

**METHODOLOGY FOR THE  
MANAGEMENT OF THE**

**FTSE RAFI**  
**(Research Affiliates Fundamental Index)**  
**INDEX SERIES**

**RESEARCH AFFILIATES**



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## SECTION 1

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### 1.0 INTRODUCTION

- 1.1 This paper sets out the methodology for the management of the FTSE RAFI Index Series, which is calculated in association with Research Affiliates.
- 1.2 The FTSE RAFI Index Series weights index constituents using specific fundamental factors (see section 4.0), rather than market capitalization. The weights are therefore not dependent upon price-based stock market-based valuations.
- 1.3 The following indices are calculated:
- FTSE RAFI US 1000 Index (a currency hedged version is also available)
  - FTSE RAFI US Industry Indices
  - FTSE RAFI US 1500 Index
  - FTSE RAFI North America
  - FTSE RAFI Global ex US 1000 Index
  - FTSE RAFI Kaigai 1000 Index
  - FTSE RAFI Country Indices (a currency hedged version is also available for Japan)
  - FTSE RAFI Regional Indices
- 1.4 All FTSE RAFI Indices are calculated end of day. The following FTSE RAFI Indices are calculated in real time, and disseminated every 15 seconds.
- FTSE RAFI 1000 Index
  - FTSE RAFI US 1500 Index
  - FTSE RAFI US Industry Indices
  - FTSE RAFI Global ex US 1000 Index
  - FTSE RAFI Eurozone Index
  - FTSE RAFI Canada Index
- 1.5 Capital and Total Return indices are calculated.
- 1.6 Unless specifically detailed in this document, all areas of methodology relating to the management of the FTSE RAFI Index Series are as detailed in the FTSE Global Equity Index Series Ground Rules. The FTSE RAFI Index Series methodology should therefore be read in conjunction with the FTSE GEIS Ground Rules. These rules are available on [www.ftse.com](http://www.ftse.com).

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## **SECTION 2**

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### **2.0 INDEX MANAGEMENT**

- 2.1 FTSE is responsible for the calculation of the FTSE RAFI Index Series. FTSE will maintain records of the weightings of all constituents and will make changes to the constituents and their weightings in accordance with this methodology. FTSE will implement constituent changes resulting from the annual review, or as otherwise required by this methodology.

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## SECTION 3

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### 3.0 ELIGIBLE SECURITIES

3.1 The universe of eligible constituents is the FTSE Global Equity Index Series (GEIS).

### 3.2 FTSE RAFI US 1000 Index

The FTSE RAFI US 1000 Index will consist of the 1000 US-listed companies with the largest fundamental value, selected from the constituents of the FTSE USA All Cap Index, part of the FTSE Global Equity Index Series (GEIS). There is also a currency hedged version of the FTSE RAFI US 1000 Index hedged into Canadian Dollars. For further information on FTSE's currency hedging methodology please contact FTSE directly (see Section 7).

### 3.3 FTSE RAFI US 1500 Index

The FTSE RAFI US 1500 Index will consist of the constituents of the FTSE USA All Cap Index excluding the FTSE RAFI US 1000 Index.

### 3.4 FTSE RAFI US Industry Indices

The FTSE RAFI US Industry Indices will comprise of the constituents of the FTSE RAFI US 1000 Index and will be broken down into the following ICB industries: Oil & Gas (0001), Basic Materials (1000), Industrials (2000), Consumer Goods (3000), Health Care (4000), Consumer Services (5000), Telecommunications & Technology (6000 and 9000), Utilities (7000), Financials (8000).

### 3.5 FTSE RAFI North America Index

The FTSE RAFI North America Index will consist of the constituents of FTSE RAFI US 1000 Index and the FTSE RAFI Canada Index. The FTSE RAFI Canada Index consists of Canadian companies from the FTSE RAFI Global ex US 1000 Index (see Rule 3.11 below).

### 3.6 FTSE RAFI Global ex US 1000 Index

The FTSE RAFI Global ex US 1000 Index will consist of the 1000 non US-listed companies with the largest fundamental value, selected from the constituents of the FTSE Developed ex US Index.

### 3.7 FTSE RAFI Kaigai 1000 Index

The FTSE RAFI Kaigai 1000 Index will consist of the 1000 non Japan-listed companies with the largest fundamental value, selected from the constituents of the FTSE Developed ex Japan Index.

### 3.8 FTSE RAFI Europe Index

The FTSE RAFI Europe Index will consist of constituents from each European country in the FTSE RAFI Global ex US 1000 Index.

### 3.9 FTSE RAFI Europe ex UK & Switzerland Index

The FTSE RAFI Europe ex UK & Switzerland Index will consist of constituents from each European country but excludes the UK and Switzerland in the FTSE RAFI Global ex US 1000 Index.

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## **SECTION 3**

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### **3.10 FTSE RAFI Eurozone Index**

The FTSE RAFI Eurozone Index will consist of each Euro denominated country in the FTSE RAFI Global ex US 1000 Index.

### **3.11 FTSE RAFI Country Indices**

The FTSE RAFI Country Indices will consist of the constituents from each country of the FTSE RAFI Global ex US 1000 Index. There is also a currency hedged version of the FTSE RAFI Japan Index hedged into Canadian dollars. For further information on FTSE's currency hedging methodology please contact FTSE directly (see Section 7).

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## SECTION 4

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### 4.0 ANNUAL REVIEW OF CONSTITUENTS

- 4.1 The FTSE RAFI Index Series will be reviewed annually based on data as at the close of business on the Tuesday following the first Friday of March, taking into account any additions and deletions planned in the underlying indices.
- 4.2 Changes arising from the annual review will be implemented after the close of the index calculation on the third Friday of March each year.
- 4.3 The review of the FTSE RAFI Index Series, and the calculation of the fundamental weighting of a company is carried out as follows, using the following factors as found in a company's annual returns:

<i>Sales</i>	= company sales averaged over the prior five years
<i>Cash Flow</i>	= company cash flow averaged over the prior five years
<i>Book Value</i>	= company book value at the review date
<i>Dividends</i>	= total dividend distributions averaged over the last five years

(A more detailed description of these four factors is given in Section 6 of these rules.)

- 4.4 The fundamental value is calculated for each company as a whole, rather than for individual securities issued by the company. Where a single company is represented within the above indices by two or more lines of stock, the company's fundamental value is allocated between these lines of stock in proportion to their free float-adjusted market capitalizations as of the date of the rebalancing.
- 4.5 Fundamental data that is not yet available and/or cannot be derived from pre-existing companies, for example, companies such as recent listings, or recently merged companies or investment entities that do not report the necessary fundamental values will be ineligible for the FTSE RAFI Index review.

### 4.6 Steps to be followed

- a) Using a stock universe comprising all stocks of the FTSE USA All Cap and FTSE Developed Indices:
- b) Calculate the percentage representation of each stock using only Sales figures.
- c) Calculate the percentage representation of each stock using Cash Flow figures.
- d) Calculate the percentage representation of each stock using Book Value.
- e) Calculate the percentage representation of each stock using Dividends. (A stock that has not paid a dividend in the past five years will have a percentage representation of zero.)
- f) For a stock with a non-zero dividend percentage, that stock's RAFI fundamental value is defined as 10,000,000 times the average of the four percentage representation figures. For a stock with a zero dividend percentage, that stock's RAFI fundamental value is defined as 10,000,000 times the average of the three remaining percentage representation figures (for sales, cash flow, and book value).
- g) Rank all stocks in the descending order of their RAFI fundamental values.

- h) Select the largest 1000 US companies by RAFI fundamental value. These will be the FTSE RAFI US 1000 Index constituents, and their weights in this index will be set proportional to their fundamental values.
- i) Divide the RAFI fundamental value of each company by its free-float adjusted market capitalisation. This is the weighting factor for use in the index calculation.
- j) The remaining US companies that are not selected for inclusion in the FTSE RAFI US 1000 Index will become members of the FTSE RAFI US 1500 Index constituents and their weights in this index will be set proportional to their fundamental values. Step 9 is then repeated.
- k) Select the largest 1000 non-US companies by RAFI fundamental value. These will be the FTSE RAFI Global ex US 1000 Index constituents and their weights in this index will be set proportional to their fundamental values. Step 9 is then repeated.
- l) Select the largest 1000 non-Japanese companies from the FTSE Developed Index by RAFI fundamental value. These will be the FTSE RAFI Kaigai 1000 Index constituents, and their weights in this index will be set proportional to their fundamental values. Step 9 is then repeated.

A full list of indices for the FTSE RAFI Index Series can be found in Section 3.

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## SECTION 5

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### 5.0 CHANGES TO CONSTITUENT COMPANIES

#### 5.1 Additions

- 5.1.1 When a constituent is added to the underlying index universe indices the constituent will be considered for inclusion at the next annual review of the FTSE RAFI Index Series.

#### 5.2 Deletions

- 5.2.1 If a constituent of the underlying universe is removed from either the FTSE USA All Cap Index or from the FTSE Developed Index, the constituent will be removed concurrently from the relevant FTSE RAFI Index Series.

#### 5.3 Splits / Demergers

- 5.3.1 If a constituent company is split and forms two or more companies, and any of the new entities are retained in either the FTSE USA All Cap Index or the FTSE Developed Index, those new entities will be retained in the FTSE RAFI Index Series with their FTSE RAFI factors calculated such that their overall percentage representation within the relevant FTSE RAFI Index remains the same.

#### 5.4 Mergers / Takeovers

- 5.4.1 If an existing constituent is acquired for eligible shares (or a combination of eligible shares and cash) by another constituent, the constituent being acquired is deleted on the effective date of the acquisition. The enlarged company will remain a constituent of the relevant FTSE RAFI Index with its FTSE RAFI factor adjusted such that the new entity retains the same overall percentage representation within the relevant FTSE RAFI Index as the sum of the pre-merger entities.
- 5.4.2 If an index constituent acquires or merges with a non-constituent, the new entity will remain in the index with an unchanged RAFI factor.
- 5.4.3 If an existing constituent is acquired by a non-constituent, for stock, and the non-constituent is added to the underlying FTSE universe index, the non-constituent will be added to the relevant FTSE RAFI indices with its FTSE RAFI factor adjusted such that the new constituent retains the same index weight as the original constituent. If the event involves cash only, the constituent will be deleted and the non-constituent will not be added.

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## SECTION 6

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### 6.0 FTSE RAFI Index Series Calculations

- 6.1 The FTSE RAFI Fundamental value for each stock is applied to the calculation by way of the FTSE RAFI adjustment factor,  $c_i$ . This factor adjusts the conventional investable market capitalisation of the constituent to the FTSE RAFI Fundamental Weight of the constituent. It is calculated by dividing the FTSE RAFI fundamental value for each stock by its free-float adjusted market capitalisation.
- 6.2 The application of the FTSE RAFI adjustment factor to the conventional investable market capitalisation ensures that any actions that may impact the price of a constituent (such as rights or scrip issues) are accounted for.

Thus:-

$$\frac{\sum_{i=1}^n ((p_i \cdot e) \cdot s_i \cdot f_i \cdot c_i)}{d}$$

*For other factors in this formula please refer to the FTSE GEIS Ground Rules.*

### 6.3 Descriptions of the RAFI Factors

*Sales* = *company sales averaged over the prior five years*

*Cash Flow* = *company cash flow averaged over the prior five years, defined as Operating Income plus Depreciation*

*Book Value* = *company book value at the review date*

*Dividend* = *total dividend distributions averaged over the last five years, including both special and regular dividends paid in cash*

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**SECTION 7**

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**7.0 Further information on the FTSE RAFI Index Series**

7.1 Further information on the FTSE RAFI Index Series is available from FTSE

7.2 Enquiries should be addressed to:

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