no more than 15% BBB and 60% Financial weighting. Rungs are re-weighted to 20% each only on 15 July.

6.4 Removal of constituents

6.4.1 In the case that a constituent bond is called, it will be removed from the index on the call date. If a bond is downgraded below BBB it is removed from the index on the first business day of the following month. The weight of the removed bond(s) will be redistributed proportionally to the remaining constituents.

6.4.2 If the call date or downgrade replacement date of a constituent bond falls on a weekend or holiday, the removal will be implemented on the last business day prior to the call date or downgrade replacement date.

6.5 Rebalancing update

6.5.1 Every 15 January for all rungs, and every 15 July for all rungs except the longest (5-6 year) there will be a rebalancing using the optimization specified in Appendix B. Eligible new bonds are added and weights are reset by the optimizer so that BBB bonds are no more than 15% by market value and Financial bonds are no more than 60% within each rung. The weight on each rung is reset to 20% on 15 July only.

6.6 Transition

6.6.1 These new rules take effect with an annual rebalance on 15 July 2015. The existing index will be transitioned to these new rules one rung at a time, with the first (longest) rung changing to the new methodology on 15 July 2015. The 4-5 year rung will transition 15 August 2015. The 3-4 year rung will transition on 15 October 2015. The 2-3 and 1-2 year rungs will transition on 15 October 2015.

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
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}	Macauley 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
$C_{i,t}$	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

1-5 Year laddered bond index optimization

The optimization is applied as a second step of the review process to the eligible index constituents which are the bonds that satisfy the index eligibility criteria. The weights of the eligible constituents are optimized so that the constraints of the overall index and each rung are satisfied.

The objective function is selected as follows:

$$\min_w \sum_i^n (w_i - w_i^{mktcap})^2$$

Where

n is the number of constituents in the rung that is being looked at, w_i is the target index weights for constituent i within this rung and

w_i^{mktcap} is the market cap weights for constituent i .

The function represents that the goal of the optimizer is to find a set of w_i which minimize the sum of the squares of the difference between the target weights and the market cap weights. That is, we try to stay as close as possible to the market cap weights.

The constraints are applied to the index constituent weights within each rung

1. $\sum_i^k w_i = 0.15$ such that $w_i \in$ "BBB rated bonds" and $w_i \in$ "one single rung"
2. $\sum_i^l w_i = 0.60$ such that $w_i \in$ "financial bonds" and $w_i \in$ "one single rung"

As the constraints are applied to the rung level, the interpretations of the above constraints are as follows:

1. The sum of the weights of all BBB rated constituents within each rung is 15%
2. The sum of the weights of constituents that are in the Financial sector within each rung is 60%

The initial values of the target weights are set to the market cap weights.

The above optimization is executed independently to each rung and the results from all five rungs are then combined to give the constituent weights of the index.

Appendix C

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 1-5 Year Laddered Corporate Bond Index 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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