

**Ground Rules**



**Nareit**<sup>®</sup>



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# **FTSE EPRA/NAREIT Global Real Estate Index Series<sup>®</sup>**

v8.1

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## Section 1

# Introduction

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### 1.0 Introduction

- 1.1 This document sets out the Ground Rules for the construction and management of the FTSE EPRA/NAREIT Global Real Estate Index Series. Copies of the Ground Rules are available from FTSE International Limited (“FTSE”).
- 1.2 The FTSE EPRA/NAREIT Global Real Estate Index Series is designed to represent general trends in eligible listed real estate stocks worldwide. Relevant real estate activities are defined as the ownership, trading and development of income-producing real estate.
- 1.3 The FTSE EPRA/NAREIT Global Real Estate Index Series provides investors with a comprehensive and complementary set of indexes which range from regional and country indexes, Dividend+ indexes, Investment Focus indexes and a REITs and Non-REITs series. The index series is designed to reflect the stock performance of companies engaged in specific aspects of the major real estate markets/regions of the world - Americas, EMEA (Europe, Middle East and Africa) and Asia.

The Global Real Estate market is defined in *Appendix 1*.

### 1.4 Index Construction Methodology

The FTSE EPRA/NAREIT Global Real Estate Index Series includes the indexes which can be grouped into global, regional and specialist.

A breakdown of the indexes within the series is defined in *Appendix 2*.

- 1.5 Two values for each index are calculated: (1) a capital return and (2) a total return. A net total return value is also calculated (see *Appendix 3*).
- 1.6 The main calculation currency is the Euro although the indexes are also calculated in US Dollar, British Sterling and Japanese Yen on an end-of-day basis. The FTSE EPRA/NAREIT Pure Australia Index is also calculated in Australian dollars. The main calculation currency for the FTSE EPRA/NAREIT Developed Asia 33 Index is Hong Kong Dollars.
- ### 1.7 IOSCO
- 1.7.1 FTSE considers that the FTSE EPRA/NAREIT Global Real Estate Index Series meets the IOSCO Principles for Financial Benchmarks as published in July 2013.
- 1.8 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.

1.9 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 Russell or any members of the FTSE EPRA/NAREIT Global Index Advisory Committee for any losses, damages, claims and expenses suffered by any person as a result of:

- any reliance on these Ground Rules, and/or
- any errors or 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 errors or inaccuracies in the compilation of the Index or any constituent data.

#### 1.10 **FTSE Russell**

FTSE Russell is a trading name of FTSE International Limited, Frank Russell Company, and FTSE TMX Global Debt Capital Markets Limited and its subsidiaries (including MTSNext Limited). FTSE International Limited is the administrator of all FTSE Russell indexes.

## Section 2

# Management Responsibilities

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## 2.0 Management Responsibilities

### 2.1 FTSE International Limited (FTSE)

2.1.1 FTSE is the benchmark administrator of the index series.

2.1.2 FTSE is responsible for the daily calculation, production and operation of the index series and will:

- maintain records of the index weightings of all constituents;
- make changes to the constituents and their weightings in accordance with the Ground Rules;
- carry out the periodic index reviews of the index series 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 indexes.

### 2.2 EPRA and NAREIT

2.2.1 EPRA and NAREIT are responsible for conducting the analysis of financial statement related eligibility tests including the EBITDA test for potential and current constituents in order to establish their eligibility for inclusion in the FTSE EPRA/NAREIT indexes and their allocation to the emerging and developed sub-series. EPRA and NAREIT will also determine a constituent's Investment Focus segment and classify each constituent by Property Sector.

2.2.2 EPRA and NAREIT also provide research, guidance and clarification with respect to certain aspects of the structure, operations and financial reporting of companies that may bear on their index eligibility, as well as to regulatory requirements pertaining to certain companies that may restrict some investment organizations from investing in such companies and the equity indexes that include them as constituents.

### 2.3 FTSE EPRA/NAREIT Global Real Estate Index Series Supervisory Committee

2.3.1 The FTSE EPRA/NAREIT Global Real Estate Index Series Supervisory Committee has been established to oversee a consistent approach to the global development of the FTSE EPRA/NAREIT Index Series.

- 2.3.2 The Terms of Reference of the FTSE EPRA/NAREIT Global Real Estate Index Series Supervisory Committee are set out on the FTSE Russell website and can be accessed using the link below.

[FTSE EPRA NAREIT Global Real Estate Index Series Supervisory Committee.pdf](#)

## 2.4 **Advisory Committees**

- 2.4.1 To assist in the oversight of the indexes three FTSE EPRA/NAREIT regional committees have been established.

- The FTSE EPRA/NAREIT Asia Index Advisory Committee
- The FTSE EPRA/NAREIT EMEA Index Advisory Committee
- The FTSE EPRA/NAREIT Americas Index Advisory Committee

The Terms of Reference of the FTSE EPRA/NAREIT Advisory Committees are set out on the FTSE Russell website and can be accessed using the link below.

[FTSE EPRA NAREIT Regional Advisory Committee.pdf](#)

- 2.5 FTSE Russell is responsible for the day-to-day management of the FTSE EPRA/NAREIT Global Real Estate Index Series and for decisions regarding the interpretation of these ground rules.

- 2.6 These rules may be supplemented, amended in whole or in part, revised or withdrawn at any time. Supplements, amendments, revisions and withdrawals may also lead to changes in the way the index is compiled or calculated or affect the FTSE EPRA/NAREIT Global Real Estate Index Series in another way. All decisions will be published immediately. A period of at least three months should pass between the date a proposed change is published and the date this comes into effect, unless the change is not in conflict with the interests of an affected party. No liability can be accepted for any losses resulting from supplementing, amending, revising or withdrawing the Ground Rules for the FTSE EPRA/NAREIT Global Real Estate Index Series.

- 2.7 The compiler of the FTSE EPRA/NAREIT Global Real Estate Index Series will do everything within its power to ensure the accuracy of the composition, calculation, publication and adjustment of the FTSE EPRA/NAREIT Global Real Estate Index Series in accordance with relevant rules. However, the compiler of the FTSE EPRA/NAREIT Global Real Estate Index Series and the FTSE EPRA/NAREIT Global Real Estate Index Series Advisory Committees cannot accept any liability for any inaccuracy in share prices, calculations and the publication of the index, the information used for making adjustments to the index and the actual adjustments.

## 2.8 **Amendments to these Ground Rules**

- 2.8.1 These Ground Rules shall be subject to regular review (at least once a year) by FTSE Russell to ensure that they continue to meet the current and future requirements of investors and other index users. The review process will include consultation on any proposed changes with the FTSE EPRA/NAREIT Regional Advisory Committee and FTSE EPRA/NAREIT Global Real Estate Index Series Supervisory Committee.

- 2.8.2 As provided for in the Statement of Principles for FTSE Russell Equity Indexes, where FTSE Russell or the FTSE EPRA/NAREIT Regional Advisory Committee 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.

## 2.9 **Status of these Ground Rules**

- 2.9.1 These Ground Rules set out the methodology and provide information about the publication of the FTSE EPRA/NAREIT Global Real Estate Index Series.

## Section 3

# FTSE Russell Index Policies

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### 3.0 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

- 3.1.1 Full details of changes to constituent companies due to corporate actions and events can be accessed in the Corporate Actions and Events Guide using the following link:

[Corporate Actions and Events Guide.pdf](#)

#### 3.2 Statement of Principles for FTSE Russell Equity Indexes (the Statement of Principles)

Indexes 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 FTSE Russell's Product Governance Board.

The Statement of Principles can be accessed using the following link:

[Statement of Principles.pdf](#)

#### 3.3 Queries, Complaints and Appeals

- 3.3.1 A constituent or prospective constituent company (or professional advisor acting on behalf of the company), a national organisation or a group of no fewer than ten users of the Indexes from different organisations acting in their professional capacity may appeal against decisions taken by FTSE Russell.

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

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

FTSE Russell's Appeal Process can be accessed using the following link:

[Appeals Against Decisions.pdf](#)



### 3.4 **Index Policy for Trading Halts and Market Closures**

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

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

### 3.5 **Index Policy in the Event Clients are Unable to Trade a Market**

- 3.5.1 Details of FTSE Russell's treatment can be accessed using the following link:

[FTSE Russell Index Policy in the Event Clients are Unable to Trade a Market.pdf](#)

### 3.6 **Recalculation Policy and Guidelines**

- 3.6.1 The FTSE EPRA/NAREIT Global Real Estate Index Series are recalculated whenever errors or distortions occur that are deemed to be significant. Users of the Index Series are notified through appropriate media.

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@ftse.com](mailto:info@ftse.com).

[FTSE Russell Equity Index Recalculation Policy and Guidelines.pdf](#)

### 3.7 **FTSE Russell Policy for Benchmark Methodology Changes**

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

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

## Section 4

# Eligibility Criteria

### 4.0 Eligibility Criteria

- 4.1 The FTSE EPRA/NAREIT Global Real Estate Index Series includes only real estate securities that are traded in one of the listed countries see *Appendix 1*. The security must be listed on an official stock exchange listed in *Appendix 6*.
- 4.2 Securities which are subject to surveillance by the stock exchanges and have been assigned to any of the following segments will not be eligible for index inclusion. Where an existing constituent is assigned to an ineligible segment it will normally be deleted from the index at the next quarterly review and it will only be reconsidered for index inclusion after a period of 12 months from its deletion subject to it no longer being under surveillance. For the purposes of the index eligibility it will be treated as a new issue.

Country	Exchange	Segment
China	Shanghai Stock Exchange	Special Treatment (ST)
	Shenzhen Stock Exchange	
India	Bombay Stock Exchange	Graded Surveillance Measure (GSM)
	National Stock Exchange of India	
Malaysia	Bursa Malaysia	PN17
Poland	Warsaw Stock Exchange	Alert List
Singapore	Singapore Exchange	Watch-list
South Korea	Korea Exchange	Administrative Issues
Taiwan	Taiwan Stock Exchange	Altered Trading Method (ATM)
Thailand	Stock Exchange of Thailand	Companies facing possible delisting according to No. 9(6) of SET's Regulations on Delisting of Securities
Turkey	Borsa Istanbul	Watchlist

Securities that are assigned to the above segments after the review announcement date but before the index review effective date are assessed on a case-by-case basis which may generally result in scheduled index review additions, investability weight and shares in issue changes no longer being implemented at the forthcoming review.

- 4.3 A. The Initial Universe of companies consists of companies with the following ICB Classifications: Supersector 8600 (Real Estate), Subsector 2357 (Heavy Construction) and Subsector 3728 (Home Construction).
- B. The Initial Universe may be expanded by FTSE Russell with other ICB classified companies with guidance from EPRA, NAREIT and the Regional Advisory Committee.
- C. Limited Liability Partnerships (LLP), Limited Partnerships (LP), Master Limited Partnerships (MLP), Publically Traded Partnerships (PTP), Limited Liability Companies (LLC) and Business Development Companies (BDC) according to official company filings will not be eligible for inclusion.
- D. Preference shares are ineligible for index inclusion.
- 4.4 Relevant real estate activities are defined as the ownership, trading and development of income-producing real estate.
- 4.5 Real estate companies must have derived, in the previous full financial year, at least 75 percent of their total EBITDA from relevant real estate activities.
- 4.6 The construction of residential homes for sale is considered relevant real estate in the Asia Region and Emerging Markets only.
- 4.7 The following are not considered relevant real estate activities:
- A. The financing of real estate.
- B. The provision of construction management, general contracting and project management services.
- C. The provision of property management, facilities management, insurance, power supply, brokerage, investment management funds and services.
- D. Holding companies are excluded from the index. Holding companies are defined as companies that have more than 50 percent of their net assets invested in the securities of other listed companies.
- E. Storage caverns/units for commodities such as oil & gas.
- F. Companies for which the ownership of real property is incidental to the primary revenue generating activities, including those companies in the gaming, theme park and other entertainment businesses.
- G. Infrastructure assets, including transportation assets (roads, bridges, tunnels, airports, etc.), energy and utilities assets (power generation, fuels, etc.), water and waste management assets and communication assets (line-based networks, air-based networks, etc.) and prisons.
- H. Timberland and farmland.
- I. Outdoor advertising.
- J. Data center revenues labelled colocation will be considered real estate revenues for the purpose of the EBITDA screen only if the information is provided in sufficient detail to ensure that revenues from ineligible activities are not included.

- K. Revenue from parking lots and parking services are not considered relevant real estate activities unless such revenues are incidental to real estate activities otherwise considered relevant.

4.8 The constituents of the FTSE EPRA/NAREIT Global Real Estate Index Series are required to meet all of the following criteria where applicable:

- A. A company may only be added to the FTSE EPRA/NAREIT Global Real Estate Index Series if it provides an audited annual report in English\*. This is defined as a current set of accounts in English consisting of a profit and loss statement, a balance sheet, directors' review and full notes to the accounts.

\* Audited fiscal reports in Japan in English are also eligible. Reporting requirements in the United States are such that official announcements or filings may be used in addition to annual reports for US companies only, in exceptional circumstances.

- B. If a company newly introduces English annual reporting it becomes eligible for the indexes at the next quarterly review, providing it meets all other index inclusion criteria.
- C. Existing index constituents are required to produce an eligible annual report, as defined by Rule 4.8A, within 12 months after its fiscal year end. Companies that fail to do this will become ineligible at the next quarterly review.
- D. If a company meets the EBITDA criteria based on its latest annual report (Rule 4.8A), it becomes eligible for the indexes at the next quarterly review, providing it meets all other index inclusion criteria.
- E. If a company fails the EBITDA criteria (see Rule 4.5), it becomes ineligible for the indexes at the next quarterly review.
- F. In circumstances where annual reports are published within 20 business day of the review cut-off date, consideration for index inclusion may be deferred until the subsequent review to allow sufficient time for the full analysis of the information provided.
- G. A prospective constituent that derives more than 25% of its total annual EBITDA from Frontier or standalone markets (as classified by FTSE Russell) will not be eligible for inclusion in the FTSE EPRA/NAREIT Global Real Estate Index Series.

See *Appendix 9* for the Eligibility Criteria of Speciality Indexes.

#### 4.9 **Assignment of Nationality**

4.9.1 The procedures for assigning nationalities to prospective constituents of the FTSE EPRA/NAREIT Global Real Estate Index Series will generally follow the procedures set out in the FTSE Determining Nationality document which is available on the FTSE Russell website and can be accessed using the following link:

[Determining\\_Nationality.pdf](#)

4.9.2 A prospective constituent, which would otherwise have been assigned a nationality of a Developed market, that has over each of the previous two years derived less than 75% of its total annual EBITDA from Developed markets (as classified by FTSE Russell) will instead be assigned the nationality of the Emerging market (as classified by FTSE Russell) from which it has derived the greatest percentage of its EBITDA over those two years. Prospective constituents that have only one year of audited financial statements in their latest annual report (as defined by Rule 4.8A) or English IPO prospectus will be reviewed and classified based on the most recent available one year audited financial statements.

4.9.3 An existing constituent which has previously been assigned a nationality of a Developed market that has over each of the previous two years derived less than 50% of its total annual EBITDA

from Developed markets (as classified by FTSE Russell) will be assigned the nationality of the Emerging market from which it has derived the greatest percentage of its EBITDA over those two years.

- 4.9.4 A constituent whose nationality was determined by the application of Rules 4.9.2 or 4.9.3 above may have its nationality changed to that of a different Emerging market if for two consecutive years the greatest percentage of its EBITDA is derived from that Emerging market.
- 4.9.5 A constituent whose nationality was determined by the application of Rules 4.9.2 or 4.9.3 above may have its nationality changed to that assigned in the FTSE Global Equity Index Series if for two consecutive years the company derives more than 75% of its EBITDA from Developed markets.

## Section 5

# Qualification Criteria & Periodic Review of Constituents

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### 5.0 Qualification Criteria & Periodic Review of Constituents

#### 5.1 Review Dates

- 5.1.1 The FTSE EPRA/NAREIT Global Real Estate Index Series is reviewed on a quarterly basis in March, June, September and December. The review is based on data as at the close of business of the Monday 4 weeks prior to the review effective date. The results of the periodic review will be shown to the FTSE EPRA/NAREIT Global Real Estate Index Series Regional Advisory Committees at their quarterly meeting.
- 5.1.2 Any constituent changes resulting from the periodic review will be implemented at the close of business on the third Friday (i.e. effective Monday) of March, June, September and December. Subsequent adjustments in stock weightings (including free float) will become effective at the same time.
- 5.1.3 FTSE is responsible for publishing the outcome of the periodic review.

#### 5.2 Review Process

- 5.2.1 The rules for inserting and deleting securities at the quarterly reviews are designed to provide stability in the selection of constituents of the FTSE EPRA/NAREIT Global Real Estate Index Series while ensuring that the indexes continue to be representative of listed real estate markets by including or excluding those securities which have risen or fallen significantly in value or those companies whose eligible real estate activities have appreciably grown or diminished.
- 5.2.2 All companies that satisfy Rules 4.1 to 4.10 are eligible for inclusion in the FTSE EPRA/NAREIT Global Real Estate Index Series subject to the three screens detailed below.

#### 5.3 Size Rule

- 5.3.1 The size rule of the FTSE EPRA/NAREIT Global Real Estate Index Series is a relative measure that is expressed as a percentage of the regional index market capitalisation (after the application of investability weightings). Securities that currently are not members of the Index Series are required to meet a basis points threshold for inclusion that is higher than the basis points threshold set for exclusion of existing constituents. The aim of these different size thresholds is to provide a degree of stability in the composition of constituents of the FTSE EPRA/NAREIT Global Real Estate Index Series while ensuring that the Index continues to be representative of the market by including or excluding those securities whose market

capitalisation has grown or diminished significantly. The size thresholds are expressed in basis points and are highlighted below.

#### 5.4 Additions to the Index Series

At the quarterly review, non-constituent securities that have an investable market capitalisation (after the application of investability weightings) equal to or greater than the following basis points of their respective regional index will be eligible for index inclusion:

##### Developed Markets

a) Asian Stocks	0.30%
b) EMEA Stocks	0.10%
c) Americas Stocks	0.10%

##### Emerging Markets

a) Asian Stocks	0.20%
b) EMEA Stocks	0.30%
c) Americas Stocks	0.30%

##### AIM Market

a) AIM Stocks	1.50%
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If a security being considered for addition to the FTSE EPRA/NAREIT Global Real Estate Index Series at the quarterly reviews in March, June, September or December failed the liquidity test at the previous semi annual review it shall be ineligible for addition until the next semi annual review.

#### 5.5 Deletions from the Index Series

At the quarterly review, an existing constituent of the FTSE EPRA/NAREIT Global Real Estate Index Series is deleted from the Index Series if it has an investable market capitalisation (after the application of investability weightings) of less than the following basis points in their respective region:

##### Developed Markets

a) Asian Stocks	0.15%
b) EMEA Stocks	0.05%
c) Americas Stocks	0.05%

##### Emerging Markets

a) Asian Stocks	0.10%
b) EMEA Stocks	0.15%
c) Americas Stocks	0.15%

##### AIM Market

a) AIM Stocks	0.75%
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#### 5.6 Liquidity

##### 5.6.1 Each security will be tested for liquidity semi-annually in March and September by calculation of its monthly median daily trading volume.

Liquidity will be tested for the March review from the first business day of January to the last business day of December of the previous year and for the September review from the first business day of July of the previous year to the last business day of June. For the avoidance of doubt, Sunday volume data will be included in the test for those markets which are open on Sunday.

When calculating the median of daily trading volume of any security for a particular month, a minimum of 5 trading days in that month must exist, otherwise the month will be excluded from the test.

For each month, the daily trading volume for each security is calculated as a percentage of the shares in issue for that day adjusted by the free float at the last trading day in the testing period. These daily values are then ranked in descending order and the median is taken by selecting the middle ranking day if there is an odd number of days and the mean of the middle two if there is an even number of days.

Daily totals with zero trades are included in the ranking; therefore a security that fails to trade for more than half of the days in a month will have a zero median trading volume for that month.

Any period of suspension will not be included in the test.

The liquidity test will be applied on a pro-rata basis where the testing period is less than 12 months.

- A. New issues which do not have a twelve month trading record must have a minimum 20 day trading record when reviewed. Non-constituent securities which do not turnover at least 0.05% of their shares in issue (after the application of any investability weightings) based on their median daily trading volume per month in ten of the twelve months prior to a full market review, will not be eligible for inclusion in the Index Series.
- B. An existing constituent which does not turnover at least 0.04% of its shares in issue (after the application of any free float weightings) based on its median daily trading volume per month for at least eight of the twelve months prior to a full market review will be removed.
- C. New issues which do not qualify as entrants as defined in Rule 6.3.1 will become eligible for inclusion at the next quarterly review providing they trade a minimum of 20 days. They must turnover at least 0.05% of their shares in issue (after the application of any investability weightings) based on their median daily trading volume each month, on a pro-rata basis since listing. For those new issues which do not have at least 50% of total assets invested in real estate (see Rule 4.5), liquidity will be tested from the time the company meets this eligibility criterion. The company should meet these criteria at the time of the review.

See *Appendix 9* for Liquidity rules for the FTSE EPRA/NAREIT AIM Index.

## 5.7 Free Float

- 5.7.1 The FTSE EPRA/NAREIT Global Real Estate Index Series are adjusted for free float and foreign ownership limits.

Further details on free float restrictions can be accessed using the following link:

[Free Float Restrictions.pdf](#)

### A. Initial Weighting

Free float is calculated using available published information rounded to 12 decimal places. Companies with a free float of 5% or below are excluded from the index.

### B. Foreign Ownership Restrictions

FTSE Russell's index methodology takes account of the restrictions placed on the equity holdings of foreigners in a company where these have been imposed by a government, regulatory authority or the company's constitution.



Where the presence of a foreign ownership restriction creates a limit on foreign ownership (the Foreign Ownership Limit or FOL) that is more restrictive than the calculated free float for a company, the precise Foreign Ownership Limit is used in place of the free float for the purposes of calculating the company's investability weight.

If the foreign ownership restriction is less restrictive or equal to the free float restriction, the free float restriction is applied, subject to Rule A above.

If a company changes its foreign ownership restriction, the change is implemented in FTSE Russell indexes at the subsequent quarterly review, subject to the Minimum foreign headroom requirement Rule below.

In some jurisdictions, a company's foreign ownership restriction applies to the company's share classes in aggregate, and not to share classes individually. However, not all of the share classes of a restricted company might be eligible for index inclusion. In such cases, the aggregate (company level) foreign ownership restriction is allocated pro-rata across those share classes that are eligible for index inclusion.

**Please note:** In certain jurisdictions, despite foreign ownership restrictions, the acquisition of shares above stated foreign ownership limits is permitted. However, holdings of shares above the foreign ownership limit may be denied voting rights, for example in Japan.

FTSE Russell may exercise discretion in determining whether a stock should be subject to the minimum foreign headroom test. Where discretion is being applied FTSE Russell will provide appropriate advance notice.

See *Appendix 9* for Qualification Criteria & Periodic Review of Constituents of Specialist Indexes.

### C. Minimum Foreign Headroom Requirement

FTSE Russell defines "foreign headroom" as the percentage of shares available to foreign investors as a proportion of the company's Foreign Ownership Limit (FOL), i.e.  $(FOL - \text{foreign holdings})/FOL$ .

For example, if a company has a foreign ownership limit, of 49%, of which 39% is held by foreign investors, the foreign headroom is calculated as 20.41% i.e.  $(49\% - 39\%)/49\%$ .

- i. For a non-constituent that is subject to foreign ownership limit, a minimum headroom of 20% must be available in order to be included in the index.
- ii. Where the headroom of an existing constituent falls below 10%, its investability weight is reduced by an absolute value of 5% at the next quarterly review.

For example, if Company A's current investability weight is 49% (i.e. equal to the FOL), a 5% absolute reduction will result in an adjusted investability weight of 44.0% (49%-5%).

If Company B's current investability weight is 30% (i.e. Free Float more restrictive than FOL), a 5% absolute reduction will result in an adjusted investability weight of 25% (30%-5%).

- iii. The investability weight will continue to be reduced at subsequent quarterly reviews in increments of 5% until the headroom level increases to 10% or above. As a result of these quarterly 5% downward adjustments, should the investability weight of the security fall to 5% under this process, the security will no longer be eligible to remain in the index.

- iv. The investability weight of an existing constituent which has been subject to headroom adjustments will have its most recent 5% adjustment reversed at a quarterly review subject to a minimum 20% headroom remaining post reversal (as illustrated in step 2 below).

For example, Company A has an FOL of 49%, foreign holdings of 32% and a current investability weight of 29%.

Step 1: The foreign headroom test is calculated as 35% (i.e.  $(49\% - 32\%) / 49\%$ ), highlighting a potential reversal.

Step 2: The post reversal foreign headroom test is calculated as 24% (i.e.  $(49\% - 37\%) / 49\%$ ). For the purpose of the test the 5% adjustment is deemed to have the effect of increasing the foreign holding to 37%.

In the above example, Company A qualifies for a headroom reversal. The investability weighting will be increased from 29% to 34% (i.e.  $29\% + 5\%$ ).

- v. In the event a security with a headroom adjustment increases its foreign ownership limit (FOL), the increase in the FOL will be implemented in two, 50% tranches, subject to the headroom remaining at 20% or above.

For example, Company A had two headroom adjustments down from a FOL of 24% to a current investability weight of 14.00%

Company A – Initial FOL of 24%	
(Q1) First Headroom Adjustment	19.00% (5% reduction from 24%)
(Q2) Second Headroom Adjustment	14.00% (5% reduction from 19%)

The Company announces an increase to its FOL from 24% to 35%. The increase in the FOL will be implemented in the following steps:

Company A announces an FOL increase to 35% (11% increase)	
(Q1) Subject to 20% headroom availability, FOR is increased by 50% of the 11% increase	$14.00\% + 5.50\% = 19.50\%$
(Q2) Subject to 20% headroom availability, FOR is increased by remaining 50% of the 11% increase	$19.50\% + 5.50\% = 25.00\%$
(Q3) Subject to 20% headroom availability, reverse second headroom adjustment of 5.0%	$25.00\% + 5.00\% = 30.00\%$
(Q4) Subject to 20% headroom availability, reverse first head room adjustment of 5.0%	$30.00\% + 5.00\% = 35.00\%$

- First quarterly review following the announcement of an increase in FOL to 35%; 50% of the FOL increase (in this case 5.50%) will be implemented (subject to headroom remaining at 20% or above).
- Second quarterly review; the remaining 50% of the FOL increase will be implemented (subject to headroom remaining at 20% or above).
- Subsequent quarterly reviews; if the headroom availability remains at 20% or above, the previous two headroom adjustments of 5% each will be reversed on a quarterly basis.

- vi. In the event a security with a headroom adjustment decreases its foreign ownership limit (FOL), the decrease in the FOL will be implemented in full at the next quarterly review.

For example, Company A had a headroom adjustment down from a FOL of 24% to a current investability weight of 19.0%. The Company announces a decrease in the FOL to 21% (a decrease of 3% from the previous FOL of 24%).

FTSE will decrease the existing adjusted investability weight by the 3% reduction in FOL at the next quarterly review, resulting in Company A having a new investability weighting of 16.0% (19% - 3%).

- vii. Where foreign ownership restrictions are not universally applied to all foreign investors, but only impact a particular set of foreign investors, a 5% headroom adjustment will be applied where there is evidence of these restrictions being enforced. This headroom restriction will be reassessed on a quarterly basis and will not be lifted until either foreign ownership restrictions are removed or all foreign investors are treated equally.
- viii. For an existing index constituent, where foreign investors are prohibited from purchasing additional shares (for example, where Indian companies are placed on the Reserve Bank of India (RBI) Ban List), a 5% headroom adjustment will be applied at the next quarterly review and reassessed on a quarterly basis. Upon removal of restrictions prohibiting the purchase of shares, a headroom test will be conducted at the next quarterly review and headroom adjustments removed if the index constituent passes the headroom test.
- ix. Securities are assigned their official foreign ownership limit. However, if permission is required from a local regulator to purchase additional shares beyond a certain permission threshold, then the more restrictive permission level is assigned as the foreign ownership limit. For example, a security may have a foreign ownership limit of 24%, however, any purchase beyond 22% requires prior permission from the local regulatory authority. In this example, the security would be assigned a foreign ownership limit of 22%.
- x. Where a non constituent passes the relevant headroom test, but individual foreign investors or institutions are only permitted to hold a maximum of 1% of the free float adjusted shares in issue, the security will not be eligible for index membership.
- xi. Headroom tests will be conducted in conjunction with the March, June, September and December quarterly reviews.
- xii. Unless there is an increase in the foreign ownership limit, a headroom adjustment will not be reversed for a period of 6 months (i.e. if a headroom adjustment has been implemented at the June review then the earliest it can be reversed is at the following March review).
- xiii. If a constituent has been removed from the index as a result of its investability weight falling below 5% following a headroom adjustment, it will only be reconsidered for inclusion after a period of 12 months from its deletion. For the purposes of index eligibility it will be considered as a new issue.
- xiv. Securities which are deleted for failing headroom, but which after a period of 12 months meet the minimum 20% headroom test, will initially be added to the index at a minimum free float of 5%, subject to them having a foreign ownership limit. If a

foreign ownership limit no longer applies, then the security will be added at its free float.

- xv. Subsequent headroom reversals will be implemented in increments of 5% until the security reaches its foreign ownership limit, subject to the security continuing to meet the minimum 20% headroom test.

#### D. Thailand Non-Voting Depositary Receipts

A Non-Voting Depositary Receipt (NVDR) is a trading instrument issued by the Thai NVDR Company Ltd to overcome foreign investment barriers such as foreign investment limits. NVDRs entitle holders to the same financial benefits as those who invest directly in a company's ordinary shares, except that they have no voting rights. The NVDR price is equal to the price of the underlying securities on the Local Board.

If NVDRs are available FTSE Russell may, under certain circumstances, represent them in the index in order to fully represent the investable shares available to foreign investors.

- i. Where a security is **not** subject to a foreign ownership restriction, it is included in the index at its calculated free float.
- ii. Where a security is subject to a foreign ownership restriction, there is no NVDR or the NVDR does not satisfy the minimum foreign headroom requirement as outlined in Section C, and its Foreign Board share passes liquidity, it is included at its Foreign Board price with an investability weight equivalent to its FOL or calculated free float, whichever is more restrictive.

**For example**, Company A has an FOL of 25% and a free float of 90%. It has a maximum NVDR issuance limit of 35%, of which 30% has already been issued. As the NVDR fails the minimum foreign headroom requirement of 20%, the Foreign Board share is included with an investability weight of 25%.

- iii. Where a security is subject to a foreign ownership restriction and an NVDR is available which satisfies the minimum foreign headroom requirement as outlined in Section C, both the Foreign Board share and the NVDR are included in the index.

The Foreign Board share is included in the index with an investability weight equivalent to the FOL and the separate NVDR with an investability weight equivalent to its NVDR limit or the difference between its Free Float and FOL, whichever is more restrictive.

**For example**, Company A has an FOL of 49% and a free float of 80%. It has a maximum NVDR issuance limit of 35%, of which 20% has already been issued. It passes the minimum foreign headroom requirement.

Company A will be included in the index with 2 separate lines:

- Foreign Board share is included in the index with an investability weight of 49% (FOL)
  - NVDR is included in the index at an investability weight of 31% (i.e. 80%-49%), as it is more restrictive than its NVDR limit of 35%
- iv. Where a security is subject to a foreign ownership restriction and its Foreign Board share fails liquidity, subject to the Local share passing all eligibility screenings and the NVDR satisfying the minimum foreign headroom requirement as outlined in Section C, the Local share is included with an investability weighting equivalent to its FOL + NVDR or its calculated free float, whichever is more restrictive.

**For example**, Company A has an FOL of 49% and a free float of 60%. There is no limit on its NVDR issuance, so effectively its can be 100% invested. Therefore the Local share is included in the index at an investability weight of 60%.

## 5.8 Minimum Voting Rights

- 5.8.1 Companies assigned a developed market nationality are required to have greater than 5% of the company's voting rights (aggregated across all of its equity securities, including, where identifiable, those that are not listed or trading) in the hands of unrestricted shareholders or they will be deemed ineligible for index inclusion. Emerging market securities are not subject to this requirement.
- 5.8.2 Existing constituents with a developed market nationality who do not currently meet the above requirement have a 5 year grandfathering period to comply. If subsequently they continue to fail the minimum voting rights requirement they will be removed from FTSE Russell indexes at the September 2022 review.
- 5.8.3 The percentage of a company's voting rights in public hands is calculated as:

$$\frac{\text{The number of votes in the hands of shareholders that are unrestricted as determined by the application of FTSE Russell free float definitions}}{\text{The total number of votes conferred by the shares outstanding of all the company's voting securities including those that have not been admitted to trading on a regulated venue}}$$

**For example,** Company A has 100m listed Class A shares each conferring one vote, free float is 65%. It also has 300m unlisted Class B shares each conferring 10 votes.

The test to assess whether the listed Class A line has the required greater than 5% of the company's voting rights is as follows:

$$\frac{65\text{m (i. e. 100m Class A voting rights * 65\% float)}}{3.1\text{bn (i. e. 100m Class A + 3bn Class B)}} = 2.097\% \text{ of the company's voting rights in public hands}$$

## Section 6

# Changes to Constituent Companies

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### 6.0 Changes to Constituent Companies

#### 6.1 Impact of Changes to Constituents

6.1.1 The composition of the universe on which the FTSE EPRA/NAREIT Global Real Estate Index Series is based may change as a result of decisions or events which affect one or more of the constituent securities.

#### 6.2 Fast Entry Level

6.2.1 A new issue that has an investable market capitalisation (after the application of any investability weightings) equal to or greater than the following basis points for its respective region will be included in the FTSE EPRA/NAREIT Global Real Estate Index Series after the close of business on the fifth day of trading. Eligibility will be determined using the closing price on the first day of trading. In the event of the fifth day of trading being in close proximity to an index review, FTSE Russell may use its discretion to include a fast entrant at the index review date following advance notice.

The Fast Entry level for each region will be set at the time of the quarterly review in March, June, September and December. The regional Fast Entry level is based on data as at the close of business of the Monday four weeks prior to the review effective date and will be published by FTSE Russell. Please note where these dates are non-trading days or fall on a Saturday or Sunday then the previous trading day's data will be used.

#### Developed Markets

a) Asian Stocks	0.40%
b) EMEA Stocks	0.20%
c) Americas Stocks	0.15%

#### Emerging Markets

a) Asian Stocks	0.40%
b) EMEA Stocks	0.60%
c) Americas Stocks	0.60%

There will be no fast entry rule for the FTSE EPRA/NAREIT AIM Index.

### 6.3 Additions Outside of a Review

6.3.1 Where a company, whether an existing index constituent or not, undertakes an Initial Public Offering of a new equity security, that security will be eligible for fast entry inclusion to the FTSE EPRA/NAREIT Global Real Estate Index Series if it meets the following conditions:

- The issuing company has at least 50% of its total assets invested in real estate and meets the additional company eligibility criteria in Section 4; and
- The newly issued security meets the security eligibility criteria in Section 4 and has an investable market capitalisation that exceeds the fast entry level for the relevant region (see Rule 6.2.1).

Where a company issues more than one line of equity, each equity security will be tested for eligibility individually. Eligible securities will be added to the index after the close of business on the fifth day of trading. In the event of the fifth day of trading being in close proximity to an index review, FTSE Russell may use its discretion to include a fast entrant on the index review date following advance notice.

6.3.2 In the case of a security which does not qualify as an immediate fast entrant to the index, it will be re-considered for inclusion at the next review, subject to meeting a minimum 20 trading day rule (see Rule 5.6.1C).

6.3.3 In the case of a demutualisation where upon listing the entire free float of a newly eligible security is immediately transferred to private shareholders the addition of the security will be deferred for one month after trading has commenced - provided that adequate liquidity (as defined under Rule 5.6) is demonstrated at this time.

6.3.4 In the case of a constituent company that is split and forms two or more companies by issuing new equity to existing shareholders, then the resulting companies will be eligible to continue as constituents in the same benchmarks within the FTSE EPRA/NAREIT Global Real Estate Index Series as their predecessor company if they continue to satisfy Rules 5.3 to 5.7.

6.3.5 Newly eligible securities, for example a non-constituent moving to an eligible market, will be reviewed for inclusion at the next quarterly review.

6.4 In the event that a company is reclassified by ICB into an eligible Subsector due to a corporate restructuring or a review of ICB's classification structure, the company will be considered for inclusion at the next quarterly review provided that a) adequate liquidity (as defined under Rule 5.6.2) is demonstrated at this time, b) official documents regarding the restructuring/conversion have been filed within the respective jurisdictions and c) the company has publicly provided sufficient levels of financial data to establish its level of 'Relevant Real Estate Activities'.

### 6.5 Deletions

6.5.1 A stock will be deleted from the list of constituents when:

- The constituent is delisted from its stock exchange, enters bankruptcy, becomes insolvent or is liquidated.

6.5.2 Deletion on the effective date

If an existing constituent is acquired for cash or ineligible paper or by a non-quoted company in its own or another country, then the existing constituent is deleted on the effective date of the acquisition.

6.5.3 Deletion after confirmation

A company deleted following a takeover, with a remaining free float of 15% or less, will not be reconsidered for index inclusion until completion of a one year trading record.



## Section 7

# Corporate Actions and Events

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### 7.0 Corporate Actions and Events

7.1 Full details of changes to constituent companies due to corporate actions and events can be accessed in the Corporate Actions and Events Guide using the following link:

[Corporate Actions and Events Guide.pdf](#)

Details of the treatment of corporate actions and events in the FTSE EPRA/NAREIT Global Real Estate Index Series can be accessed using the following link:

<http://www.epra.com/research-and-indices/indices/corporate-actions/>

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.

### 7.2 Shares in Issue

7.2.1 Changes to the number of shares in issue for constituent securities are covered in the Corporate Actions and Events Guide.

### 7.3 Investability Weightings

7.3.1 Changes to free float for constituent securities are covered in the Corporate Actions and Events Guide.

### 7.4 Spin-offs

If a constituent company is split and forms two or more companies by issuing new equity to existing shareholders, then the resulting companies may be eligible to continue as constituents in the same indexes within the FTSE EPRA/NAREIT Global Real Estate Index Series as their

predecessor company. Where eligible to continue as a constituent, the spin-off entity (entities) will remain in the same indexes as the parent company until the next quarterly review, where subject to there being a minimum 20 trading day record, it will be tested for size (Rule 5.3), liquidity (Rule 5.6) and EBITDA (Rule 4.5) to assess continuing index eligibility.

For further details please refer to the Corporate Actions and Events Guide.

## 7.5 **Mergers and Take-overs**

7.5.1 The treatment of takeovers, mergers and demergers can be found within the Corporate Actions and Events Guide.

7.5.2 See *Appendix 9* for Changes to Constituents of Speciality Indexes.

## 7.6 **Suspension of Dealing**

Suspension of dealing rules can be found within the Corporate Actions and Events Guide.

## Section 8

# Algorithms and Calculation Methods

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### 8.0 Algorithms and Calculation Methods

#### 8.1 Prices

8.1.1 The FTSE EPRA/NAREIT Global Real Estate Index Series uses actual closing mid-market or last trade prices, where available, for securities with local bourse quotations.

8.1.2 Thomson Reuters' real time exchange rates are used in the index calculations which are disseminated in real-time. Exchange rates used in the End-of-Day calculations are WM/Reuters Closing Spot Rates™ at 16:00 UK time (see *Appendix 4*). Exchange rates used in the End-of-Day calculations of the FTSE EPRA/NAREIT Developed Asia 33 Index are WM/Reuters Spot Rates™, collected at 09:00 UK time (see *Appendix 4*).

#### 8.2 Calculation Frequency

8.2.1 Please see *Appendix 5* for the calculation schedule for the FTSE EPRA/NAREIT Global Real Estate Index Series.

#### 8.3 Algorithm

8.3.1 The FTSE EPRA/NAREIT Global Real Estate Index Series is calculated using the chained Paasche methodology.

8.3.2 The performance of the FTSE EPRA/NAREIT Global Real Estate Index Series on a given day is determined by calculating the percentage difference between:

- the index's market capitalisation as at the close of that day and
- the market capitalisation at the start of that day

"Start of the day" is defined as the previous day's close adjusted for capital changes, investability weight changes, additions and deletions.

8.3.3 Adjustments are applied whenever capital changes take place, so that the performance of the FTSE EPRA/NAREIT Global Real Estate Index Series reflects the experience of investors.

## Appendix 1: Classification of Eligible Markets

### Classification of Eligible Markets

In principle, companies are allocated to the country in which the company is incorporated and listed at the time of the company's listing.

#### FTSE EPRA/NAREIT Global Real Estate Index Series

Region	Country	Developed	Emerging
Americas	Brazil		X
	Canada	X	
	Chile		X
	Colombia		X
	Mexico		X
	Peru		X
	United States	X	

Region	Country	Developed	Emerging
Asia Pacific	Australia	X	
	China		X
	Hong Kong	X	
	India		X
	Indonesia		X
	Japan	X	
	Malaysia		X
	New Zealand	X	
	Pakistan		X
	Philippines		X
	Singapore	X	
	South Korea*	X	
	Taiwan		X
Thailand		X	

Region	Country	Developed	Emerging
Europe, Middle East & Africa	Austria	X	
	Belgium/Luxembourg	X	
	Czech Republic		X
	Denmark	X	
	Egypt		X
	Finland	X	
	France	X	
	Germany	X	
	Greece		X
	Hungary		X
	Ireland	X	
	Israel**	X	
	Italy	X	
	Netherlands	X	
	Norway	X	
	Poland (Dec 08)		X
	Portugal	X	
	Qatar		X
	Russia		X
	South Africa		X
	Spain	X	
	Sweden	X	
	Switzerland	X	
Turkey		X	
UAE***		X	
United Kingdom	X		

\* South Korea became eligible for inclusion in Developed indexes from September 2009.

\*\* Israel became eligible for inclusion in Developed indexes from March 2009.

\*\*\*UAE became eligible for inclusion in Emerging indexes from September 2010.

Argentina became ineligible for inclusion in the FTSE EPRA/NAREIT Global Real Estate Index Series in September 2010.

Morocco became ineligible for inclusion in the FTSE EPRA/NAREIT Global Real Estate Series in June 2015.

Greece moved from Developed to Emerging market status in March 2016.

Qatar moved from Frontier to Emerging market status in September 2016.

## Appendix 2: Index Breakdown

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### Index Breakdown

The flagship index for the family is the FTSE EPRA/NAREIT Global Index<sup>1</sup>. Indexes marked with <sup>2</sup> were renamed to include Developed in March 2009.<sup>1</sup>

The regions breakdown as follows:

#### Global

The FTSE EPRA/NAREIT Global Real Estate Index Series includes:

- Global Index<sup>1</sup>
- Global ex US Index<sup>1</sup>

#### Americas

The FTSE EPRA/NAREIT Americas Series includes:

##### Americas<sup>1\*</sup>

##### North America\*

Canada

United States \*

##### Emerging Americas\*

Brazil

Chile

Colombia

Mexico

Peru

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<sup>1</sup> The flagship index for the family is the FTSE EPRA/NAREIT Global Index<sup>1</sup>. Indexes marked with <sup>2</sup> were renamed to include Developed in March 2009.

## Asia

The FTSE EPRA/NAREIT Asia Series includes:

### Asia Pacific<sup>1\*</sup>

#### Developed Asia Pacific<sup>2\*</sup>

Australia  
Hong Kong\*  
Japan

New Zealand  
Singapore  
South Korea

#### Emerging Asia Pacific\*

China  
India  
Indonesia  
Malaysia

Pakistan  
Philippines  
Taiwan  
Thailand

## EMEA

The FTSE EPRA/NAREIT EMEA Series includes:

### EMEA<sup>1\*</sup>

Developed Europe <sup>2*</sup>	Austria
Developed Europe ex UK <sup>2*</sup>	Belgium/Luxembourg
Developed EMEA	Denmark
Developed Middle East & Africa	Finland
Eurozone*	France
Developed Eurozone	Germany
Emerging Eurozone	Ireland
	Israel <sup>1</sup>
	Italy
	Netherlands
	Norway
	Portugal
	Spain
	Sweden
	Switzerland
	UK*

### Emerging Europe, Middle East & Africa \*

Emerging Europe \*  
Emerging Middle East & Africa\*

Czech Republic	Egypt
Greece	Qatar
Hungary	Russia
Poland	UAE
South Africa	
Turkey	



## Other Indexes

Developed Europe (UK restricted) <sup>2*</sup>	Developed Europe Liquid 40 <sup>2</sup>
Developed Europe Liquid 40 ex UK <sup>2</sup>	Pure Developed Asia <sup>2</sup>
Pure Australia <sup>2</sup>	Global REIT
Global Non-REIT	Global ex US REIT
Global ex US Non-REIT	Americas REIT
Americas Non-REIT	Asia Pacific REIT
Asia Pacific Non-REIT	Asia ex Japan REITs <sup>2</sup>
EMEA Non-REIT	EMEA REIT
Europe Non-REIT	Europe REIT
MEA Non-REIT	MEA REIT
Developed Non-REIT <sup>2</sup>	Developed REIT <sup>2</sup>
Developed ex Asia Non-REIT <sup>2</sup>	Developed ex Asia REIT <sup>2</sup>
Developed ex Europe Non-REIT <sup>2</sup>	Developed ex Europe REIT <sup>2</sup>
Developed ex US Non-REIT <sup>2</sup>	Developed ex US REIT <sup>2</sup>
Developed Asia Non-REIT <sup>2</sup>	Developed Asia REIT <sup>2</sup>
Developed Europe Non-REIT <sup>2*</sup>	Developed Europe REIT <sup>2*</sup>
Emerging Non-REIT	AIM REITs
Emerging Asia Pacific Non-REIT	Emerging REIT
Emerging EMEA Non-REIT	Emerging Americas Non-REIT
Emerging Europe Non-REIT	Emerging EMEA REIT
Emerging MEA Non-REIT	Emerging Europe REIT
UK REIT	Emerging MEA REIT
Developed Dividend+ <sup>2*</sup>	UK Non-REIT
Developed Asia Dividend+ <sup>2*</sup>	Developed Europe ex UK Dividend+ <sup>2*</sup>
Developed Asia 33 <sup>2*</sup>	US Dividend+ *

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<sup>2</sup> Singapore Tax stance

## Specialist

The FTSE EPRA/NAREIT Specialist Series includes:

### Investment Focus

- a) Developed<sup>2</sup>
- b) Developed Asia<sup>2</sup>
- c) Developed Europe<sup>2</sup>
- d) North America
- e) Australia
- f) Hong Kong
- g) Japan
- h) UK
- i) United States

### Property Sector

- a) Developed<sup>2</sup>
- b) Developed Asia<sup>2</sup>
- c) Developed Europe<sup>2</sup>
- d) Eurozone
- e) North America
- f) UK
- g) United States
- h) Emerging (launched in May 2011)

### Super Liquid

- a) Developed Super Liquid
- b) Developed Europe Super Liquid
- c) Developed Asia Super Liquid
- d) US Super Liquid

### Capped Indexes

To serve investors, capped versions of certain indexes are calculated, with a weighting cap placed on individual constituents at each review:

- FTSE EPRA/NAREIT Eurozone Capped Index\*
- FTSE EPRA/NAREIT Developed Europe Capped Index<sup>2\*</sup>
- FTSE EPRA/NAREIT Developed Europe ex UK Capped Index<sup>2\*</sup>
- FTSE EPRA/NAREIT Developed Europe Liquid 40 Capped Index<sup>2</sup>
- FTSE EPRA/NAREIT Developed Europe ex UK Liquid 40 Capped Index<sup>2</sup>

Please see *Appendix 7* for details of the capping methodology.

The FTSE EPRA/NAREIT Global Real Estate Indexes which are calculated in real time are marked with an asterisk (\*). All other indexes are calculated on an end of day basis.

Times are in UK hours.

During real-time calculations, Thomson Reuters Spot rates are used in calculating Foreign Exchange rates.

## Appendix 3: Dividends used in the Total Return Calculation and Dividend Withholding Tax Rates

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Dividends, using their ex-dividend dates, are used to calculate the Total Return Indexes in the FTSE EPRA/NAREIT Global Real Estate Index Series. All dividends are applied as declared.

A series of net of tax Total Return Indexes are also calculated based on the maximum withholding tax rates applicable to dividends received by institutional investors who are not resident in the same country\* as the remitting company and who do not benefit from double taxation treaties.

The underlying tax rate information is available from FTSE Russell.

\* The FTSE nationality assigned to the company as set out in the FTSE Global Equity Index Series Ground Rules.

Withholding tax rates used in the net-of-tax indexes can be accessed using the following link:

[Withholding Tax Service](#)

Please also refer to the FTSE Russell Withholding Tax Guide which can be accessed using the following link:

[FTSE\\_Russell\\_Withholding\\_Tax\\_Guide.pdf](#)

## Appendix 4: Foreign Exchange Rates

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The foreign exchange rates used in the calculation of the FTSE EPRA/NAREIT Global Real Estate Index Series are the WM/Reuters Closing Spot Rates™ compiled by The WM Company. The service, which was World in consultation with leading financial market practitioners, sets a daily standard for the foreign exchange rates required for index calculation, investment management and portfolio valuation.

At short intervals before and after 16:00 UK time, representative bid and offer rates against the US dollar for some 112 currencies are selected from a wide range of contributing banks and foreign exchange dealers. Anomalous data are screened out, and the median rate is selected for each currency.

The choice of 16:00 UK time as the reference time for foreign exchange rates captures a large selection of timely quotes from Continental European contributors to the Thomson Reuters system and reflects the peak trading period for the London and New York foreign exchange markets. The rates include contributions on a global basis, making them relevant for valuation purposes in all the world's time zones. In the event that WM/Reuters Closing Spot Rates are not published by the WM Company, the previous day's rates will be used to calculate the FTSE EPRA/NAREIT Global Real Estate Index Series.

The FTSE EPRA/NAREIT Developed Asia 33 Index uses foreign exchange rates received from Thomson Reuters at the closing time of the index (09:00, UK time).

*Further information on The WM/Reuters Closing Spot Rates™ service is available from The WM Company, World Markets House, Crewe Toll, Edinburgh, EH4 2PY. Tel: + 44 (0) 131 315 2000.*

## Appendix 5: Calculation Schedules

### A) Normal Schedule

The Index Series are calculated once daily at approximately 21:30 - 22:00 UK time, (GMT) shortly after the close of North American securities markets. Selected indexes within the series are calculated on a real time basis.

The Index Series are calculated every week day; when one or more of the constituent markets are open. However, on January 1st, the indexes may not be disseminated. There is no separate calculation to accommodate the Saturday opening of any market.

Index	Open	Close
Global Index*	00:00	21:10
Developed Index**	00:00	21:10
Emerging Index	00:00	21:10
Global ex US Index*	00:00	21:10
Developed ex US Index**	00:00	21:10
Developed Dividend+ Index**	00:00	21:10
Developed ex Middle East and Africa Index	00:00	21:10
Asia Pacific Index*	00:00	10:00
Developed Asia Index**	00:00	09:00
Developed Asia Dividend+ Index**	00:00	09:00
Developed Asia 33 Index**	00:00	09:00
Emerging Asia Pacific Index	00:00	10:00
Australia Index	00:00	07:15
Hong Kong Index	02:00	08:00
Japan Index	00:00	06:40
Americas Index*	13:00	21:10
North America Index	14:30	21:10
Emerging Americas	13:00	21:10
US Index	14:30	21:10
US Dividend+ Index	14:30	21:10

EMEA Index*	07:00	16:30
Developed EMEA*/**	07:45	16:30
Emerging EMEA	07:00	16:00
Europe Index*	08:00	16:30
Developed Europe Index **	08:00	16:30
Developed Europe Capped Index**	08:00	16:30
Developed Europe (UK Restricted) Index**	08:00	16:30
Developed Europe REITs Index**	08:00	16:30
Developed Europe Non-REITs Index**	08:00	16:30
Developed Europe ex UK Index**	08:00	16:30
Developed Europe ex UK Capped Index**	08:00	16:30
Developed Europe ex UK Dividend+ Index**	08:00	16:30
Eurozone Index	08:00	16:30
Eurozone Capped Index	08:00	16:30
Emerging Europe Index	08:00	16:00
Middle East and Africa Index**	07:00	15:40
Emerging Middle East and Africa Index	07:00	15:40
UK Index	08:00	16:30

Notes:

1. Times are in UK hours.
2. During real-time calculations, Thomson Reuters Spot rates are used in calculating Foreign Exchange rates.

\* Indexes launch in March 2009.

\*\* Indexes are renamed from Global to Developed or have Developed included in the region in March 2009.

## Appendix 6: Eligible Markets and Sources of Trading

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### Americas

Country	Exchange Location	Market Section(s)
Brazil	São Paulo	Official List
	Rio de Janeiro	Official List
Canada	Toronto	Official List
Chile	Santiago	Official Market
Colombia	Bogota & Medellin	Official Market
Mexico	Mexico City	Capital Market
Peru	Lima	Official Market
United States of America (the United States)	New York	NYSE Arca NASDAQ National Market System New York Stock Exchange

## Asia Pacific

Country	Exchange Location	Market Section(s)
Australia	Sydney	Australian Stock Exchange (ASX) Main Board
China	Shanghai Shenzhen	Main Board Main Board
Hong Kong Special Administrative Region of the People's Republic of China (Hong Kong)	Hong Kong	Total Main Market
India	Mumbai	Official Market National Stock Exchange
Indonesia	Jakarta	Main Board
Japan	Tokyo	First Section Second Section
Malaysia	Kuala Lumpur	Main Board Second Board
New Zealand	Wellington	New Zealand Stock Exchange (NZSE) Main Board
Pakistan	Karachi	Official Market
Philippines	Manila	Main Board
Singapore (the Republic of Singapore)	Singapore	Main Board SESDAQ
South Korea (the Republic of Korea)	Seoul	Official Market KOSDAQ
Taiwan	Taipei	Official Market OTC Market
Thailand	Bangkok	Main Board Foreign board



## Europe, Middle East and Africa

Country	Exchange Location	Market Section(s)
Austria (the Republic of) (Austria)	Vienna	Official Market (Malice Notierung)
Belgium/Luxembourg	Brussels Luxembourg	First Market (Premier Marché) Official Stock Exchange (Marché officiel de la Bourse de Luxembourg)
Czech Republic	Prague	Main Market Secondary Market
Denmark (the Kingdom of Denmark)	Copenhagen	Official List
Egypt	Cairo	Main Market
Finland	Helsinki	Main List
France (the French Republic)	Paris (Le Marché National)	First Market (Premier Marché)
Germany (the Federal Republic of Germany)	Deutsche Börse (all exchanges)	Regulated Market (General Standard or Prime Standard)
Greece (the Hellenic Republic)	Athens	General Segment (Main Market)
Hungary	Budapest	Official Market
Ireland	Dublin	Full List
Israel	Tel Aviv	Official Market
Italy (the Italian Republic)	Milan	Official List (Listino della Borsa)
Netherlands	Amsterdam	Official Market
Norway	Oslo	Main List
Poland	Warsaw	Official Market
Portugal (the Portuguese Republic)	Lisbon	Market with Official Quotations
Qatar	Doha	All Listed Securities
Russia	Moscow	Moscow Exchange
South Africa	Johannesburg	JSE
Spain (the Kingdom of Spain)	Madrid	First Market (Primer Mercado)
Sweden	Stockholm	A-list O-list
Switzerland (the Swiss Confederation)	Swiss Exchange	Main Market
Turkey	Istanbul	Official Market
UAE (the United Arab Emirates)	Dubai	NASDAQ Dubai Stock Exchange Abu Dhabi Securities Exchange Dubai Financial Market
United Kingdom (of Great Britain and Northern Ireland, the) & Channel Islands	London	Official List

Every effort is made by FTSE Russell to ensure that the information contained in this *Appendix 6* is accurate. However no responsibility or liability can be accepted by FTSE Russell for any errors in this information. Please contact FTSE Russell if you have a query regarding this information.

For the list of classes of securities eligible to be included in the FTSE EPRA/NAREIT Global Real Estate Index Series, please refer to Appendix B in the FTSE Global Equity Index Series Ground Rules. Please note that preference shares are ineligible for the FTSE EPRA/NAREIT Global Real Estate Index Series – See Rule 4.3.D.

## Appendix 7: Capping Methodology for the Capped Indexes (see Appendix 2)

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Capping is applied to the constituents of an Index by the following methodology:

The constituents in the index are ranked by investible market capitalisation and the weight for each constituent in the Index is determined.

### STAGE 1

Any constituents whose weights are greater than 10% are capped at 10%. The weights of all lower ranking constituents are increased correspondingly. The weights of lower ranking constituents are then checked and if they exceed 10% they are also capped at 10%. This process is repeated until no constituent weight exceeds 10%.

### STAGE 2

Following the application of Stage 1, if the total index weight of those constituents whose individual weights exceed 5% is greater than 40% in aggregate, the procedure moves onto Stage 3 below. Otherwise no further action is required.

### STAGE 3

- a) If more than one stock is capped at 10%, then weights of all subsequent constituents previously capped at 10% are changed in accordance with the rules detailed below. For example, if the second largest stock is capped at 10% its weight will be reduced to 9% as given in b) below. The process is then continued from the relevant point in the steps below. Thus, if it is necessary to apply the provisions of Stage 3, only one constituent will have a 10% weight in the index.
- b) If the weight of the second largest constituent is greater than 9% the constituent's weight is capped at 9% and the weights of the lower ranking constituents are increased correspondingly. Following this procedure if the total index weight of those constituents whose individual weights exceed 5%, is greater than 40% the procedure moves onto the next stage below.
- c) If the weight of the third largest constituent is greater than 8% the constituent's weight is capped at 8% and the weights of the lower ranking constituents are increased correspondingly. Following this procedure if the total index weight of those constituents whose individual weights exceed 5%, is greater than 40% the procedure moves onto the next stage below.
- d) If the weight of the fourth largest constituent is greater than 7% the constituent's weight is capped at 7% and the weights of the lower ranking constituents are increased correspondingly. Following this procedure if the total index weight of those constituents whose individual weights exceed 5%, is greater than 40% the procedure moves onto the next stage below.

- e) If the weight of the fifth largest constituent is greater than 6% the constituent's weight is capped at 6% and the weights of the lower ranking constituents are increased correspondingly. Following these procedures if the total index weight of those constituents whose individual weights exceed 5%, is greater than 40% the procedure moves onto the next stage below.
- f) If the weights of the sixth largest constituent and any lower ranking constituents are greater than 4% those constituents' weights are capped at 4% and the weights of lower ranking constituents are increased correspondingly.

#### **STAGE 4**

Following the application of Stage 3, the weights of each constituent are checked. If the total index weight of those constituents whose individual weights exceed 5% is greater than 40% in aggregate, then further capping is required. Firstly if the largest constituents' weight has risen above 10% the weight is again capped at 10% and the weights of other constituents are adjusted accordingly. Then Stage 3 is repeated.

Constituents are capped using prices as at the close of business on the second Friday in March, June, September and December and shares in issue and free float adjusted for corporate actions as at the Monday after the third Friday. The capping is implemented after the close of business on the third Friday of March, June, September and December.

## Appendix 8: EBITDA Screening

REESA Approved Financial Statements Model (September 2007)

### EBITDA Screening

#### Property Operations Income and Expense:

Gross rental revenue

Interest on finance leases

Service cost reimbursements from tenants

Reimbursable service costs

Property operating expenses

Ground rent expense

Share of net property income from unconsolidated affiliates, (Note A)

**Net Property Income (NPI), (Note B)**

#### Other Operating Income and Expense (OOIE):

Gains/losses on sales of properties World/acquired for sale, (Note C)

Other operating revenue, including third party fees, (Note D)

Other operating expenses, (Note E)

G&A

Dividend income

Share of OOIE of unconsolidated affiliates, (Note A)

**Total Other Operating Income and Expense**

#### Income From Operations before Finance Costs and Taxes (EBITDA)

**Note A** – The model accommodates the possibility that the proportionate method of consolidation may not be available in the future under IFRS. If this is indeed the case, to report a consolidated measurement of the important industry metrics, Net Property Income and Income from Operations, the model statement reports the company's share of these same metrics generated by unconsolidated affiliates in the appropriate sections of the statement.

If the proportionate share method of consolidation is available, the individual line items will reflect the proportionate share of results of unconsolidated affiliates for those that qualify for the proportionate method of consolidation.

In addition, for significant unconsolidated affiliates that may not be reported under the proportionate share method of consolidation, the model allows the share of these

significant affiliates to be reported in the appropriate sections of the statement, at management's discretion.

**Note B** – Reporting Net Property Income would be optional.

**Note C** – Where gains/losses on the sales of properties acquired for sale are significant, the statement should report sales proceeds and cost of sales separately on the face of the statement. An example of this type of gain/ loss would result from significant merchant building sales.

**Note D** – Examples would include third party management, development and leasing fees.

**Note E** – This would include operating expenses not directly associated with operating properties.

## Appendix 9: Eligibility, Qualification Criteria, Periodic Review and Changes to Constituent Companies of Specialist Indexes

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### Eligible Securities for Specialist Indexes

In addition to the regional and country indexes, FTSE Russell has expanded the EPRA/NAREIT series to include new and innovative benchmarks. These indexes and their qualification criteria are listed below.

#### **1) FTSE EPRA/NAREIT Pure Developed Asia and FTSE EPRA/NAREIT Pure Australia Indexes**

- a) The underlying universe is the FTSE EPRA/NAREIT Global Real Estate Series.
- b) The FTSE EPRA/NAREIT Pure Developed Asia Index contains Asian companies who have derived, in the previous full financial year, at least 60% of its EBITDA from relevant real estate activities in Asia. The FTSE EPRA/NAREIT Pure Australia Index contains Australian companies that are included in the FTSE EPRA/NAREIT Pure Developed Asia Index.

#### **2) FTSE EPRA/NAREIT Developed Europe Liquid 40 and FTSE EPRA/NAREIT Developed Europe Liquid 40 ex UK Indexes**

- a) The underlying universe for the FTSE EPRA/NAREIT Developed Europe Liquid 40 Index and the FTSE EPRA/NAREIT Developed Europe Liquid 40 ex UK Index is the FTSE EPRA/NAREIT Developed Europe Index. The rules for these two indexes are identical to the standard rules of the FTSE EPRA/NAREIT Global Real Estate Index Series. Both indexes consist of the 40 stocks with the highest volume traded and/or market capitalisation within the FTSE EPRA/NAREIT Developed Europe Index.

#### **3) FTSE EPRA/NAREIT Developed Europe (UK Restricted) Index**

- b) The FTSE EPRA/NAREIT Developed Europe (UK Restricted) Index is derived from the FTSE EPRA/NAREIT Developed Europe Index. The weight of the UK companies is adjusted, according to the UK's GDP compared against Europe's GDP. This ratio is applied to the market capitalisation of the UK companies in the index. The calculation and composition is identical to the FTSE EPRA/NAREIT Developed Europe Index and, as a result, it has the same constituents. Further details on the ratio can be found in *Appendix 9.12d*.

#### **4) FTSE EPRA/NAREIT Global/Developed/Emerging REIT & Non-REIT Indexes**

The rules for this index series are identical to the standard rules of the FTSE EPRA/NAREIT Global Real Estate Index Series. FTSE Russell, EPRA and NAREIT will make the following selection to determine the stocks that will make up the FTSE EPRA/NAREIT Global REIT & Non-REIT Index Series after the current review:

a) FTSE EPRA/NAREIT Global/Developed/Emerging REIT Index Series:

- Recognised REIT legislation must be in operation in the country in which the constituent is domiciled.

AND

- The FTSE EPRA/NAREIT Global/Developed/Emerging REIT Index consists of all constituents operating as a REIT in their country of domicile according to their latest published financial accounts or regulatory announcements as verified by the Index Partners (FTSE, EPRA & NAREIT).

b) FTSE EPRA/NAREIT Global/Developed/Emerging Non-REIT Index series:

- Recognised REIT legislation does not exist in the country in which the constituent is domiciled.

OR

- The FTSE EPRA/NAREIT Global/Developed/Emerging Non-REIT Index consists of all constituents that do not qualify for REIT status according to their latest published financial accounts or regulatory announcements as verified by the Index Partners (FTSE, EPRA & NAREIT) or the constituent makes a formal announcement that it fails to comply with REIT legislation in its country of domicile.

#### **5) FTSE EPRA/NAREIT Investment Focus Index Series**

a) An Investment Focus Index Series has been introduced to enhance the existing FTSE EPRA/NAREIT Global Real Estate Index Series and broaden the market approach to the industry. The idea behind the Investment Focus Index Series is to distinguish the cohorts of listed real estate equities. Each constituent of the FTSE EPRA/NAREIT Developed Real Estate Index Series will be classified as Rental or Non-Rental. The annual classification by Investment Focus will be based on revenue sources as disclosed in the latest published financial statements. The Investment Focus classification is implemented during the first following quarterly review as follows:

- b) A company will be classified as Rental if the revenue from properties is greater than or equal to 70% of the total revenue.
- c) A company will be classified as Non-Rental if the revenue from properties is less than 70% of the total revenue.

#### **6) FTSE EPRA/NAREIT Developed and Emerging Property Sector Index Series**

a) The underlying universe for the Property Sector Index Series is the FTSE EPRA/NAREIT Developed Real Estate Index and the FTSE EPRA/NAREIT Emerging Real Estate Index. The idea behind the Property Sectors Index Series is to distinguish the cohorts of listed real estate equities by separating the existing constituents into nine distinct Property Sectors based on gross invested book assets. The purpose is to provide investors with a mechanism to manage their exposure to different risk-reward profiles in relation to the different aspects of the real estate business, including office buildings, retail centres, industrial facilities, lodging/resorts, residential buildings and other types of properties.

- b) The classification by Property Sector will be based on the gross invested book assets as disclosed in the latest published financial statement. Each constituent of the FTSE EPRA/NAREIT Developed Real Estate Index and the FTSE EPRA/NAREIT Emerging Real Estate Index will be classified in one of the Property Sectors listed below:
- c) A company is classified in one of the following Property Sectors:
- i) **Health Care**  
Real estate investment trusts or corporations (REITs) or listed property trusts (LPTs) where 75% or more of its gross invested book assets are invested in health care properties.
  - ii) **Self Storage**  
Real estate investment trusts or corporations (REITs) or listed property trusts (LPTs) where 75% or more of its gross invested book assets are invested in self storage properties.
  - iii) **Industrial**  
Real estate investment trusts or corporations (REITs) or listed property trusts (LPTs) where 75% or more of its gross invested book assets are invested in industrial warehouses and distribution facilities.
  - iv) **Office**  
Real estate investment trusts or corporations (REITs) or listed property trusts (LPTs) where 75% or more of its gross invested book assets are invested in offices.
  - v) **Industrial/Office Mixed**  
Real estate investment trusts or corporations (REITs) or listed property trusts (LPTs) that are not members of property sectors Industrial (N741) or Office (N742) but have a combined total of 75% or more of their gross invested book assets invested in industrial warehouses, distribution facilities and offices.
  - vi) **Residential**  
Real estate investment trusts or corporations (REITs) or listed property trusts (LPTs) where 75% or more of its gross invested book assets are invested in residential home properties. It includes apartment buildings and residential communities.
  - vii) **Retail**  
Real estate investment trusts or corporations (REITs) or listed property trusts (LPTs) where 75% or more of its gross invested book assets are invested in retail properties. It includes malls, neighbourhood and community shopping centres and factory outlets.
  - viii) **Lodging/Resorts**  
Real estate investment trusts or corporations (REITs) or listed property trusts (LPTs) where 75% or more of its gross invested book assets are invested in lodging & resort properties.
  - ix) **Diversified**  
Real estate investment trusts or corporations (REITs) or listed property trusts (LPTs) where less than 75% of its gross invested book assets are invested in one of the above property sectors.

## **7) FTSE EPRA/NAREIT Developed Dividend+ Index Series**

- a) The FTSE EPRA/NAREIT Developed Dividend+ Index Series is designed to measure the performance of higher yielding stocks within the universe of the FTSE EPRA/NAREIT Developed Real Estate Index Series.
- b) The FTSE EPRA/NAREIT Developed Dividend+ Index Series was created to allow investors to capture the long-term effect of higher compounding returns and benefit from the lower correlations to traditional market cap weighted indexes.



#### **8) FTSE EPRA/NAREIT Developed Asia 33 Index**

- a) The FTSE EPRA/NAREIT Developed Asia 33 Index has been designed to represent the performance of the largest and most liquid real estate companies from Australia, Hong Kong, Singapore, New Zealand and Japan.
- b) The FTSE EPRA/NAREIT Developed Asia 33 Index is a tradable index, covering the top 33 constituents of developed countries in the Asia Pacific region by market capitalisation with a selection process that firstly includes companies listed as REITs. Where the total number of constituents is less than 33 then Non-REITs are added.

#### **9) FTSE EPRA/NAREIT Asia ex Japan REITs Index**

- a) The FTSE EPRA/NAREIT Asia ex Japan REITs Index has been designed to represent the performance of REITs from China, Hong Kong, India, Indonesia, Malaysia, Pakistan, Philippines, Singapore, South Korea, Taiwan and Thailand.
- b) The FTSE EPRA/NAREIT Asia ex Japan REITs Index is a tradable index covering the constituents of developed and emerging countries in the Asia region by market capitalisation with a selection process that includes only companies listed as REITs.
- c) The FTSE EPRA/NAREIT Asia ex Japan REITs Index is calculated net of tax using a Singapore tax stance and constituents are capped at 10%.

## Qualification Criteria & Periodic Review of Constituents of Specialist Indexes

### 10) FTSE EPRA/NAREIT Pure Developed Asia and FTSE EPRA/NAREIT Pure Australia Indexes

- a) The indexes will be reviewed quarterly in March, June, September and December as part of the FTSE EPRA/NAREIT Global Real Estate Index Series.
- b) The quarterly reviews will use data based on the close of business on the Monday 4 weeks prior to the review effective date.
- c) The quarterly reviews will be implemented in line with the FTSE EPRA/NAREIT Global Real Estate Index Series at the close of business on the third Friday (i.e. effective Monday) of March, June, September and December.

### 11) FTSE EPRA/NAREIT Developed Europe Liquid 40 and FTSE EPRA/NAREIT Developed Europe Liquid 40 ex UK Indexes

- a) The indexes will be reviewed quarterly in March, June, September and December as part of the FTSE EPRA/NAREIT Global Real Estate Index Series.
- b) The quarterly reviews will use data based on the close of business on the Monday 4 weeks prior to the review effective date.
- c) The quarterly reviews will be implemented in line with the FTSE EPRA/NAREIT Global Real Estate Index Series at the close of business on the third Friday (i.e. effective Monday) of March, June, September and December.

- d) At review the universe for both indexes will consist of constituents from the FTSE EPRA/NAREIT Developed Europe series. The FTSE EPRA/NAREIT Developed Europe Liquid 40 Index consists of the 40 stocks with the highest turnover and/or market capitalisation within the FTSE EPRA/NAREIT Developed Europe index. Using the same data, the compiler (FTSE Russell) will make the following selection to determine the 40 stocks that will make up the index after the current review:

- i) All companies included in the FTSE EPRA/NAREIT Developed Europe index as a result of the current review will be ranked according to both trading volume and market capitalisation (after the application of any investability weightings). Trading volume is based on the two quarters preceding the review.
- ii) Constituents are selected as the highest ranking in terms of value\* traded, followed by the highest ranking in terms of market capitalisation, then the second ranking in terms of value traded, followed by the second ranking in terms of market capitalisation, et cetera until 40 securities are selected.

\* Value traded is calculated by taking the daily volume traded multiplied by the daily closing price.

- iii) Current index constituents that are not included in the selection under (b) are only deleted from the index if their highest rank (either volume traded or market capitalisation) is more than ten places lower than the last selected stock.
- iv) Companies that are removed from the index are not eligible for inclusion during the following quarterly review. Companies that are newly included in the index may not be deleted from the index during the following quarterly review.
- v) The resulting constituents from the review methodology stated above will comprise the FTSE EPRA/NAREIT Developed Europe Liquid 40 Index. At the time of the review a further screen is applied that excludes all UK listed companies. The remaining constituents will comprise the FTSE EPRA/NAREIT Developed Europe Liquid 40 ex UK Index.

## 12) FTSE EPRA/NAREIT Developed Europe (UK Restricted) Index

- a) The index will be reviewed annually in June as part of the quarterly FTSE EPRA/NAREIT Developed Europe series review.
- b) The annual review will use data based on the close of business on the Monday 4 weeks prior to the review effective date..
- c) The annual review will be implemented in line with the FTSE EPRA/NAREIT Developed Europe series at the close of business on the third Friday (i.e. effective Monday) of June.
- d) The FTSE EPRA/NAREIT Developed Europe (UK Restricted) Index is derived from the FTSE EPRA/NAREIT Developed Europe Index. At annual review the weight of the UK companies is adjusted, according to the ratio of the UK's GDP divided by Europe's GDP. This ratio is applied to the full market capitalisation of the UK companies in the index. This capping factor/ratio is supplied annually by EPRA. The GDP figures are published in the annual OECD Main Economic Indicators and published on the internet site <http://www.sourceOECD.org>. The review process uses the previous calendar year-end GDP figures and previous calendar year-end exchange rates.

## 13) FTSE EPRA/NAREIT Global/Developed/Emerging REIT & Non-REIT Indexes

- a) The indexes will be reviewed quarterly in March, June, September and December as part of the FTSE EPRA/NAREIT Global Real Estate Index Series.
- b) The quarterly reviews will use data based on the close of business on the Monday 4 weeks prior to the review effective date.
- c) The quarterly reviews will be implemented in line with the FTSE EPRA/NAREIT Global Real Estate Index Series at the close of business on the third Friday (i.e. effective Monday) of March, June, September and December.
- d) The FTSE EPRA/NAREIT Global/Developed/Emerging REIT & Non-REIT Indexes are derived from the FTSE EPRA/NAREIT Global Real Estate Index Series. Hence, at the quarterly review the series are adjusted to represent the changes implemented to the FTSE EPRA/NAREIT Global Real Estate Index Series. Furthermore, each constituent is assigned a REIT or Non-REIT status making it a member of either index. FTSE Russell, with the assistance of EPRA and NAREIT, screens all stocks and assigns the relevant classification on a quarterly basis (see *Appendix 9.4*).

## 14) FTSE EPRA/NAREIT Investment Focus Index Series

- a) The indexes will be reviewed quarterly in March, June, September and December as part of the FTSE EPRA/NAREIT Global Real Estate Index Series.
- b) The quarterly reviews will use data based on the close of business on the Monday 4 weeks prior to the review effective date.
- c) The quarterly reviews will be implemented in line with the FTSE EPRA/NAREIT Global Real Estate Index Series at the close of business on the third Friday (i.e. effective Monday) of March, June, September and December.
- d) The FTSE EPRA/NAREIT Investment Focus Indexes are derived from the FTSE EPRA/NAREIT Global Real Estate Index Series. Hence, at the quarterly review the series is adjusted to represent the changes made to the FTSE EPRA/NAREIT Global Real Estate Index Series. Furthermore, each constituent will be classified as Rental or Non-Rental. EPRA screens all stocks and assigns the relevant classification as detailed in *Appendix 9.5*. A company's Investment Focus classification will be reviewed on an annual basis according to its latest published annual accounts and implemented at the next quarterly review.

## 15) FTSE EPRA/NAREIT Global Sectors Index Series

- a) The indexes will be reviewed quarterly in March, June, September and December as part of the FTSE EPRA/NAREIT Global Real Estate Index Series.
- b) The quarterly reviews will use data based on the close of business on the Monday 4 weeks prior to the review effective date.
- c) The quarterly reviews will be implemented in line with the FTSE EPRA/NAREIT Global Real Estate Index Series at the close of business on the third Friday (i.e. effective Monday) of March, June, September and December.
- d) The FTSE EPRA/NAREIT Global Sector Indexes are derived from the FTSE EPRA/NAREIT Global Real Estate Index Series. Hence, at the quarterly review the series are adjusted to represent the changes made to the FTSE EPRA/NAREIT Global Real Estate Index Series. A company's Property Sector classification will be reviewed on an annual basis according to its latest published annual accounts and implemented at the next quarterly review. FTSE Russell, with the assistance of EPRA and NAREIT, screens all stocks and assigns the relevant classification as detailed in *Appendix 9 6*.

## 16) FTSE EPRA/NAREIT Developed Dividend+ Index Series

- a) The indexes will be reviewed on an annual basis in September in line with the quarterly review of the FTSE EPRA/NAREIT Global Real Estate Index Series.
- b) The annual reviews will use data based on the close of business on the Wednesday before the first Friday of September, taking into account constituent changes in the September quarterly review of the FTSE EPRA/NAREIT Global Real Estate Index Series.
- c) The annual review will be implemented in September after the close of trading on the third Friday (i.e. effective Monday), in line with the FTSE EPRA/NAREIT Global Real Estate Index Series.
- d) At the time of each review, constituents of the FTSE EPRA/NAREIT Global Real Estate Index Series that have available a forecast/estimate one-year dividend yield (see *Appendix 9 16.f*) of two percent or greater are eligible for inclusion into the FTSE EPRA/NAREIT Dividend+ Index Series. If a forecast/estimate one-year dividend yield is not available, FTSE Russell's historical dividend yield data are used.
- e) The FTSE EPRA/NAREIT Dividend+ Indexes will not have a fixed number of constituents.
- f) Forecast/estimate one year dividend yield data are sourced from Thomson Reuters I/B/E/S. For the review, universe constituents that do not have available this information, FTSE Russell's historical dividend yield data are used. Dividend yields are calculated by dividing the one-year dividends per share forecast/estimates by the underlying FTSE Russell stock price at the review data cut-off date. Thomson Reuters I/B/E/S data will be taken from the close of business on the third Thursday of August.

## 17) FTSE EPRA/NAREIT Developed Asia 33 Index

- a) The FTSE EPRA/NAREIT Developed Asia 33 Index will be reviewed semi- annually in June and December.
- b) The Index constituents will be compiled using data after the close of business on the Monday 4 weeks prior to the review effective date, taking into account any changes that would be implemented at the semi annual review.

- c) The index review would be implemented in line with the FTSE EPRA/NAREIT Global Index Series, i.e. after the close of business on the third Friday (i.e. effective Monday) of June and December.
- d) At review the eligible stocks are ranked by their investable market capitalisation (after free float). Any company with REIT status which has an investable market capitalisation of greater or equal to 0.40% of the FTSE EPRA/NAREIT Developed Asia Index will be included into the index until 33 constituents have been selected. If no more REITs satisfy the size rule Non-REITs are ranked by investable market capitalisation and the next highest company is added until 33 constituents are selected.
- e) To provide stability and reduce turnover and costs at review a buffer of 5 stocks either side of the 33 cut-off is implemented.
  - I. A company will be inserted at the periodic review if it rises above the 28th position, when eligible companies are ranked by investable market capitalisation.
  - II. A company will be deleted at the periodic review if it falls below the 38th position, when eligible companies are ranked by investable market capitalisation.
- f) At review a constant number of constituents will be maintained. Where a greater number of companies qualify to be inserted in the index than those qualifying to be deleted, the lowest ranking constituents presently included in the index will be deleted to ensure that an equal number of companies are inserted and deleted at the semi annual review. Likewise, where a greater number of companies qualify to be deleted than those qualifying to be inserted, the securities of the highest ranking companies which are presently not included in the Index will be inserted to match the number of companies being deleted at the semi annual review.
- g) The index will be capped at review, with no stock having a weight greater than 10 per cent of the index and no country greater than 40% of the index. The capping will be calculated using the second Friday's closing prices adjusted for corporate actions, with the constituent shares and investability weightings from the start of trading on the review implementation date (i.e. the next working day following the third Friday).

#### 18) FTSE EPRA/NAREIT Asia ex Japan REITS Index

- a) The indexes will be reviewed quarterly in March, June, September and December as part of the FTSE EPRA/NAREIT Global Real Estate Index Series.
- b) The quarterly reviews will use data based on the close of business on the Monday 4 weeks prior to the review effective date.
- c) The quarterly reviews will be implemented in line with the FTSE EPRA/NAREIT Global Real Estate Index Series at the close of business on the third Friday (i.e. effective Monday) of March, June, September and December.
- d) The index will be capped at review, with no stock having a weight greater than 10 per cent of the index. The capping will be calculated using the second Friday's closing prices adjusted for corporate actions, with the constituent shares and investability weightings from the start of trading on the review implementation date (i.e. the next working day following the third Friday).

## Changes to Constituent Companies of Specialist Indexes

### 19) FTSE EPRA/NAREIT Pure Developed Asia and FTSE EPRA/NAREIT Pure Australia Indexes

- a) Additions into the index series will be applied at the fifth day of trading of the eligible stock.
- b) Intra-review changes will be in-line with the underlying FTSE EPRA/NAREIT Developed Asia Index Series. A constituent will be removed from the FTSE EPRA/NAREIT Pure Developed Asia and FTSE EPRA/NAREIT Pure Australia Indexes if it is also removed from the underlying FTSE EPRA/NAREIT Developed Asia Index Series.
- c) If a constituent is acquired by a non-constituent, the constituent will be removed from the indexes.

### 20) FTSE EPRA/NAREIT Developed Europe Liquid 40 and FTSE EPRA/NAREIT Developed Europe Liquid 40 ex UK Indexes

- a) If, due to a corporate action, the number of constituents deviates from 40, the index is only rebalanced at the quarterly review and not at the time of the corporate action. Hence additions into the indexes will only be applied at the quarterly review since the number of constituents is not fixed at 40 intra review.
- b) Intra-review changes will be in-line with the underlying FTSE EPRA/NAREIT Developed Europe Index. A constituent will be removed from the indexes if it is also removed from the underlying FTSE EPRA/NAREIT Developed Europe Index.

### 21) FTSE EPRA/NAREIT Developed Europe (UK Restricted) Index

- a) Changes and additions into the index series will be applied in-line with the FTSE EPRA/NAREIT Europe Index series.
- b) A constituent will be removed from the FTSE EPRA/NAREIT Developed Europe (UK restricted) Index if it is also removed from the underlying FTSE EPRA/NAREIT Developed Europe Index.
- c) If a constituent is acquired by a non-constituent, the constituent will be removed from the FTSE EPRA/NAREIT Developed Europe (UK restricted) Index.
- d) Where two index constituents merge, or one index constituent is acquired by another constituent, the factor that is applied to the investable market capitalisation is adjusted so that the new entity remains the same weight within the index as the combined remerged index weights. If an index constituent has a complex reorganisation or de-merger, the newly spun-off company will remain eligible for inclusion into the index as long as it remains a constituent in the FTSE EPRA/NAREIT Developed Europe Index. The new spun-off company will retain the same factor as its parent company until the next annual review.

### 22) FTSE EPRA/NAREIT REIT & Non-REIT Indexes

- I. In the case of an initial public offering, when the REIT status of a constituent is unknown, the constituent will enter the FTSE EPRA/NAREIT Non-REIT Index unless:
  - a) The constituent makes a formal announcement that it opts, or complies with, REIT legislation in its country of domicile.
  - b) Or, the constituent qualifies for REIT status in its latest published set of annual accounts.
- II. Intra-review changes will be in line with the underlying FTSE EPRA/NAREIT Global Real Estate Index Series. A constituent will be removed from the FTSE EPRA/NAREIT REIT & Non-REIT Indexes if it is also removed from the underlying FTSE EPRA/NAREIT Index.
- III. Classification changes:

- a) Changes to the classification of a company will be advised by FTSE Russell and the necessary adjustments will be made at the same time that the constituent changes are implemented.
- b) Where a constituent is the subject of a merger, restructure or complex takeover which results in a constituent (or part of a constituent) being absorbed by another constituent, the REIT status of the resulting constituent(s) will be reviewed by FTSE Russell.
- c) Any adjustment resulting from a change in a company's classification will be implemented at the same time that any relevant constituent changes are implemented in the Index.

### **23) FTSE EPRA/NAREIT Investment Focus Index Series**

- I. Additions into the index series will be applied in-line with the FTSE EPRA/NAREIT Developed Index.
- II. Intra-review changes will be in line with the underlying FTSE EPRA/NAREIT Global Real Estate Index Series. A constituent will be removed from the FTSE EPRA/NAREIT Investment Focus Index Series if it is also removed from the underlying FTSE EPRA/NAREIT Developed Index.
- III. Classification changes:
  - a) Changes to the classification (Rental/Non-Rental) of a company will be advised by FTSE Russell and the necessary adjustments will be made at the same time that the constituent changes are implemented.
  - b) Where a constituent is the subject of a merger, restructure or complex takeover which results in a constituent (or part of a constituent) being absorbed by another constituent, the Rental/Non-Rental classification of the resulting constituent(s) will be reviewed by FTSE Russell.
  - c) Any adjustment resulting from a change in a company's classification will be implemented at the same time that any relevant constituent changes are implemented in the Index.

### **24) FTSE EPRA/NAREIT Global Sector Index Series**

- a) Additions into the Index Series will be applied in-line with the FTSE EPRA/NAREIT Developed Index.
- b) Intra-review changes will be in line with the underlying FTSE EPRA/NAREIT Developed Index. A constituent will be removed from the FTSE EPRA/NAREIT Global Sector Index Series if it is also removed from the underlying FTSE EPRA/NAREIT Developed Index.
- c) Classification changes
  - I. Changes to the classification of a company will be advised by FTSE Russell and the necessary adjustments will be made at the same time that the constituent changes are implemented.
  - II. Where a constituent is the subject of a merger, restructure or complex takeover which results in a constituent (or part of a constituent) being absorbed by another constituent, the industry classification of the resulting constituent(s) will be reviewed by FTSE Russell.
  - III. Any adjustment resulting from a change in a company's classification will be implemented at the same time that any relevant constituent changes are implemented in the Index.



## 25) FTSE EPRA/NAREIT Developed Dividend+ Index Series

- a) Additions into the index series will only be applied at the annual review in September.
- b) Intra-review deletions will be in line with the underlying FTSE EPRA/NAREIT Global Index Series. A constituent will be removed from the FTSE EPRA/NAREIT Developed Dividend+ Index Series if it is also removed from the underlying FTSE EPRA/NAREIT Developed Index Series.

## 26) FTSE EPRA/NAREIT Developed Asia 33 Index

- a) When a constituent is added to the FTSE EPRA/NAREIT Global Index Series, it will be considered for inclusion at the next semi annual review. However, a fast entry rule has been put in place to capture any substantial IPOs.
- b) A new issue will be included intra review if the company has a REIT status and is equal or greater than the 10th position company in the index, when companies are ranked by investable market capitalisation. The addition of a new security will be implemented after the close of business on the fifth day of trading and the index will need to be re-capped.
- c) If a constituent of the underlying universe is removed, the constituent will be removed from the Index, where applicable. Where a constituent is removed from the index, it will not be replaced until the next periodic review.
- d) If an index constituent has a complex reorganisation or demerger, the newly spun-off company will not be considered for inclusion in the index unless it remains part of the eligible universe and its investable market capitalisation is greater than the smallest index constituent. If it is eligible for inclusion, the index may have more than 33 constituents until the next semi annual review.
- e) Where two index constituents merge or one Index constituent is acquired by another constituent, a vacancy will be created. The vacancy will not be filled and the index will remain with less than 33 constituents until the next semi annual review. If an index constituent acquires or merges with a non-constituent, the new entity will remain in the index. If an existing constituent is acquired by a non-constituent, the newly created non-constituent will be considered for entry only if it meets all the eligibility criteria.

## 27) FTSE EPRA/NAREIT AIM Index

Securities in the FTSE EPRA NAREIT AIM Index will be tested for liquidity separate to the rest of the Index Series by calculating its velocity trading per month. The velocity trade is calculated by summing each month's daily volumes traded adjusted for the effect of corporate events where appropriate and dividing it by the free float adjusted shares in issue on offer on the last day of the month.

- a) To be eligible for inclusion, non-constituent securities must trade at least 0.25% of their shares in issue (after the application of any free float weightings) based on their velocity trade per month for at least ten of the twelve months prior to the annual review in December.
- b) For existing constituents, securities must trade at least 0.25% of its shares in issue (after the application of any free float weightings) based on its velocity trade per month for at least eight of the twelve months prior to the annual review in December.
- c) A security that is excluded because it fails the liquidity requirement will be excluded from the FTSE EPRA NAREIT AIM Index until the next periodic review.



## **28) FTSE EPRA/NAREIT Super Liquid Index Series**

- a) The FTSE EPRA/NAREIT Super Liquid Index Series will be reviewed annually in March and will consist of the following indexes:
  - FTSE EPRA/NAREIT Developed Super Liquid Index
  - FTSE EPRA/NAREIT Developed Europe Super Liquid Index
  - FTSE EPRA/NAREIT Developed Asia Super Liquid Index
  - FTSE EPRA/NAREIT US Super Liquid Index
- b) Intra-review changes will be in line with the underlying FTSE EPRA/NAREIT Index. A constituent will be removed from the FTSE EPRA/NAREIT Super Liquid Index Series if it is also removed from the underlying FTSE EPRA/NAREIT Index.
- c) Please refer to the FTSE Super Liquid Index Series Ground Rules for more information.

## **29) FTSE EPRA/NAREIT Asia ex Japan REITS Index**

- a) Additions into the index series will be applied in-line with the FTSE EPRA/NAREIT Global Real Estate Index.
- b) Intra-review changes will be in line with the underlying FTSE EPRA/NAREIT Global Real Estate Index Series.

## Appendix 10: Status of Real Time Indexes

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The FTSE EPRA/NAREIT Global Real Estate indexes that are calculated in real time (see *Appendix 2*) are made available with one of the following designations:

**A) Firm**

- i) The indexes are active and being calculated during Official Market Hours using prices on the eligible exchanges. No message will be displayed against the index value.
- ii) The Official Closing Prices for the indexes will be based on Exchange Official Closing Prices for each country.

**B) Closed**

The indexes have ceased all calculations for the day. The message 'CLOSE' will be displayed against the index value calculated by FTSE Russell.

**C) Held**

During Official Market Hours, an index has exceeded pre-set operating parameters, and the calculation has been suspended pending resolution of the problem. The message 'HELD' will be displayed against the last index value calculated by FTSE Russell.

**D) Indicative**

If there is a system problem or situation in the market that is judged to affect the quality of the constituent prices at any time when an index is being calculated, the index will be declared indicative (e.g., normally where a 'fast market' exists in the equity market). The message 'IND' will be displayed against the index value calculated by FTSE Russell.

## Appendix 11: Further Information

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

[Glossary.pdf](#)

Further information on the FTSE EPRA/NAREIT Global Real Estate Index Series is available from FTSE Russell on [www.ftserussell.com](http://www.ftserussell.com). Contact details can also be found on this website.

### EPRA

Further information on the real estate screening criteria and EPRA are available on [www.epra.com](http://www.epra.com). Contact details can also be found on this website.

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