Ground Rules

November 2022

FTSE Canada Syndicated NHA MBS 975 Index

v1.4



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Section 1 Introduction

1. Introduction

1.1 FTSE Canada Syndicated NHA MBS 975 Index

- 1.1.1 The FTSE Canada Syndicated NHA MBS 975 Index is designed to reflect the performance of the fixed rate Canadian National Housing Act Mortgage-Backed Securities (NHA MBS) market with a pool type of 975 and syndicated issues only.
- 1.2 The FTSE Canada Syndicated NHA MBS 975 Index does not take account of ESG factors in its index design.
- 1.3 FTSE hereby notifies users of the indices that it is possible that circumstances, including external events beyond the control of FTSE, may necessitate changes to, or the cessation of, the indices and therefore, any financial contracts or other financial instruments that reference the indices or investment funds which use the indices to measure their performance should be able to withstand, or otherwise address the possibility of changes to, or cessation of, the indices.
- 1.4 Index users who choose to follow these indices or to buy products that claim to follow these indices should assess the merits of the indices' 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 Indices 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 Syndicated NHA MBS 975 Index.

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

1.7 Index objectives

1.7.1 The FTSE Canada Syndicated NHA MBS 975 Index is designed to track Canadian fixed rate NHA MBS with a pool type of 975 and syndicated issues only. The index is rebalanced daily to review the securities in the index and consider eligibility of the new issuance in the market.

The index returns are calculated daily, and are weighted by market capitalisation, so that the return on an MBS influences the return on the index in proportion to its market value.

1.8 Major sub-indices

- 1.8.1 A sub-index will be created if a sufficient number of eligible constituents for that sub-index exist. The FTSE Canada Syndicated NHA MBS 975 Index is reported for the following maturity sub-indices:
 - 1-3 Year
 - 3-5 Year
 - 5+ Year
- 1.8.2 Sub-indices are not published by credit rating or sector.
- **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, interest accrual and payments, penalty interest payments and principal payments of each index constituent.

1.11 Index analytics

- 1.11.1 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 securities in each index
 - The number of securities in each Index
 - The weight of the index in relation to its relevant aggregated index (when applicable)
 - Average RAM (remaining amortisation)
 - Average WAC (weighted average coupon)
 - Total market value

The formulae to calculate the capital and total return indices, and the index analytics are available in Appendix A.

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 series¹.
- 2.1.2 FTSE is responsible for the daily calculation, production and operation of FTSE Canada Syndicated NHA MBS 975 Index and will:
 - maintain records of all the constituents;
 - be responsible for the addition and deletion of securities 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 Syndicated NHA MBS 975 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 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 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 <u>Regulation (EU) 2016/1011 of the European Parliament and of the Council of 8 June 2016 on</u> <u>indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investment funds</u> (the European Benchmark Regulation) and <u>The</u> <u>Benchmarks (Amendment and Transitional Provision) (EU Exit) Regulations 2019</u> (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:

FTSE_Russell_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 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 <u>fi.index@lseg.com</u>.

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 through 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

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

Policy_for_Benchmark_Methodology_Changes.pdf

3.6 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 and the European benchmark regulation³ and the UK Benchmark Regulation⁴. 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 Eligibility criteria

4. Eligibility criteria

4.1 Eligible securities

- 4.1.1 The FTSE Canada Syndicated NHA MBS 975 Index consists of fixed-rate NHA MBS that are syndicated issues, with a pool type of 975 and denominated in Canadian Dollars. NHA MBS are backed by a full guarantee (the CMHC Guarantee) provided by the Canada Mortgage and Housing Corporation (CMHC) in its capacity as an agent of Her Majesty in Right of Canada. Syndicated NHA MBS is defined as NHA MBS issued by a syndicate of 3 or more dealers, with at least 8 buyers at issue, and with a minimum issue size of CAD \$200 million.
- 4.1.2 Securities must have a remaining term to maturity of one (1) year or greater.
- 4.1.3 In order to be eligible for the index, prices must be available for each security based on the methodology described in Section 5 of these Ground Rules.

4.2 Minimum index rating

4.2.1 Bonds must have an index rating of at least BBB as calculated below, in order to be eligible for the indices.

The index rating for each bond is based on the publicly available ratings from Dominion Bond Rating Service, Standard and Poor's, Moody's Investors Service and Fitch. In cases where the agencies do not agree on the credit rating, the index rating will be calculated 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.

In the event that only a single rating agency rates the security, that rating will be used.

4.2.2 The index ratings are classified into broad credit rating categories of AAA/AA, A, and BBB. The index rating 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. An issuer rating may be applied for bonds classified as Government or Financial if security-level ratings are not available.

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 methodology⁵.
- 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 Index rebalancing

6. Index rebalancing

6.1 Rebalancing the Indices

- 6.1.1 The eligible universe of securities is reviewed for eligibility and pricing availability daily. The selection utilises the information reported by ComputerShare (released on the 5th business day of each month) or dealers of the syndicate.
- 6.1.2 For existing index constituents, amount outstanding is adjusted on the 5th business day of the month for principal payments once updated information is reported by ComputerShare.
- 6.1.3 For new index constituents, the details of the syndicated MBS are based on the information reported by ComputerShare or dealers of the syndicate.

6.2 Review process

- 6.2.1 The review considers the eligibility criteria and pricing availability of each security, as specified in Section 4.
- 6.2.2 If the eligibility criteria cannot be verified prior to or on the deal settlement date, the security will not enter the index until all eligibility criteria are verified.

6.3 Addition of constituents

6.3.1 A syndicated MBS will enter the index on/after the deal settlement date (when the syndicated deal is settled), when all eligibility criteria are verified. The MBS is included in the calculation of index risk statistics such as duration on the day of settlement, although it will not affect the return on the index until the following business day. The cut-off time for inclusion on the deal settlement date is 3:00pm EST.

Note: Prior to August 2021, new issues were eligible for inclusion in the index once a month on the fifth business day of the month following issuance, based on the information published on CMHC website.

6.4 Removal of constituents

- 6.4.1 A security will be removed from the index at the rebalance date if it no longer meets the eligibility criteria specified in Section 4.
- 6.4.2 A security will be removed from the index on the day its remaining effective term to maturity declines to one calendar year, whether that year has 365 or 366 days. For example, on 1 December 2012, the index sells a security maturing in one year, 1 December 2013, at the 4:00pm mark-to-market price. This security therefore contributes to the return on the index from 30 November to 1 December 2012. It does not contribute to index duration and other risk statistics calculated at the close on 1 December 2012. Analogous rules apply for the movement of securities from one term sub-index to another.
- 6.4.3 Realised coupon and redemption income is reinvested daily across all securities in the index in proportion to their market values.

6.5 Remaining Principal Balances and Penalty Interest Payment

- 6.5.1 The Remaining Principal Balance (RPB) for all securities, as reported by ComputerShare on the 5th business day of each month or by dealers of the syndicate, represents the principal amount outstanding for each security after the prior month's principal payments.
- 6.5.2 The Penalty Interest Payments (PIPs) for all securities, as reported by ComputerShare on the 5th business day of each month, are treated as cash flow to the index on the 5th business day and are reflected in the Total Return calculation.

Appendix A Index calculations

The following notation is used in the following calculations:

- Pi,t clean price of a constituent security i on valuation day t
- Ai,t accrued interest of a constituent security i as of valuation day t
- Ni,t nominal value of a constituent security i on valuation day t
- Ci,t value of any coupon payment received from the security i for the assumed settlement date at time t. If none the value = 0
- PIPi,t value of any penalty interest payment received from the security i for the assumed settlement date at time t. If none the value = 0
- PPDi,t value of any principal payment for the security 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

$$PI_{0}=100$$

$$PI_{t}=PI_{t-1} \times \frac{\sum [P_{i,t} \times N_{i,t-1}]}{\sum [P_{i,t-1} \times N_{i,t-1}]}$$

Total return index

The total return index (TRI) is given by

 $TRI_{0}=100$ $TRI_{t}=TRI_{t-1} \times \frac{\sum_{i} [(P_{i,t}+A_{i,t}+C_{i,t}) \times N_{i,t}+PIP_{i,t}+PPD_{i,t}]}{\sum_{i} [(P_{i,t-1}+A_{i,t-1}) \times N_{i,t-1}]}$

Appendix B Further information

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

Fixed_Income_Glossary_of_Terms.pdf

For further information on the FTSE Canada NHA MBS 975 Index Ground Rules please visit <u>www.lseg.com/en/ftse-</u> russell/ or e-mail <u>fi.index@lseg.com</u>. Contact details can also be found on this website.

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