
FTSE RAFI Methodology Enhancements

Executive summary

- FTSE Russell will be enhancing the methodology of the FTSE RAFI Index Series and FTSE RAFI QSR Index Series. It has announced the following changes:
 - 1) The inclusion of phased deletions as part of the FTSE RAFI QSR Index Series
 - 2) Enhancements to the treatment of mergers and takeovers
- To support these enhancements FTSE Russell will create new index product files starting in September 2017.
- These products will be provided daily until they will replace the existing FTSE RAFI index product files on 1 March 2018.
- All methodology changes are effective at the March 2018 review



Contents

1.	What changes have been announced?	3
2.	When are the changes effective?	4
3.	Why change the corporate action treatments for FTSE RAFI Indexes?	4
4.	Why include deletions as part of the QSR process?	5
5.	Why do the FTSE RAFI products need changing?	6
6.	What is the timeline for changing the FTSE RAFI index product files?	6
7.	Is there a list of indexes impacted by the FTSE RAFI index product file changes?	7
8.	Where can I get the format for the new index product files?	7
9.	Are customised indexes impacted by the FTSE RAFI methodology and index product file changes?	7
10.	Where can I find further information on the changes that have been announced?	7



Section 1

FTSE RAFI Methodology Enhancements

1. What changes have been announced?

FTSE Russell will be enhancing the methodology of the FTSE RAFI Index Series and FTSE RAFI QSR Index Series, following feedback from the FTSE RAFI methodology enhancements consultation conducted in Q4 2016. These changes will be effective at the March 2018 index review.

A summary of the changes are included below:

- 1) The inclusion of phased deletions as part of the FTSE RAFI QSR Index Series

The FTSE RAFI QSR Index Series currently phases the annual March index weighting changes and constituent additions as part of the quarterly rebalance. From March 2018, weighting changes, constituent additions and deletions arising from the annual review will be implemented as part of the quarterly rebalance.

- 2) Enhanced treatment of mergers and takeovers

All mergers in the FTSE RAFI Index Series and FTSE RAFI QSR Index Series are treated as cash mergers. From March 2018, FTSE Russell will update the treatment of mergers and takeovers to apply a consistent treatment across all non-market capitalisation weighted indexes.

For example, a company that results from an all stock merger/takeover between index constituents will remain a constituent of the relevant index at the combined weight of the pre-merger/takeover entities. Previously the acquired company would have been deleted and the proceeds redistributed across the index.

Full details of changes to constituent companies due to corporate actions and events can be accessed in the Corporate

Actions and Events Guide for Non Market Cap Weighted Indexes using the following link:

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

To support this change in the treatment of mergers and takeovers, FTSE Russell will update the index products to allow each index to have a unique set of Weight Adjustment Factors (WAF). The WAF is used to achieve the appropriate index weightings in the FTSE RAFI Index Series and FTSE RAFI QSR Index Series.

Due to the large number of index product files impacted, FTSE Russell will provide parallel index products starting on 29 September 2017 using a new consistent format to incorporate the Weight Adjustment Factor. These products will be provided daily until they replace the existing FTSE RAFI index product files on 1 March 2018.

Further information was provided with the client notice, including for each FTSE RAFI index a list of impacted products and the associated parallel versions.

2. When are the changes effective?

The methodology enhancements will be effective after the close of business on 16 March 2018. After this date FTSE Russell will have a standard corporate treatment across all its non-market cap weighted indexes for mergers and takeovers.

The legacy FTSE RAFI index product files will no longer be disseminated after 28 February 2018. The FTSE RAFI index product files that were provided from September 2017 will continue dissemination after this date.

3. Why change the corporate action treatments for FTSE RAFI Indexes?

Currently all mergers in the FTSE RAFI Index Series and FTSE RAFI QSR Index Series are treated as cash mergers.

For example, Company A and Company B are existing index constituents. Company A has an index weight of 2%, it acquires Company B for stock that also has an index weight of 2%. On the effective date of the merger, Company A will remain a constituent of the index and Company B's shares will be sold and the proceeds redistributed across the index.

Applying this merger treatment potentially causes additional turnover as at the next annual review the index constituent may increase/decrease in size due to the combined company fundamental values. The preference would be to allow the corporate event to take place and adjust its weight at the next review.

FTSE Russell from March 2018 will treat the above example as a zero turnover event. On the effective date of the merger Company A

will increase in weight to 4% and its fundamental values reassessed at the next annual review.

From 19 March 2018, FTSE Russell will update the treatment of mergers and takeovers to apply a consistent treatment across all non-market capitalisation weighted indexes.

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

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

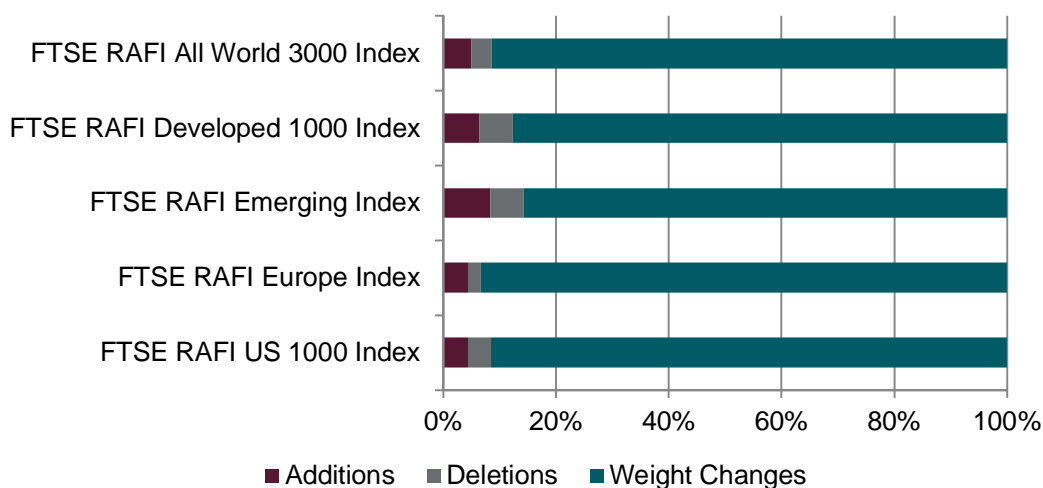
4. Why include deletions as part of the QSR process?

Currently the FTSE RAFI QSR Index Series applies weighting changes and constituent additions arising from the FTSE RAFI annual review in four stages in March, June, September and December. Index deletions are applied immediately at the March annual review and therefore not included as part of the FTSE RAFI QSR tranching process.

From March 2018 the FTSE RAFI QSR Index Series will apply in four stages: weighting changes, constituent additions and deletions arising from the FTSE RAFI annual review.

Chart 1: FTSE RAFI Top 5 Indexes by AUM

Turnover Attribution as a Proportion of Total Turnover (%) - March 2017



Source: FTSE Russell

Chart 1 provides a breakdown of the turnover for the five largest FTSE RAFI indexes by AUM at the March 2017 annual review. The absolute weight changes due to the buying and selling of existing constituents on average represents just under 90% of the total turnover.

The remaining 10% of the total turnover is on average 5.7% for additions and 4.4% for deletions (a 56% / 44% split).

Deletions have a similar turnover to the companies they are replacing justifying their inclusion into the FTSE RAFI QSR process.

5. Why do the FTSE RAFI index product files need changing?

The majority of FTSE RAFI indexes currently share the same Weight Adjustment Factor (WAF). The WAF is applied to the investable market capitalisation (share price multiplied by the shares-in-issue and free float) of each constituent to achieve the appropriate index weightings.

The index weight of FTSE RAFI constituents generally should not be affected by notional market capitalisation changes, arising as a result of corporate events and should typically be treated as 'notional market capitalisation neutral'. This is achieved by adjusting the WAF.

To support the change in the treatment of mergers and takeovers (see question 3), FTSE Russell will update the index product files in the FTSE RAFI Index Series and FTSE RAFI QSR Index Series to allow each index to have a unique set of Weight Adjustment Factors (WAF). For each index a consistent product file format will be provided to support the change.

6. What is the timeline for changing the FTSE RAFI products?

FTSE Russell announced the methodology changes on 27 July 2017.



On 29 September 2017 for every FTSE RAFI and FTSE RAFI QSR index new product files will be provided via FTSE Russell's FTP account and run in parallel on a daily basis with the existing index product files.

The last day of calculation for the legacy FTSE RAFI and FTSE RAFI QSR index product files will be on 28 February 2018 with the new index product files continuing to calculate after this date.

7. Is there a list of indexes impacted by the FTSE RAFI index product file changes?

All FTSE RAFI and FTSE RAFI QSR indexes are impacted by the announced product file changes. For each FTSE RAFI and FTSE RAFI QSR indexes a list of old and new product files are provided to allow users to understand the new file names and ftp paths. The list of existing and new index product files was included as part of the client notice and can be provided by contacting FTSE Russell.

8. Where can I get the format for the new index product files?

The format of the new FTSE RAFI and FTSE RAFI QSR index product files was included as part of the client notice and can be provided by contacting FTSE Russell.

9. Are customised indexes impacted by the FTSE RAFI methodology and index product file changes?

Yes, customised indexes are impacted by the FTSE RAFI methodology and index product file changes. Further information can be provided by contacting FTSE Russell.

10. Where can I find further information on the changes that have been announced?

Further information on the changes announced that are outlined in this FAQ can be provided by contacting FTSE Russell on info@ftserussell.com.

For more information about our indexes, please visit ftserussell.com.

© 2017 London Stock Exchange Group plc and its applicable group undertakings (the "LSE Group"). The LSE Group includes (1) FTSE International Limited ("FTSE"), (2) Frank Russell Company ("Russell"), (3) FTSE TMX Global Debt Capital Markets Inc. and FTSE TMX Global Debt Capital Markets Limited (together, "FTSE TMX") and (4) MTSNext Limited ("MTSNext"). All rights reserved.

The FTSE RAFI Index Series is calculated by FTSE or its agent. All rights in the Index Series vest in FTSE. All rights in and to the Research Affiliates, LLC fundamental weighting methodology used in the calculation of the FTSE RAFI (Research Affiliates Fundamental) Indexes vest in Research Affiliates, LLC.

FTSE Russell[®] is a trading name of FTSE, Russell, FTSE TMX and MTS Next Limited. "FTSE[®]", "Russell[®]", "FTSE Russell[®]", "MTS[®]", "FTSE TMX[®]", "FTSE4Good[®]" and "ICB[®]" and all other trademarks and service marks used herein (whether registered or unregistered) are trade marks and/or service marks owned or licensed by the applicable member of the LSE Group or their respective licensors and are owned, or used under licence, by FTSE, Russell, MTSNext, or FTSE TMX.

The trade names Fundamental Index, RAFI, and the Research Affiliates corporate name and logo among others are the exclusive intellectual property of Research Affiliates, LLC. Any use of these trade names and logos without the prior written permission of Research Affiliates, LLC is expressly prohibited. Research Affiliates, LLC reserves the right to take any and all necessary action to preserve all of its rights, title and interest in and to these terms and logos.

Fundamental Index, the non-capitalization method for creating and weighting of an index of securities, is the patent-pending proprietary intellectual property of Research Affiliates, LLC (Patent Pending. Publ. Nos. US-2005-0171884-A1, US-2006-0015433-A1, US-2006-0149645-A1, WO 2005/076812, and UK Patent Office Publ. No. 2426098

All information is provided for information purposes only. Every effort is made to ensure that all information given in this publication is accurate, but no responsibility or liability can be accepted by any member of the LSE Group nor their respective directors, officers, employees, partners or licensors for any errors or for any loss from use of this publication or any of the information or data contained herein.

No member of the LSE Group nor their respective directors, officers, employees, partners or licensors make any claim, prediction, warranty or representation whatsoever, expressly or impliedly, either as to the results to be obtained from the use of the FTSE Russell Indexes or the fitness or suitability of the Indexes for any particular purpose to which they might be put.

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

No part of this information may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior written permission of the applicable member of the LSE Group. Use and distribution of the LSE Group index data and the use of their data to create financial products require a licence from FTSE, Russell, FTSE TMX, MTSNext and/or their respective licensors.

Past performance is no guarantee of future results. Charts and graphs are provided for illustrative purposes only. Index returns shown may not represent the results of the actual trading of investable assets. Certain returns shown may reflect back-tested performance. All performance presented prior to the index inception date is back-tested performance. Back-tested performance is not actual performance, but is hypothetical. The back-test calculations are based on the same methodology that was in effect when the index was officially launched. However, back- tested data may reflect the application of the index methodology with the benefit of hindsight, and the historic calculations of an index may change from month to month based on revisions to the underlying economic data used in the calculation of the index.

This publication may contain forward-looking statements. These are based upon a number of assumptions concerning future conditions that ultimately may prove to be inaccurate. Such forward-looking statements are subject to risks and uncertainties and may be affected by various factors that may cause actual results to differ materially from those in the forward-looking statements. Any forward-looking statements speak only as of the date they are made and no member of the LSE Group nor their licensors assume any duty to and do not undertake to update forward-looking statements.

About FTSE Russell

FTSE Russell is a leading global index provider creating and managing a wide range of indexes, data and analytic solutions to meet client needs across asset classes, style and strategies. Covering 98% of the investable market, FTSE Russell indexes offer a true picture of global markets, combined with the specialist knowledge gained from developing local benchmarks around the world.

FTSE Russell index expertise and products are used extensively by institutional and retail investors globally. \$12.5 trillion is currently benchmarked to FTSE Russell indexes. For over 30 years, leading asset owners, asset managers, ETF providers and investment banks have chosen FTSE Russell indexes to benchmark their investment performance and create investment funds, ETFs, structured products and index-based derivatives. FTSE Russell indexes also provide clients with tools for asset allocation, investment strategy analysis and risk management.

A core set of universal principles guides FTSE Russell index design and management: a transparent rules-based methodology is informed by independent committees of leading market participants. FTSE Russell is focused on index innovation and customer partnership applying the highest industry standards and embracing the IOSCO Principles. FTSE Russell is wholly owned by London Stock Exchange Group.

For more information, visit ftserussell.com.

To learn more, visit ftserussell.com; email info@ftserussell.com; or call your regional Client Service Team office:

EMEA

+44 (0) 20 7866 1810

North America

+1 877 503 6437

Asia-Pacific

Hong Kong +852 2164 3333

Tokyo +81 3 3581 2764

Sydney +61 (0) 2 8823 3521