

# FTSE Global Fundamentally Weighted Index Series

v2.3



# Contents

---

Section 1 Introduction .....	3
Section 2 Management responsibilities .....	5
Section 3 FTSE Russell index policies .....	6
Section 4 Eligible securities .....	8
Section 6 Index construction .....	9
Section 7 Review of annual Fundamentally Weighted indices .....	12
Section 8 Review of staggered indices .....	13
Section 8 Changes to constituent companies .....	14
Section 9 Corporate actions and events .....	15
Section 10 Index calculation .....	16
Appendix A Sub indices for staggered rebalance .....	17
Appendix B Further information .....	18

## Section 1

# Introduction

## 1. Introduction

- 1.1 This document sets out the Ground Rules for the construction and management of the FTSE Global Fundamentally Weighted Index Series.
- 1.2 The FTSE Global Fundamentally Weighted Index Series is designed to reflect the performance of securities weighted by a set of accounting measures of size.
- 1.3 The FTSE Global Fundamentally Weighted Index Series does not take account of ESG factors in its index design.
- 1.4 Both annual and staggered versions are calculated for the following universes (see Section 7). In this document Fundamentally Weighted is abbreviated by Fundamentally Weighted.

Universe	Annual Index	Staggered Index
FTSE All-World Index	FTSE All-World Fundamentally Weighted Index	FTSE All-World Fundamentally Weighted Staggered Index
FTSE Developed Index	FTSE Developed Fundamentally Weighted Index	FTSE Developed Fundamentally Weighted Staggered Index
FTSE Developed ex US Index	FTSE Developed ex US Fundamentally Weighted Index	FTSE Developed ex US Fundamentally Weighted Staggered Index
FTSE USA Index	FTSE USA Fundamentally Weighted Index	FTSE USA Fundamentally Weighted Staggered Index
FTSE Emerging Index <sup>1</sup>	FTSE Emerging Fundamentally Weighted Index	FTSE Emerging Fundamentally Weighted Staggered Index

- 1.5 Price and Total Return Indices will be calculated on an end of day basis. Total return indices include income based on ex dividend adjustments. All dividends are applied as declared.
- 1.6 The base currency of the index series is US Dollars. Index values may also be published in other currencies.
- 1.7 These Ground Rules should be read in conjunction with the FTSE Global Equity Index Series Ground Rules, the Corporate Actions and Events Guide for Non Market Capitalisation Weighted Indices which are available at [www.lseg.com/en/ftse-russell/](http://www.lseg.com/en/ftse-russell/). Unless stated in these Ground Rules, the FTSE Global Fundamentally Weighted Index Series will follow the same process as the FTSE Global Equity Index Series.
- 1.8 FTSE Russell**
- 1.8.1 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.

<sup>1</sup> China A Shares (available under the Northbound China Stock Connect Scheme): Phase 1 implementation completed June 2020 representing 25% of each security's investability weight.

- 1.9 FTSE Russell hereby notifies users of the index series that it is possible that circumstances, including external events beyond the control of FTSE Russell, 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.
- 1.10 Index users who choose to follow this index series or to buy products that claim to follow this index series should assess the merits of the index series' 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 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.

## 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.<sup>2</sup>

2.1.2 FTSE is responsible for the daily calculation, production and operation of the FTSE Global Fundamentally Weighted Index Series and will:

- maintain records of the index weightings of all constituents and reserve companies;
- make changes to the constituents and their weightings in accordance with the Ground Rules;
- carry out the periodic index reviews of the index and apply the changes resulting from the reviews as required by the Ground Rules;
- publish changes to the constituent weightings resulting from their ongoing maintenance and the periodic reviews;
- disseminate the index.

### 2.2 Amendments to these Ground Rules

2.2.1 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.

2.2.2 As provided for in the Statement of Principles for FTSE Russell Equity 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

<sup>2</sup> 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 Corporate Actions and Events Guide

3.2 Full details of changes to constituent companies due to corporate actions and events can be accessed in the Corporate Actions and Events Guide for Non Market Capitalisation Weighted Indices using the following link:

[Corporate Actions and Events Guide for Non Market Cap Weighted Indices.pdf](#)

### 3.3 Statement of Principles for FTSE Russell Equity 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 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 can be accessed using the following link:

[Statement of Principles](#)

### 3.4 Queries and Complaints

FTSE Russell's complaints procedure can be accessed using the following link:

[FTSE Russell Benchmark Determination Complaints Handling Policy.pdf](#)

### 3.5 Index Policy for Trading Halts and Market Closures

3.5.1 Guidance for the treatment of index changes in the event of trading halts or market closures can be found using the following link:

[Index Policy for Trading Halts and Market Closures.pdf](#)

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

3.6.1 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](#)

### **3.7 Recalculation Policy and Guidelines**

- 3.7.1 Where an inaccuracy is identified, FTSE Russell will follow the steps set out in the FTSE Russell Index Recalculation Guidelines when determining whether an index or index series should be recalculated and/or associated data products reissued. Users of the SE Global Fundamentally Weighted Index Series will be notified through appropriate media.

[Recalculation Policy and Guidelines Equity Indices.pdf](#)

For further information refer to the FTSE Russell Recalculation Policy and Guidelines document which is available from the FTSE Russell website using the link below or by contacting [info@ftserussell.com](mailto:info@ftserussell.com).

### **3.8 Policy for Benchmark Methodology Changes**

- 3.8.1 Details of FTSE Russell's policy for making benchmark methodology changes can be accessed using the following link:

[Policy for Benchmark Methodology Changes.pdf](#)

### **3.9 FTSE Russell Governance Framework**

- 3.9.1 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<sup>3</sup>, the European benchmark regulation<sup>4</sup> and the UK benchmark regulation<sup>5</sup>. The FTSE Russell Governance Framework can be accessed using the following link:

[FTSE Russell Governance Framework.pdf](#)

### **3.10 Real Time Status Definitions**

- 3.10.1 For indices that are calculated in real time, please refer to the following guide for details of real time status definitions:

[Real Time Status Definitions.pdf](#)

---

<sup>3</sup> IOSCO Principles for Financial Benchmarks Final Report, FR07/13 July 2013.

<sup>4</sup> 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.

<sup>5</sup> The Benchmarks (Amendment and Transitional Provision) (EU Exit) Regulations 2019.

## Section 4

# Eligible securities

---

## 4. Eligible securities

- 4.1 Constituents of the FTSE All-World Index are eligible for inclusion in the FTSE Global Fundamentally Weighted Index Series.
- 4.2 All lines of the same company that are eligible securities are eligible for inclusion in the relevant FTSE Fundamentally Weighted Index.



## Section 5

# Index construction

## 5. Index construction

### 5.1 Accounting measures

5.1.1 The weight of a constituent in the FTSE Global Fundamentally Weighted Index Series is determined by four accounting measures:

- *Net Income before extraordinary credits and charges (averaged over the prior five years)*
- *Cash flow Adjusted for Financial Leverage (averaged over the prior five years)*
- *Dividends + Buybacks (averaged over the prior five years)*
- *Book Value (averaged over the prior five years)*

5.1.2 For Property and Real Estate securities, designated by the ICB Real Estate (ICB Real Estate Supersector 3510)<sup>6</sup>, Book Value is replaced by Total Assets (averaged over the prior five years).

5.1.3 An average of the last five years annual figures for each reported accounting measure is used. If fewer than five years data are available, accounting measures are averaged over years for which data is available. A minimum of one year of reported accounting data is required for each metric.

5.1.4 For companies that consist of multiple security lines, annual accounting measures are allocated to each line in proportion to the economic interest of the line (shares in issue \* par value ) in the entire company.

5.1.5 A leverage adjustment is applied annually to Cash Flow at the security level.

$$\text{Leverage Adjusted Cash Flow}_{i,t} = \text{Cash flow}_{i,t} * \text{Total Equity}_{i,t} / \text{Total Assets}_{i,t}$$

In the event that Total Equity or Cash Flow attains a negative value, Cash flow is adjusted in the following manner:

Leveraged Adjusted Cash Flow	Cash Flow	Total Equity/Total Assets
No Adjustment	<0	<0
Adjustment applied	<0	>0
Cash Flow is set to zero	>0	<0
Adjustment applied	>0	>0

5.1.6 Securities will not be eligible for the FTSE Global Fundamentally Weighted Index Series at the annual review if the relevant financial information is unavailable. For example, recent listings, recently merged companies, or investment entities that do not report the necessary financial metrics will be ineligible.

<sup>6</sup> FTSE indices migrated to the new ICB classification system in March 2021.

## 5.2 Sub-Index construction

- 5.2.1 Each accounting measure is converted from local currency to US Dollars at security level using the prevailing exchange rate as of the data cut-off date. The data cut-off date is the Wednesday before the first Friday of the review month.
- 5.2.2 Sub-indices corresponding to each of the four accounting measures are constructed using the FTSE All-World universe. Sub-index security level weights are calculated by dividing each company's accounting measure by the aggregate accounting measure for that sub-index.

The determination of sub-index weights is illustrated using Net Income. If every security has a positive value for the five-year average of Net Income, then the Net Income sub-index weight,  $W_i^{NI}$  for company  $i$  is:

$$W_i^{NI} = \frac{NI_i}{\sum_i NI_i}$$

Where:

$NI_i$  is the five-year average Net Income of security  $i$  in US dollars.

- 5.2.3 Negative average measures are set to zero, For the Net Income sub-index:

$$W_i^{NI} = \frac{\text{Max}(NI_i, 0)_i}{\sum_i \text{Max}(NI_i, 0)}$$

Consequently, a security with a negative five-year average financial measure has zero weight in the relevant sub-index.

- 5.2.4 Where data is unavailable for a security, that security is excluded from the relevant sub-index. The Dividend plus buyback metric is treated differently. If a company does not pay a dividend or engage in buybacks, this measure is set to zero and a security will have a weight of zero in the Dividend + Buyback sub-index.
- 5.2.5 Investability Weight Adjustment

The weight of each constituent in each sub-index is adjusted for free-float and foreign ownership restrictions. The final weight of a constituent in the Net income sub-index is:

$$W_i^{NI} = \frac{\text{Max}(NI_i, 0)_i * f_i}{\sum_i \text{Max}(NI_i, 0)_i * f_i}$$

Where:

$f_i$  is the investability weighting adjustment.

## 5.3 Headline Index construction

- 5.3.1 The headline index refers to the FTSE All-World Fundamentally Weighted (Annual) Index.
- 5.3.2 The weight of a security in the headline index is the average of the security's weightings across the four sub-indices.

$$W_i = \frac{W_i^{FLACF} + W_i^{NI} + W_i^{D+BB} + W_i^{BV}}{4}$$

Where:

- $W_i^{NI}$  is the Net Income sub-index weight
- $W_i^{FLACF}$  is the Cash flow Adjusted for Financial Leverage sub-index weight
- $W_i^{D+BB}$  is the Dividends + Buybacks sub-index weight
- $W_i^{BV}$  is the Book Value sub-index weight

5.3.3 The average is across only those sub-indices in which a security is represented. For clarity, if a company reports negative five year average net income it will have a weight of zero in the Net income sub-index. The headline index weight will be the result of averaging across the four sub-indices (given all remaining financial data is available). If a company does not report net income, it is not a member of the sub-index in question and the headline index weight is determined as the average weight across the remaining three sub-indices.

5.3.4 The headline index weights are standardized such that they sum to one.

#### 5.4 Trivial weightings

5.4.1 Any headline index constituent with a weight of less than 0.5 basis points is treated as having zero weight in the headline index. The headline index weights are renormalized with the weight of securities that are less than 0.5 basis points redistributed pro-rata amongst the remaining constituents.

#### 5.5 Annual Fundamentally Weighted Indices

5.5.1 Constituents of the annual regional and country FTSE Fundamentally Weighted Indices are derived from the corresponding underlying universe.

Annual Fundamentally Weighted Index	Underlying Index
FTSE Developed Fundamentally Weighted Index	FTSE Developed Index
FTSE Developed ex US Fundamentally Weighted Index	FTSE Developed ex US Index
FTSE USA Fundamentally Weighted Index	FTSE USA Index
FTSE Emerging Fundamentally Weighted Index	FTSE Emerging Index

## Section 6

# Review of annual Fundamentally Weighted indices

---

## 6. Review of annual Fundamentally Weighted indices

6.1 The FTSE Global Fundamentally Weighted (Annual) Index Series will be reviewed annually in September using the data as of the close of business on the Wednesday before the first Friday in September (data cut-off date). Review additions and deletions to the underlying index will be reflected in the FTSE Global Fundamentally Weighted (Annual) Index Series.

6.2 Weighting changes and constituent additions and deletions arising from the annual review will be fully implemented after the close of business on the third Friday (i.e. effective Monday) of September.

### 6.3 **Index back-histories**

All index reviews prior to the index series launch date use realized financial accounting measures with a lag of six months. For example, the Net Income measure detailed in Rule 6.1 is the 5 year average of annual Net Income available six months prior to the data cut-off date.

## Section 7

# Review of staggered indices

## 7. Review of staggered indices

### 7.1 Staggered rebalance

7.1.1 Weighting changes and constituent additions and deletions arising from the annual review (see Section 6) will be implemented in four stages in the staggered indices using data as of the close of business on the Wednesday before the first Friday in September, December, March and June.

7.1.2 Weighting changes arising from the staggered rebalance will be effective after the close on the third Friday of September, December, March and June each year.

7.1.3 The staggered mechanism described in Rule 7.2 will be applied separately to each derived regional and country index.

### 7.2 Staggered mechanism

Four sub-indices are constructed and reviewed annually in September, December, March and June respectively using the constituents and September review weights of the corresponding annual Fundamentally Weighted Index. (see Appendix A)

For example, the September sub-index will consist of the same constituents and weightings as the annual Fundamentally Weighted Index.

The December sub-index will consist of the September annual review weights ( $w_{i,sep}$ ) of the corresponding annual Fundamentally Weighted Index in the FTSE Global Fundamentally Weighted Index Series (updated for corporate events and deletions).

$$w_{i,Dec} = w_{i,sep}$$

The weightings of each sub-index evolve with price movements and corporate events for the next 12 months until they are updated and replaced with the new FTSE Global Fundamentally Weighted Index Series annual review weights.

At each quarterly staggered rebalance, the weight of each security in the corresponding staggered index is calculated as an average of the four sub-index weights.

$$w_i^* = \left( \frac{w_{i,Mar} + w_{i,Jun} + w_{i,sep} + w_{i,Dec}}{4} \right)$$

## Section 8

# Changes to constituent companies

---

## 8. Changes to constituent companies

### 8.1 Intra-review additions

8.1.1 Additions to the underlying indices will be considered for inclusion at the next annual review of the FTSE Fundamentally Weighted Annual indices.

### 8.2 Intra-review deletions

There will be no intra-review deletions except in the event of corporate actions and events covered in Section 10, or of securities which are subject to surveillance by stock exchanges. Such securities will be deleted in line with their removal from the underlying. Further details can be found in the FTSE Global Equity Index Series Ground Rules.

## Section 9

# Corporate actions and events

---

## 9. Corporate actions and events

9.1 If a constituent in the FTSE Global Fundamentally Weighted Index Series has a stock split, stock consolidation, rights issue, bonus issue, a change in the number of shares in issue or a change in free-float (with the exception of tender offers), the constituent's weighting in the FTSE Global Fundamentally Weighted Index Series remains unchanged pre and post such an event.

9.2 Full details of changes to constituent companies due to corporate actions and events can be accessed in the Corporate Actions and Events Guide for Non Market Capitalisation Weighted Indices using the following link:

[Corporate Actions and Events Guide for Non Market Cap Weighted Indices.pdf](#)

A Corporate 'Action' is an action on shareholders with a prescribed ex-date. The share price will be subject to an adjustment on the ex-date. These include the following:

- Capital Repayments
- Rights Issues/Entitlement Offers
- Stock Conversion
- Splits (sub-division)/Reverse splits (consolidation)
- Scrip issues (Capitalisation or Bonus Issue)

A Corporate 'Event' is a reaction to company news (event) that may impact the index depending on the index rules. For example, a company announces a strategic shareholder is offering to sell their shares (secondary share offer) – this could result in a free float weighting change in the index. Where an index adjustment is required FTSE Russell will provide notice advising of the timing of the change.

### 9.3 Takeovers, mergers and demergers

The treatment of takeovers, mergers and demergers can be found within the Corporate Actions and Events Guide for Non Market Capitalisation Weighted Indices.

### 9.4 Suspension of dealing

Suspension of dealing rules can be found within the Corporate Actions and Events Guide for Non Market Capitalisation Weighted Indices.

## Section 10

# Index calculation

## 10. Index calculation

### 10.1 Prices

10.1.1 The FTSE Global Fundamentally Weighted Index Series use actual closing mid-market or last trade prices, where available, for securities with local market quotations. Further details can be accessed using the following link:

[Closing Prices Used For Index Calculation.pdf](#)

### 10.2 Calculation frequency

10.2.1 The FTSE Global Fundamentally Weighted Index Series will be calculated on an end of day basis and displayed to eight decimal points.

### 10.3 Index calculation

10.3.1 The FTSE Global Fundamentally Weighted Index Series is calculated using the algorithm described below:

$$\sum_{i=1}^N \frac{(p_i \times e_i \times s_i \times f_i \times c_i)}{d}$$

Where,

- $i=1,2,\dots,N$
- $N$  is the number of securities in the Index.
- $p_i$  is the latest trade price of the component security (or the price at the close of the index on the previous day).
- $e_i$  is the exchange rate required to convert the security's currency into the index's base currency.
- $s_i$  is the number of shares in issue used by FTSE Russell for the security, as defined in these Ground Rules.
- $f_i$  is the Investability Weighting Factor to be applied to a security to allow amendments to its weighting, expressed as a number between 0 and 1, where 1 represents a 100% free float. This factor is published by FTSE Russell for each security in the underlying index.
- $c_i$  is the Weight Adjustment Factor to be applied to a security to correctly weight that security in the index. This factor maps the investable market capitalisation of each stock to a notional market capitalisation for inclusion in the index.
- $d$  is the divisor, a figure that represents the total issued share capital of the Index at the base date. The divisor can be adjusted to allow changes in the issued share capital of individual securities to be made without distorting the index.



## Appendix A

# Sub indices for staggered rebalance

Four sub-indices are constructed and reviewed annually in September, December, March and June respectively for staggered rebalance (see Section 7).

Annual Sub Indices	Review Months
FTSE All-World Fundamentally Weighted September Tranche Index	September
FTSE All-World Fundamentally Weighted December Tranche Index	December
FTSE All-World Fundamentally Weighted March Tranche Index	March
FTSE All-World Fundamentally Weighted June Tranche Index	June
FTSE Developed Fundamentally Weighted September Tranche Index	September
FTSE Developed Fundamentally Weighted December Tranche Index	December
FTSE Developed Fundamentally Weighted March Tranche Index	March
FTSE Developed Fundamentally Weighted June Tranche Index	June
FTSE Developed ex US Fundamentally Weighted September Tranche Index	September
FTSE Developed ex US Fundamentally Weighted December Tranche Index	December
FTSE Developed ex US Fundamentally Weighted March Tranche Index	March
FTSE Developed ex US Fundamentally Weighted June Tranche Index	June
FTSE US Fundamentally Weighted September Tranche Index	September
FTSE US Fundamentally Weighted December Tranche Index	December
FTSE US Fundamentally Weighted March Tranche Index	March
FTSE US Fundamentally Weighted June Tranche Index	June
FTSE Emerging Fundamentally Weighted September Tranche Index	September
FTSE Emerging Fundamentally Weighted December Tranche Index	December
FTSE Emerging Fundamentally Weighted March Tranche Index	March
FTSE Emerging Fundamentally Weighted June Tranche Index	June

## Appendix B

# Further information

---

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

[Glossary.pdf](#)

Further information on the FTSE Global Fundamentally Weighted Index Series is available from FTSE Russell.

The FTSE Russell Sustainable Investment Metrics website can be found using the following link: [ESG Metrics](#)

For contact details please visit the FTSE Russell website or contact FTSE Russell client services at [info@ftserussell.com](mailto:info@ftserussell.com).

Website: [www.lseg.com/en/ftse-russell/](http://www.lseg.com/en/ftse-russell/)

---

## Disclaimer

© 2024 London Stock Exchange Group plc and its applicable group undertakings ("LSEG"). LSEG includes (1) FTSE International Limited ("FTSE"), (2) Frank Russell Company ("Russell"), (3) FTSE Global Debt Capital Markets Inc. and FTSE Global Debt Capital Markets Limited (together, "FTSE Canada"), (4) FTSE Fixed Income Europe Limited ("FTSE FI Europe"), (5) FTSE Fixed Income LLC ("FTSE FI"), (6) FTSE (Beijing) Consulting Limited ("WOFE"), (7) Refinitiv Benchmark Services (UK) Limited ("RBSL"), (8) Refinitiv Limited ("RL") and (9) Beyond Ratings S.A.S. ("BR"). All rights reserved.

The FTSE Global Fundamentally Weighted Index is calculated by or on behalf of FTSE International Limited or its affiliate, agent or partner. FTSE International Limited is authorised and regulated by the Financial Conduct Authority as a benchmark administrator. Refinitiv Benchmark Services (UK) Limited is authorised and regulated by the Financial Conduct Authority as a benchmark administrator.

FTSE Russell® is a trading name of FTSE, Russell, FTSE Canada, FTSE FI, FTSE FI Europe, WOFE, RBSL, RL and BR. "FTSE®", "Russell®", "FTSE Russell®", "FTSE4Good®", "ICB®", "WMR™", "FR™", "Beyond Ratings®" and all other trademarks and service marks used herein (whether registered or unregistered) are trade marks and/or service marks owned or licensed by the applicable member of LSEG or their respective licensors and are owned, or used under licence, by FTSE, Russell, FTSE Canada, FTSE FI, FTSE FI Europe, WOFE, RBSL, RL or BR.

All information is provided for information purposes only. All information and data contained in this publication is obtained by LSEG, from sources believed by it to be accurate and reliable. Because of the possibility of human and mechanical inaccuracy as well as other factors, however, such information and data is provided "as is" without warranty of any kind. No member of LSEG nor their respective directors, officers, employees, partners or licensors make any claim, prediction, warranty or representation whatsoever, expressly or impliedly, either as to the accuracy, timeliness, completeness, merchantability of any information or LSEG Products, or of results to be obtained from the use of LSEG products, including but not limited to indices, rates, data and analytics, or the fitness or suitability of the LSEG products for any particular purpose to which they might be put. The user of the information assumes the entire risk of any use it may make or permit to be made of the information.

No responsibility or liability can be accepted by any member of LSEG nor their respective directors, officers, employees, partners or licensors for (a) any loss or damage in whole or in part caused by, resulting from, or relating to any inaccuracy (negligent or otherwise) or other circumstance involved in procuring, collecting, compiling, interpreting, analysing, editing, transcribing, transmitting, communicating or delivering any such information or data or from use of this document or links to this document or (b) any direct, indirect, special, consequential or incidental damages whatsoever, even if any member of LSEG is advised in advance of the possibility of such damages, resulting from the use of, or inability to use, such information.

No member of LSEG nor their respective directors, officers, employees, partners or licensors provide investment advice and nothing in this document should be taken as constituting financial or investment advice. No member of LSEG nor their respective directors, officers, employees, partners, or licensors make any representation regarding the advisability of investing in any asset or whether such investment creates any legal or compliance risks for the investor. A decision to invest in any such asset should not be made in reliance on any information herein. Indices and rates cannot be invested in directly. Inclusion of an asset in an index or rate is not a recommendation to buy, sell or hold that asset nor confirmation that any particular investor may lawfully buy, sell or hold the asset or an index or rate containing the asset. The general information contained in this publication should not be acted upon without obtaining specific legal, tax, and investment advice from a licensed professional.

No part of this information may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior written permission of the applicable member of LSEG. Use and distribution of LSEG data requires a licence from LSEG and/or its licensors.

