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# FTSE Global Equity Index Series - Guide to Calculation Method for the Median Liquidity Test

v2.3

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## Section 1

# Purpose of the Guide

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### 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

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### 2.0 Liquidity Screening

#### Volume Data

Subject to the exception listed below, for purposes of the liquidity test, security volume data will only be taken from the eligible regulated exchange, as defined by FTSE Russell, which corresponds with the price source used in FTSE Russell indexes (primary exchange).

**For illustration purposes:** Company A is listed on and priced from NYSE, however shares are also traded on NASDAQ. Only security volume data sourced from NYSE will be used for the purposes of the liquidity test.

Exception:

Companies with a Mexican nationality assignment will have their liquidity calculated using aggregated volume data sourced from both Bolsa Mexicana de Valores and Bolsa Institucional de Valores (BIVA).

**For illustration purposes:** Company B is listed on and priced from Bolsa Mexicana de Valores, however shares are also traded on Bolsa Institucional de Valores (BIVA). Volume data sourced from both exchanges will be used for the purposes of the liquidity test, pricing will still be used from the primary exchange.

Please refer to Appendix A in the FTSE Global Equity Index Series (FTSE GEIS) Ground Rules for a list of eligible exchanges.

### 2.1 Liquidity Screening Process

- A. Each security will be tested for liquidity semi-annually in March and September by calculation of its monthly median of daily trading volume.
  - **March Review:** liquidity will be tested from the first business day of January to the last business day of December of the previous year.
  - **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. 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.

- C. 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 review cut-off date. These daily values are then ranked in descending order and the median is taken by selecting the value for 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 (see Section 4).
- D. 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.
- E. Only exchange trading days will be included in the calculation i.e. exchange holidays will be excluded.
- F. Security volume data will be taken on trading days from Sunday to Friday (where applicable) when markets are open.
- G. Any period of suspension will not be included in the test.
- H. For newly eligible securities where the testing period is less than 12 months, the liquidity test will be applied on a pro-rata basis.

The percentage figures detailed in Section 3 may be adjusted by up to 0.01% at a market review so that, in FTSE Russell's opinion, the index better reflects the liquid investable market of the region. This discretion may only be exercised across the whole of a region and may not be applied to individual securities or countries.

Please note: although discretion is normally applied to lower the liquidity thresholds of both constituents and non-constituents of a region, FTSE Russell reserves the right (for example, where one or more markets is changing country classification status) to determine if discretion should only apply to non-constituents. Where any discretion is exercised FTSE Russell would provide advance notification prior to implementation.

**Note:** Any adjusted percentage parameters will be maintained until the next semi-annual review.

- I. 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 a similar regional time-zone as the underlying shares.

Where the DR has been included it will remain in the index until such time it either fails the liquidity test or the underlying shares pass the liquidity test for two future consecutive reviews.

- J. Existing and non-constituent securities which have not traded on 60 or more trading days during the past year (up to and including the review cut-off date), will not be eligible for index inclusion. Regular/ad-hoc market holidays, and unscheduled market closures will not count towards the total; otherwise, the reason(s) for a security's non-trading will not be considered. If a security does not have a full year of trading, the 60 day period will be pro-rated according to the number of available trading days passed since its listing. Please note:
  - All standard trading days will be incorporated within the calculation (Friday and Sundays as appropriate)
  - Ad-hoc non-standard trading days will not be incorporated within the calculation (e.g. ad-hoc Saturday trading will not be considered)
  - Where a pro-rata calculation is necessary, the number of available trading days on the underlying market during the previous year up to and including the review cut-off date will be used as the basis of the calculation. E.g. Market ABC has 253 available trading days for the annual period to the review cut-off date; therefore the security would not be eligible if for 23.7% (60/253) or more of its available trading days since listing, it did not trade.

- A security which has been removed from an index as a result of this screen will only be re-considered for inclusion after a period of 12 months from its deletion. For the purposes of index eligibility it will be treated as a new issue.

## Section 3

# Liquidity Thresholds

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### 3.0 Liquidity Thresholds

#### 3.1 New issues and Newly eligible

- All non-constituents will be screened as **per Appendix B**
- New issues and newly eligible securities which do not have a twelve month trading record must have a minimum three month trading record when reviewed and will be tested from the date of eligibility. Trading records prior to this date will not be taken into account.
- A non-constituent of the FTSE Global All Cap Index Series must pass at least 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 trading volume each month \*\*\*, on a pro-rata basis since their listing.
- A non-constituent of the FTSE Global Micro Cap Index Series must pass at least 10 out of 12 months with a monthly median turnover of at least 0.025%\* 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 their listing.
- Rule 3.1 will not apply to new issues added under the Fast Entry Rule.

#### Notes:

\* subject to adjustment as per 2.1(H).

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

*Please note: where the investability weight is equal to the Foreign Ownership Limit (FOL), then the FOL at the end of 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.

### 3.2 Existing constituents of the FTSE Global All Cap Index Series

#### Current methodology

Existing constituents of the FTSE Global All Cap Index Series are required to pass at least 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\*\*).

#### New methodology effective at the March 2020 semi-annual review

- Existing constituents of the FTSE Global All Cap Index Series are required to pass at least 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\*\*). Those identified as failing this test (step 1) will proceed to the next step.
- Step 2: Those existing constituents of the FTSE Global All Cap Index Series which fail step 1 will be subject to a further test whereby the last 6 months of the testing period will be assessed on a pro-rata basis. If the constituent passes at least 4 out of the last 6 months (equating to 8 out of 12 months on a pro-rata basis), it will be considered to have passed the liquidity test.

#### Notes:

\*subject to adjustment as per 2.1(H).

\*\* When testing liquidity, the investability weight as at the last date in the testing period will be used for the calculation for the whole of that period. However where FTSE Russell have become aware that an existing index constituent has had a change in Foreign Ownership Limit (FOL) during the testing period and the investability weight is equal to the FOL, then the FOL at the end of the month will be used for the calculation of liquidity for that month.

Illustrative tables below:

EXAMPLE A - Passes Test 1 (constituent PASS) - no further test required											
March 2020 Liquidity Testing Period						Test 2 - n/a					
Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
Pass	Pass	Pass	Pass	Pass	Pass	Fail	Fail	Fail	Fail	Pass	Pass
EXAMPLE B - Fails Test 1 (move to Test 2). Passes Test 2 (constituent considered a PASS)											
March 2020 Liquidity Testing Period						Test 2 - pass					
Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
Pass	Pass	Pass	Fail	Fail	Fail	Pass	Fail	Pass	Fail	Pass	Pass
EXAMPLE C - Fails Test 1 & Test 2 (constituent deleted & considered ineligible for a period of 12 months)											
March 2020 Liquidity Testing Period						Test 2 - fail					
Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19
Pass	Fail	Fail	Pass	Pass	Pass	Fail	Fail	Fail	Pass	Pass	Pass

- Existing constituents of the FTSE Global All Cap Index Series which fail the liquidity test will be ineligible for index inclusion for a period of 12 months after which they will be treated as a new issue.



For illustration purposes: A constituent deleted at the September 2019 semi-annual review will not be considered for index eligibility until March 2021.

- Existing constituents of the FTSE Global Small Cap Index Series which fail the liquidity rule but pass all other eligibility criteria will not be eligible for inclusion in the FTSE Global Micro Cap Index Series until the next periodic review.

### 3.3 Existing constituents of the FTSE Global Micro Cap Index Series

- Existing constituents of the FTSE Global Micro Cap Index Series need to pass at least 8 out of 12 months with a monthly median turnover of at least 0.02%\* of their shares in issue (after the application of any free float weightings\*\*).

**Notes:**

\*subject to adjustment as per 2.1(H).

\*\* When testing liquidity the investability weight as at the last date in the testing period will be used for the calculation for the whole of that period. However where FTSE Russell have become aware that an existing index constituent has had a change in Foreign Ownership Limit (FOL) during the testing period and the investability weight is equal to the FOL, then the FOL at the end of the month will be used for the calculation.

## Section 4

# Liquidity Test Calculation Method

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### 4.0 Liquidity Test Calculation Method

- 4.1 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:

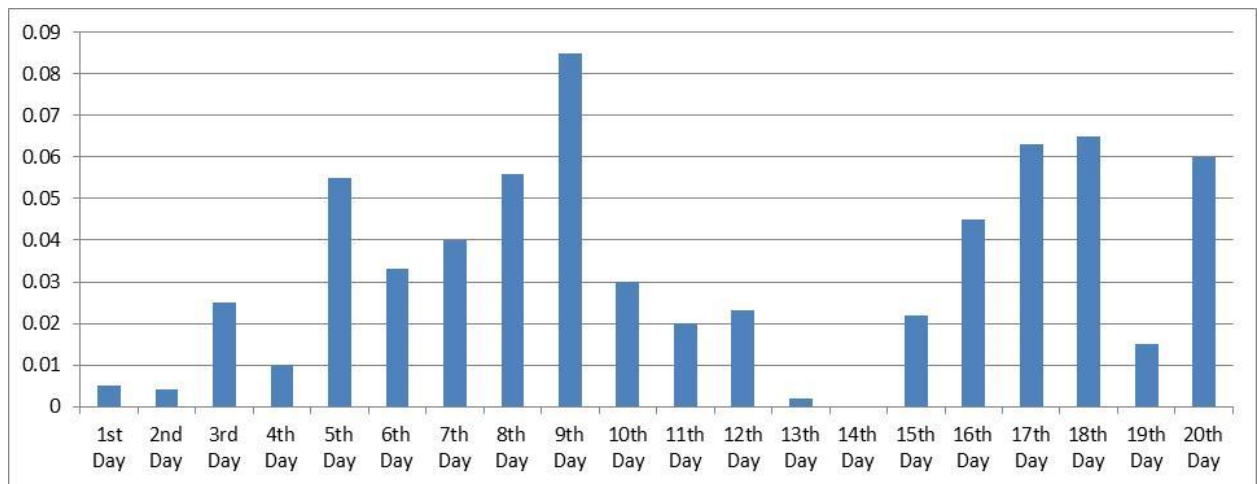
- When testing liquidity the free float weight as at the last date in the testing period will be used for the calculation for the whole of that period.
- Shares in issue used for the calculation is that as of the date of volume traded.

### 4.2 Monthly Median Liquidity Test

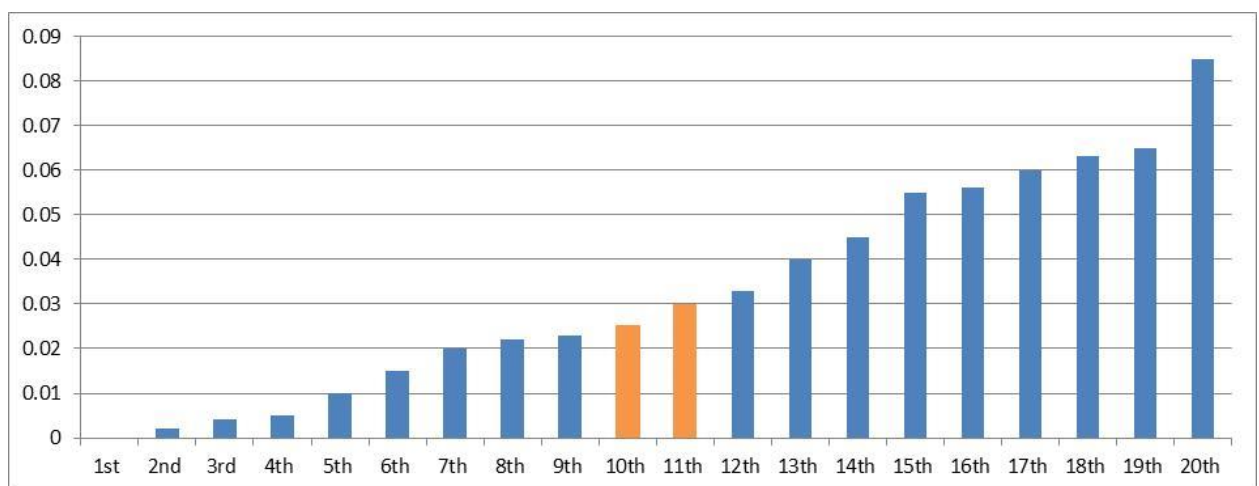
The tables below illustrate the ranking of the daily trading volumes % and the calculation of the median monthly value.

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



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



## Appendix A: Pro-rata Pass Requirements

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### New Issues

Months Tested	Minimum Monthly Pass Rate Required
1 month	1 month <sup>1</sup>
2 months	2 months <sup>1</sup>
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

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<sup>1</sup> Minimum 3 months trading record required



## Appendix B: FTSE GEIS Liquidity-Test Cases

Test case	Liquidity Test
<b>IPO</b>	
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
<b>Nationality Review</b>	
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.
<b>Former Constituent</b>	
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).



## Appendix C: 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 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](mailto:info@ftserussell.com).

**Website:** [www.ftserussell.com](http://www.ftserussell.com)

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