FTSE Russell

FTSE RAFI™ Index Series Methodology Enhancements

ftserussell.com

October 2016

Important information

FTSE Russell is not an investment firm and this presentation is not advice about any investment activity. None of the information in this presentation or reference to a FTSE Russell index constitutes an offer to buy or sell, or a promotion of, a security. This presentation is solely for informational purposes. Accordingly, nothing contained in this presentation is intended to constitute legal, tax, securities, or investment advice, nor an opinion regarding the appropriateness of making any investment through our indexes.

FTSE Russell

FTSE RAFI™ Index Series Methodology Enhancements Summary

- Overview
- Single Review Universe
- Regional Review Process
- Regional Universe Banding
- Constituent Selection and Weighting
- Phased deletions within the QSR indexes
- Estimated Turnover and Number of Holdings
- Proposed Timeline

FTSE RAFI™ Index Series

Overview

- FTSE and Research Affiliates[®] launched the FTSE RAFI™ Index Series in 2005 comprised of:
 - FTSE RAFI™ US 1000 Index
 - FTSE RAFI™ Developed ex-US 1000 Index
- There are currently over 100+ indexes within the FTSE RAFI™ Index Series
- FTSE Russell and Research Affiliate's[®] indexes are currently used as the basis of over \$90 billion in investment products¹
- The proposed methodology enhancements will be implemented during the March 2017 Index Review

The proposed methodology enhancements will simplify methodology and index construction while streamlining the ongoing maintenance of the FTSE RAFI™ Index Series.

^{1 &}quot;FTSE Russell Benchmark AUM" report as of December 31, 2015

Single Review Universe

Issue: The current methodology used to construct FTSE RAFI™ Index Series is not globally consistent and relies on various starting universes.

Current Approach	Proposed Approach				
Country indexes are built separately using individual country-level indexes such as:	Single starting universe for entire FTSE RAFI™ suite consisting of:				
FTSE All-Share Index (UK)	FTSE Global All Cap Index				
FTSE ASFA Australia All-Share Index	Russell 3000® Extended Index				
FTSE/JSE Africa All-Share Index	FTSE ASFA Australia All-Share Index				
	FTSE UK All-Share Index				
	FTSE/JSE All Share Index				

Benefit

The proposed methodology enhancements will provide a transparent and consistent framework for the FTSE RAFI™ Index Series. The new methodology will allow users to tailor their requirements and address future needs in an easy to understand building block approach.

Q1. Do you agree with moving to a single review universe to be used as the basis of constructing all FTSE RAFI™ Indexes?

Regional Review Process

Issue: The current methodology relies on a fixed number of securities to determine index membership.

Current Approach	Proposed Approach			
FTSE RAFI™ Index Series are constructed using different approaches:	Six regions will be constructed from the starting universe: US, UK, Japan, Developed Europe ex-UK, remaining Developed countries, remaining			
 All regional and some country indexes are built using a fixed number of securities 	Emerging countries.			
 Developed country indexes (excluding US) are built as a carve out of the FTSE RAFI™ Developed ex-US 1000 index. 	Individual indexes will be built from each region using a fixed percentage of cumulative unadjusted FTSE RAFI™ weight as follows: • Large Company: Top 68% • Mid Company: 68% - 86% • Small Company: 86% - 98%			

Benefit

Allows for consistent and deeper selection within regions and a clearer representation of regions within global indexes. Increased capacity for the FTSE RAFI™ Emerging Markets Index.

Q2. Do you favor constructing the FTSE RAFI™ indexes using a fixed cumulative weight percentage as opposed to a fixed number of stocks?

Regional Universe Banding

Issue: The current methodology does not utilize banding to limit migration of index members across indexes.

Current Approach	Proposed Approach		
The FTSE RAFI™ Indexes do not currently employ banding.	Existing constituents of any region will remain in the portfolio as long as they fall within a fixed percentage range of cumulative unadjusted FTSE RAFI™ weights as follows: • Large Company: 71% • Mid Company: 89% • Small Company: 99%		

Benefit

Reduced turnover leading to lower cost of implementation.

Q3. Are you in favor of using a banding approach to limit index membership changes?

Constituent Selection and Weighting

Issue: The current methodology excludes companies with small float.

Current Approach	Proposed Approach
Companies are both selected and weighted by float/liquidity adjusted FTSE RAFI™ weight.	Eligible companies are selected based on unadjusted FTSE RAFI™ weight, i.e. before applying free float or liquidity adjustment.
As a result, large companies with small float are not represented in large company indexes	Selected companies are then assigned a weight based on free-float and liquidity adjusted FTSE RAFI™ weights.

Benefit

Allows for accurate representation of large companies even if their free floats are smaller.

Aligns our methodology with that of parent FTSE Russell benchmarks and other standard industry benchmarks.

Q4. Do you agree with qualifying eligible companies based on their weight prior to applying free float or liquidity adjustment?

Phased Deletions within FTSE RAFI™ QSR Index Series

Issue: The current treatment of index deletions is inconsistent across various FTSE RAFI™ indexes.

Current Approach	Proposed Approach			
Deletion of securities for the FTSE RAFI™ QSR Index Series occurs immediately at index reconstitution on the third Friday of March.	Deletion of securities from the index will be phased out across each quarterly rebalance.			

Benefit

Improved implementation as securities are phased out over time versus sold immediately.

Creates consistency between the FTSE RAFI™ Index Series and the FTSE RAFI™ Low Volatility Index Series.

Q5. Do you favor a single approach to security deletions that allows for a phased removal of stocks from the FTSE RAFI™ QSR Index Series?

Estimated Turnover and Holdings

	Metho	dology	One Way Turnover (%) at Reconstitution		Number of Securities at Reconstitution			
Region	Current	Proposed	Current	Proposed	Incremental	Current	Proposed	Incremental
All-World	Top 3000	Top 86%	10.7	13.3	2.6	3038	2361	-677
Developed	Top 1000	Top 86%	9.9	14.4	4.5	1019	1803	784
Developed ex US	Top 1000	Top 86%	9.9	12.2	2.3	1016	1137	121
Developed ex US Small	1001 to 2500	86% to 98%	23.7	33.5	9.8	1500	1536	36
Europe	Dev ex US	Top 86%	9.2	11.9	2.6	481	349	-132
Eurozone	Dev ex US	Top 86%	11.4	12.4	1.0	253	209	-44
Emerging	Top 350	Top 86%	17.0	20.4	3.4	360	558	198
UK	Top 300	Top 98%	8.3	13.2	4.9	302	286	-16
US	Top 1000	Top 86%	8.8	11.3	2.5	1008	666	-342
US Small	1001 to 2500	86% to 98%	22.1	58.0	35.8	1500	1162	-338
Canada	Top 100	Top 86%	10.4	10.3	-0.1	101	101	0

FTSE Russell

Proposed Timeline

- 21 October 2016:
 - Complete Client Consultation
- November 2016:
 - Notify clients regarding proposed methodology enhancements
- December 2016 / January 2017:
 - Provide clients with sample files
- 15-January 28-February 2017:
 - Conduct parallel testing and file delivery
- 17-March-2017:
 - Implement new FTSE RAFI™ Index Series methodology and file deliverables

Q6. Does the proposed timeline provide sufficient time to implement the methodology enhancements and new file deliverables?

About FTSE Russell

FTSE Russell is a leading global provider of benchmarking, analytics and data solutions for investors, giving them a precise view of the market relevant to their investment process. A comprehensive range of reliable and accurate indexes provides investors worldwide with the tools they require to measure and benchmark markets across asset classes, styles or strategies.

FTSE Russell index expertise and products are used extensively by institutional and retail investors globally. 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 ETFs, structured products and index-based derivatives.

FTSE Russell is focused on applying the highest industry standards in index design and governance, employing transparent rules-based methodology informed by independent committees of leading market participants. FTSE Russell fully embraces the IOSCO Principles and its Statement of Compliance has received independent assurance. Index innovation is driven by client needs and customer partnerships, allowing FTSE Russell to continually enhance the breadth, depth and reach of its offering.

FTSE Russell is wholly owned by London Stock Exchange Group.

For more information, visit <u>www.ftserussell.com</u>

Important information

© 2016 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.

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.

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

FTSE Russell 13



Thank you

