



FTSE Global Equity Index Series (FTSE GEIS) Guide to Calculation Method for the Median Liquidity Test

v1.5



Contents

1.0 Purpose of the Guide	3
2.0 Liquidity Screening Process.....	4
3.0 Liquidity Calculation Method.....	7
Appendix A: Pro-rata Pass Requirements for New Issues	9
Appendix B: FTSE GEIS Liquidity-Test Cases.....	10
Appendix C: Further Information	11



Section 1

Purpose of the Guide

1.0 Purpose of the Guide

1.1 The aims of the guide are:

1. to describe how the liquidity test is conducted;
2. to make it easier for users to replicate the liquidity test in order to support their investment and trading activities.



Section 2

Liquidity Screening Process

2.0 Liquidity Screening Process

2.1 With reference to FTSE GEIS liquidity rule 7.4.2:

- A. Each security will be tested for liquidity semi-annually in March and September
 - a. For the March review liquidity will be tested from the first business day of January to the last business day of December of the previous year.
 - b. For the September review liquidity will be tested from the first business day of July of the previous year to the last business day of June of the current year.
- B. Each security will be tested for liquidity by calculation of its median daily trading per month.
- C. When calculating the median of daily trades per month a minimum of 5 trading days in each month must exist, otherwise the month will be ignored and not used in the count. The liquidity test will be applied on a pro-rata basis where the testing period is less than 12 months. Please refer to **Appendix A**.
- D. The median trade is calculated by ranking each daily trade total and selecting the middle ranking day.
- E. 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 trade.
- F. Only exchange trading days will be included in the calculation i.e. exchange holidays will be excluded.
- G. Periods of suspension will not be included in the test.
- H. For newly eligible securities where testing period is less than 12 months, the liquidity test will be applied on a pro-rata basis.
- I. The 0.04% and 0.05% percentage parameters may be adjusted by up to 0.01% at a market review so that, in FTSE's opinion, the index better reflects the liquid investable market.
Any adjusted percentage parameters will be maintained until the next semi-annual review.
- J. Trading volume:
 - a. In assessing liquidity, data will be aggregated from trading volume in the country in which the company is classified by FTSE and from any other trading venues, as approved by

FTSE, operating in a similar time zone. In the event that a company fails the liquidity test based on its underlying shares, and the company has an equivalent Depositary Receipt (DR) then the DR may be considered for inclusion in the index if it passes the liquidity test in its own right and is traded on an exchange within the similar regional time-zone to where the underlying shares are listed.

- b. Where a company has both DR and underlying shares listed, both lines will be tested separately for liquidity. The underlying share will be included as long as it passes the liquidity test in its own right. The DR will only be eligible for inclusion if the underlying share fails the liquidity test and the DR passes in its own right.
- c. Where the DR has been included it will remain in the index until such a time it either fails the liquidity test or the underlying share passes a future liquidity test with greater liquidity than the DR.
- d. In the event that the underlying share fails the liquidity test and the DR trades in a different time-zone, but passes the test in its own right, the underlying share will be included as long as the DR is fully fungible (i.e. the DR can be converted into underlying shares and the underlying shares can be converted into DRs).

Sources of Trading Venue: **Refer to Appendix A in the Global Equity Index Series Ground Rules.**

2.2 New issues (including those subject to FTSE Nationality rules)

- All newly listed companies will be screened as **per Appendix B**
- Companies must have a minimum trading record of at least 3 months prior to the cut-off date of the review.
- New issues must pass 10 out of 12 months with a monthly median turnover of at least 0.05%* of their shares in issue (after the application of any investability weightings**) based on their median daily trade each month ***, on a pro-rata basis since their listing.

Notes:

* subject to adjustment as per 2.1(i).

** When testing liquidity the free float weight as at the last date in the testing period will be used for the calculation for the whole of that period.

*** When calculating the median of daily trades per month a minimum of 5 trading days in each month must exist, otherwise the month will be ignored and not used in the count. For clarification purposes, daily totals with zero trades are included. Therefore the month will be tested and included in the count even where a stock has 10 trading days of which 6 are zero trades.

- A new issue that fails the liquidity test will not be eligible for inclusion to the FTSE GEIS Index Series until the next semi-annual review.
- The liquidity test will be applied on a pro-rata basis where the testing period is less than 12 months. As an example, if Company A passes 5 out of 6 months it will be considered to have passed the test as this equates to passing 10 out of 12 months. **Refer to Appendix A.**

2.3 Existing constituents

- Existing constituents need to pass 8 out of 12 months with a monthly median turnover of at least 0.04%* of their shares in issue (after the application of any investability weightings**).

Notes:

*subject to adjustment as per 2.1(i).

** When testing liquidity the free float weight as at the last date in the testing period will be used for the calculation for the whole of that period.



Section 3

Liquidity Calculation Method

3.0 Liquidity Calculation Method

- 3.1 For each month the daily trading volumes, as a percentage against that security's free float adjusted shares, are ranked and the median value selected.

Example Calculation of Daily Trading Volume %:

Company A has 40m shares in issue, a free float of 50% and a daily trading volume of 20,000 shares.

$$\begin{aligned}\text{Daily volume (\%)} &= \text{daily trading volume} / \text{free float adjusted shares} \\ &= 20,000 / 20,000,000 = 0.1\%\end{aligned}$$

Please Note:

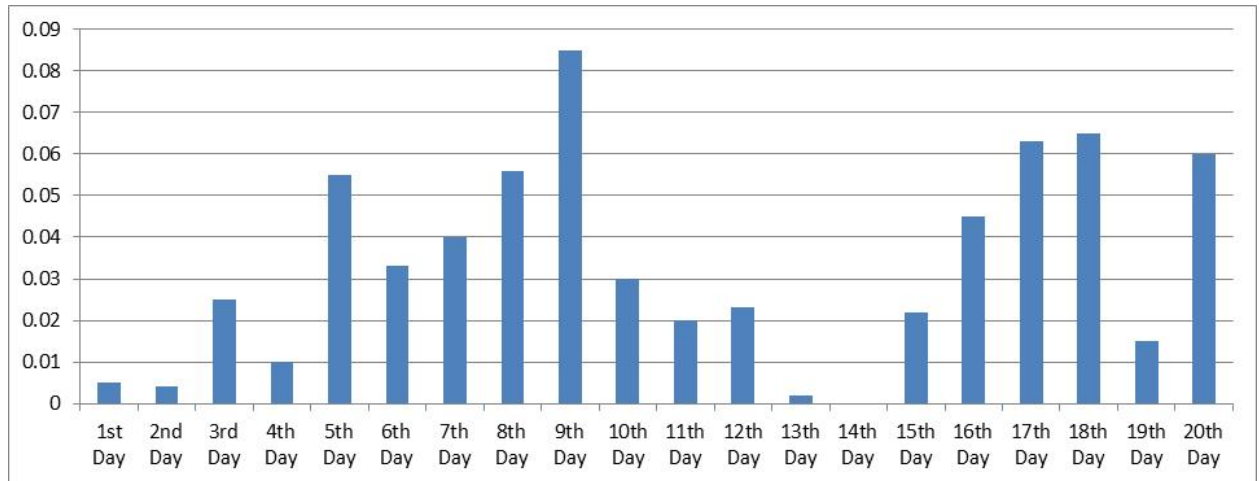
- When testing liquidity the free float weight as at the last date in the testing period will be used for the calculation for the whole of that period.
- Shares in issue used for the calculation is that as of the date of volume traded.

3.2 Monthly Median Liquidity Test

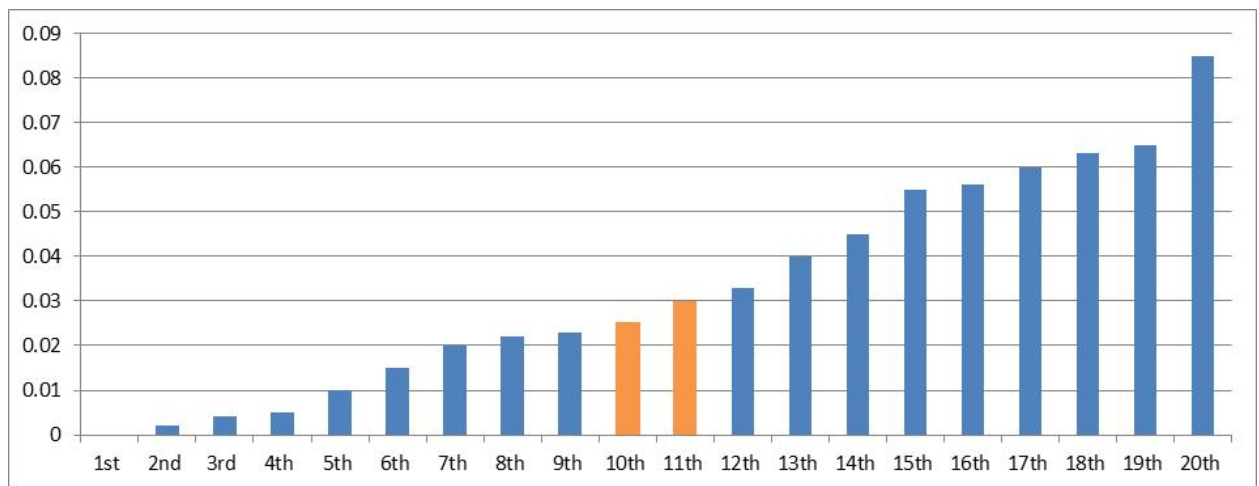
The tables below illustrate the ranking of the daily trading volumes % and the calculation of the median monthly value.

The example assumes that there is an even number of days in the month

Step 1: Daily traded volume (%)



Step 2: Daily traded volume (%) - RANKED



$$\begin{aligned} \text{Monthly median (\%)} &= (10^{\text{th}} + 11^{\text{th}} \text{ day}) / 2 \\ &= (0.025\% + 0.03\%) / 2 = \mathbf{0.0275\%} \end{aligned}$$



Appendix A: Pro-rata Pass Requirements

New Issues

Months Tested	Minimum Monthly Pass Rate Required
1 month	1 month
2 months	2 months
3 months	3 months
4 months	4 months
5 months	5 months
6 months	5 months
7 months	6 months
8 months	7 months
9 months	8 months
10 months	9 months
11 months	10 months
12 months	10 months

Current Constituents

Months Tested	Minimum Monthly Pass Rate Required
1 month	1 month
2 months	2 months
3 months	2 months
4 months	3 months
5 months	4 months
6 months	4 months
7 months	5 months
8 months	6 months
9 months	6 months
10 months	7 months
11 months	8 months
12 months	8 months



Appendix B: FTSE GEIS Liquidity-Test Cases

Test case	Liquidity Test
IPO	
Fast Entry	Not Applicable
Non Fast Entry	At the next quarterly review after a minimum 3 month trading period from first day of unconditional dealing to index review cut-off date
Nationality review	
Existing Constituent	Not Applicable – Nationality change becomes effective at the quarterly review following date of FTSE notice confirming nationality change
Non Constituent	At the next semi-annual review following a minimum three month trading period from date of FTSE notice confirming nationality change to index review cut-off date For clarification purposes, this would include a nationality change from a Frontier market (non-FTSE GEIS eligible) to an Emerging market (FTSE GEIS eligible). For the purposes of the liquidity test, historical trading volume data prior to the FTSE notice confirming nationality will be disregarded.
Former constituent	
resumption of trading following suspension	At the next semi-annual review following a minimum three month trading period from the 12 month anniversary deletion date* to the index review cut-off date.
removed from Exchange alert board	At the next semi-annual review following a minimum three month trading period from the 12 month anniversary deletion date* to the index review cut-off date
continuous trading and a float greater than 5% following completed takeover	At the next semi-annual review following a minimum three month trading period from the 12 month anniversary deletion date* to the index review cut-off date

*For illustration purposes, if a constituent was deleted on 21 September 2015 it would only be re-considered for inclusion at the semi-annual index review which falls after 21 September 2016 (i.e. March 2017), having fulfilled the minimum 3 month trading period as at the review cut-off date (31 December 2016).

Please note: When calculating the median of daily trades per month a minimum of 5 trading days in each month must exist, otherwise the month will be ignored and not used in the count. The liquidity test will be applied on a pro-rata basis where the testing period is less than 12 months. **Refer to Appendix A**



Appendix C: Further Information

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 Global Equity Index Series is available from FTSE Russell.

For contact details please visit the FTSE Russell website or contact FTSE Russell client services at info@ftserussell.com.

Website: www.ftserussell.com

© 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.

The FTSE Global Equity Index Series is calculated by FTSE or its agent. All rights in the Index Series vest in FTSE.

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 Global Equity Index Series or the fitness or suitability of the Index Series for any particular purpose to which it 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 with FTSE, Russell, FTSE TMX, MTSNext and/or their respective licensors.