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index_queries@thomsonreuters.com
INTRODUCTION

Thomson Reuters Indices

Thomson Reuters is world’s leading source of intelligent information for businesses and professionals. We combine industry expertise with innovative technology to deliver critical information to leading decision makers in the financial, legal, tax and accounting, scientific, healthcare and media markets, powered by the world’s most trusted news organization.

Thomson Reuters provides trusted and innovative indices and index-related services to the investment community.

Whether you require indices for benchmarking, or for the development of investment vehicles, Thomson Reuters offers a range of index solutions to satisfy your requirements.

Index Family

The Thomson Reuters Global Equity Indices cover 51 countries and 29 regions. The indices are free float adjusted; market capitalization weighted and are designed to serve as broad market benchmarks to track the performance of liquid equities worldwide. Each index is available in Price Return and Total Return variants. Daily history is available from April 1999.

The indices are designed to serve as liquid, broad-based and comprehensive tools for investment professionals and analysts to benchmark and invest in common stock on a local, regional or global basis. The vast majority of indices in the series are designed to be as broad as possible and are not capped at a maximum number of constituents. They instead comprise 99.50 of the market capitalization of the liquid securities in a market.

There are however some indices in the series which either involve a set number of constituents such as the Thomson Reuters Top 50 series, the Thomson Reuters Europe 500 index and Thomson Reuters United States 500 or represent a variety of sectors in one index such as Thomson Reuters Infrastructure Indices. Thomson Reuters will continue to add such indices to the Global Equity Index Series from time to time, with any significant additions detailed in this document in Appendix 1.
Index Types

The Thomson Reuters Country, Region and Sector Indices are float adjusted and market capitalization weighted where each stock’s weight in the index is proportional to its float-adjusted market value. The indices have price return and total return variants available.

Constituent Universe

- Liquid equities from 51 countries
- Indices are free float adjusted market cap weighted
- List of countries and exchanges available in the Appendix II.
- The details of the list for Equity Indices for Country and Regions is available here

In the sections below, we will detail the country level market capitalization methodology and sector indices methodology. Regional indices are rollups of the country indices.

CONSTRUCTION METHODOLOGY

Thomson Reuters market capitalization weighted (market cap) equity indices are free float. They are calculated using standard industry compilation and pricing methods in combination with Thomson Reuters unique liquidity filter. Eligible securities are those common stocks for which the data requirements are met and that have passed the liquidity test:

This section describes the underlying Thomson Reuters data and methodology used to construct Thomson Reuters Indices.

Data

The process of constructing the indices begins with identifying all eligible securities. All listed common stocks except equity closed funds, equity derivatives, exchange traded funds, most units and investment trusts are eligible for inclusion in the Equity Universe. Limited partnerships, Real Estate Investment Trusts (REITs), Preference shares¹, Depository

¹ Preference shares that exhibit the characteristics of equity shares are eligible. As definition of preference shares varies from country to country, we analyze these securities on case to case basis.
Receipts\(^2\) and Units of operating companies\(^3\) are also eligible for inclusion.

For individual securities, the following data points are collected on a daily basis: A variety of security IDs (RIC primarily and other IDs secondarily); both the adjusted and total return prices for the securities; shares outstanding for the primary share classes (if not available or known; the largest share class is used) and each security’s float factor. All of these data points are collected at the security level.

Other security level data that is collected includes three months of daily volume and price\(^4\), total and free float adjusted market cap and the primary and subsidiary exchanges on which the security trades. Additional data is collected on an as-needed basis and is referenced in the sections below.

For each country, data is collected for securities headquartered in that country as well as securities headquartered elsewhere but traded on the local exchange(s).

The data is then reviewed by the Thomson Reuters Indices team to assure the quality of the data used in the index construction. In addition, content user acceptance tests (UATs) are performed during the index construction process to further verify the quality of the data.

**Liquidity**

Once the securities for an individual country are identified, (i.e. sufficient price history is available as well as shares outstanding, IDs, etc), the liquidity test is performed on each security. The purpose of this test is to make sure that the necessary liquidity is present for any security included in any Thomson Reuters index.

Effective as of the April 2015 rebalance, Thomson Reuters has adjusted the liquidity methodology by moving to a four tier approach that includes an Average Traded Value

---

\(^2\) Depository Receipts trading locally are considered for inclusion if there is no common stock variant is available in the same market or if common stock variant is failing our liquidity criteria. No ADRs and GDRs are included.

\(^3\) An operating company is defined as company that makes a good or provides a service that it then sells to customers or clients. An operating company contrasts with a holding company whose main function is to own other companies.

\(^4\) To compute the Average Traded Value, Volume Weighted Average Price (VWAP) is considered and if VWAP is not available, then close price is considered.
Approach along with minimum size, cumulative market capitalization and trading frequency. As a whole the four tier approach ensures that all of the liquid securities in a market are covered, leaving only illiquid, infrequently traded and micro cap securities.

The new Liquidity Test is objective in nature, rule based, and transparent. It can be replicated easily and is closely aligned with market conventions. It is simple, easy to understand and fully compliant with recent regulatory guidelines.

The new measure of liquidity encompasses four types of filters, based on the following data sets:

- **Free Float Adjusted Market Cap Filter**: The objective is to remove the noise from small and micro caps.
- **Average Daily Traded Value based on Volume and Value Weighted Average Price (VWAP) for the most recent period of 60 trading days**: The objective of this filter is to remove companies that trade significantly less value than their peers, and are therefore less liquid.
- **Daily trading frequency based on most recent period of 60 trading days**: The objective is to remove the securities that trade large volumes or block trades only occasionally, while not-trading during a large portion of the review window.
- **Minimum thresholds for both full market capitalization and free float adjusted market capitalization**: It aims to improve index liquidity by removing companies that are below the minimum size.

In order to qualify for index constituency, candidate securities will need to pass ALL of the filters independently. This ensures that only active, liquid and established securities are included as index constituents.

The below section describes each filter in detail:

**Filter 1: Free float adjusted market cap 99.5%**

All candidates need to pass a filter based on free float adjusted market capitalization. The first step is to rank all candidate securities by free float adjusted market capitalization, then calculate the cumulative market capitalization and then select all securities up to the cut-off percentage. The cut off percentage is 99.5% for all countries.
Filter 2: Average Daily Traded Value 99.5%

Like in filter 1, candidates are ranked according to daily average traded value, in order to later calculate cumulative amounts. As a final step, all securities up to the cut-off percentage are selected. The cut off percentage is 99.5% for all countries.

In order to calculate the simple average daily traded value for a period of 60 trading days, the following inputs will be required:

- Daily Value Weighted Average Price (VWAP) or Close Price if VWAP is not available
- Daily Volume

And then Daily Traded Value and its average is computed:

\[
\text{Daily Traded Value} = \text{No of shares traded during the day} \times \text{VWAP of security}
\]

\[
\text{Average Daily Traded Value} = \frac{\sum \text{Daily Traded Value}}{60}
\]

Filter 3: Trading Frequency

All candidates need to pass minimum trading frequency in order to become index constituents. Trading frequency represents the percentage of days that the security traded when compared with number of trading days in an exchange:

\[
\text{Trading Frequency} = \frac{\text{Number of days that the security traded in the last 60 trading days}}{60}
\]

Following are the trade frequency thresholds for different markets:

<table>
<thead>
<tr>
<th>Country membership*</th>
<th>Thresholds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developed Markets</td>
<td>90%</td>
</tr>
<tr>
<td>Emerging Markets</td>
<td>80%</td>
</tr>
<tr>
<td>Frontier Markets</td>
<td>50%</td>
</tr>
</tbody>
</table>

*for countries and their market classification, please refer Appendix III.
Filter 4: Minimum size

Candidates need to fulfill two conditions in order to pass this filter:

- Constituents need to have at least $150mn total market cap
- Constituents need to have at least $75mn free float adjusted market cap

Companies are reviewed only when the rebalance takes place. After the rebalance companies are allowed to oscillate below the minimum size threshold (due to price movements).

CALCULATION METHODOLOGY

The Thomson Reuters Global Equity indices use divisor driven methodology. The value of the Index equals the aggregate market value of all index securities\(^5\) divided by the divisor of the Index. The divisor is an arbitrary number chosen at the inception of the index to fix the starting value of index (say, at 100). The divisor serves the purpose of scaling such aggregate value to a lower magnitude which is more desirable for reporting purposes. In the event of any corporate action affecting the market value of the index, the divisor is adjusted to offset the change in the market value of the index so that the index value do not jump up or down drastically. All Thomson Reuters Global Equity Indices have a base value of 100 at the inception.

The indices have two versions i.e. Price Return and Total Return. The calculation methodology for both is as follows:

Price Return

A price return index is calculated without considering the cash dividends on Index Securities. With respect to the mathematical manipulations, the computation is:

\[^5\text{Aggregated market value} = \text{total of number of shares of each of the index securities multiplied by each such security’s close price.}\]
where:

\[ \text{Index Price}_t = \frac{\sum_{i=1}^{n} p_{i,t} \times q_{i,t} \times r_{i,t}}{\text{Divisor}_t} \]

\[ p_{i,t} = \text{price of equity } i = 1,2,\ldots,n, \text{at time } t = 0,1,2,\ldots,T \]

\[ n = \text{the number of equities in the index} \]

\[ q_{i,t} = \text{float adjusted shares outstanding for equity } i \text{ at time } t \]

\[ r_{i,t} = \begin{cases} 1, & \text{if a country index or} \\ \text{exchange rate from local currency to index currency at time } (t), & \text{if a regional index} \end{cases} \]

The pricing calculations for regional indices are essentially the same; the only difference is that, when multiple currencies are involved, prices are converted to a single currency i.e. index currency. In such cases, when currency conversions have been applied, the daily index price change will also reflect the daily change(s) in the exchange rate(s).

Consequently, index values may change based on the common currency in which they are calculated, i.e., calculating an index value for Hungary in U.S. Dollars will likely not produce the same value as calculating the same index value in Hungarian Forints, since the index would also reflect the change in HUF->USD exchange rates.

**Total Return**

The total return is a quantity which adjusts the price for issuance of dividends. When a company issues a dividend, the price of the equity drops in the exact amount of the per share dividend amount. Leaving aside subsequent market movements of the equity price, the impact of a constituent equity dividend upon an index is a drop in the price of the index. A companion index which is based on the total return adjusts the price-only index for the issuance of dividends by its constituents. The total return index is computed as follows:

\[ \text{Index Price}_t = \frac{\sum_{i=1}^{n} (p_{i,t} \times q_{i,t} \times r_{i,t}) + (\text{Div}_{i,t} \times q_{i,t} \times r_{i,t})}{\text{Divisor}_t} \]

Where:

\[ p_{i,t} = \text{price of equity } i = 1,2,\ldots,n, \text{at time } t = 0,1,2,\ldots,T \]
All quantities in the equation above are end-of-day quantities. The numerator is computed as per the ex-date for any dividends. The divisor is also adjusted for total return indices on the day following the dividend ex-date. This is done to ensure that the index doesn’t fall back down to previous levels (prior to dividend ex-date). This adjustment is done by calculating an adjusted market cap for the total return index immediately after dividend ex-date. The adjusted market cap is the price only market cap as on the dividend ex-date (i.e. excluding index dividend). Once this is divided by the total return index value as on dividend ex-date, we get an adjusted divisor which is used for calculations from the next day onwards.

The set-up of the total return index, including initial value, constituents and weights, is identical to the price return indices.

**SECTOR INDICES**

Thomson Reuters Sector Indices are subsets of the global, region, and country indices. Every stock included in the Thomson Reuters Broad Market Index Universe is considered for inclusion in a sector index. Each constituent will have a sector code, as per the Thomson Reuters Business Classification (TRBC) methodology, TRBC codes are then used to group securities into sectors and sector indices will be produced if enough constituents are available for the index to be created (“minimum constituent rule”). The constituents’ weights of each sector index will be recalculated according to the sector market capitalizations...

The TRBC schema includes 5 layers of groups: 10 economic sectors, 28 business sectors, 54 industry groups 136 industries and 837 activities. For Thomson Reuters Business Classification Methodology, please refer [here](#)

The Thomson Reuters sector suite includes 4 layers of indices with different levels of granularity, starting from broad economic sectors to more narrow 4th level industries.
Thomson Reuters has over 5,000 global/regional/country sector indices each of which is available in a price and total return variant.

**Sector Indices for Countries**

The minimum threshold number of constituents required at the point of index creation is as follows:

- Economic sector: 10
- Business sector: 7
- Industry group: 5
- Industry: 5

Sector indices will continue to be published if they have at least 3 constituents. When a sector index drops to 2 or fewer constituents, the sector index is no longer published.

If a sector index meets the minimum number of constituents’ requirement, then drops below the minimum and then meets the requirement again, the index will show a flat period without updates from the point the minimum number of constituent rule was broken until calculation of the index is reactivated.

In some cases, indices are duplicated because there is only a single child sector of a given parent sector. In these cases, the child sector is published, the parent sector is not. The exception to this rule is if the duplication occurs at the first and second level. Level 1 sector indices are always published.

**Sector Indices for Regions**

The approach for regional sector indices is similar to the one used for country sector indices, but in this case the starting point will be the parent Thomson Reuters Region Index. This approach is used to ensure that even if a certain security is not included in the country sector index (or if the country sector index doesn’t exist), it will still be considered for the regional inclusion.

Example: There may not be enough telecom companies in France to create a country telecom sector; however we will include the French telecom companies in the European telecom regional sector.
MAINTANANCE

Daily Index Maintenance
Thomson Reuters Global Equity Indices are maintained on a daily basis by a dedicated support team. This team is in direct collaboration with the Thomson Reuters Data Operations Global Corporate Actions teams, and is responsible for identifying all corporate action events that affect the capital structure of a constituent in the index including stock splits, delistings, and symbol changes and ensure these changes are implemented into the applicable index. The team also monitors divisor movements and performs constituent pricing comparisons between independent constituent price sources to ensure the accuracy of the index return values. The corporate actions methodology used by Thomson Reuters Equity Indices is available on our website and can be accessed here.

Index Rebalance
The indices are rebalanced on a semi-annual basis, and new constituent lists are effective on the first Monday of April and October. The rebalance is the major source of additions and deletions to Thomson Reuters Indices.

The rebalancing process starts with all eligible common stock with the necessary data. The liquidity test along with the following business rules is applied to this set of stocks and those stocks that pass this test are now eligible for inclusion in the index. More details on business rules are available in Appendix IV.

- Minimum Free Float Requirement: The minimum free float requirement for constituents is 10%, whereas new entrants to the indices must have a minimum of 15% free float.
- The 20% cap rule: When one or more stock(s) is (are) a significant part of the market cap and is (are) pushing out stocks that belong to the index, Thomson Reuters screens all indices for stocks that comprise/make up more than 20% of the total local market capitalization (market cap). Thomson Reuters follows the iterative process of capping and caps those stocks at 20% and re-computes market cap coverage.
- All the domestic stocks trading on licensed exchanges are considered even if they
are trading in foreign currency.

- Each security/share class will be classified in only one country. Any exceptions to this rule will be mentioned in the document. At present, there are two exceptions to this rule; CRH PLC and HSBC Holding PLC. CRH PLC is a constituent in Ireland as well as in UK. At regional level, CRH trading in Ireland is a constituent in all European regional and sector indices. HSBC is a constituent in UK and in Hong Kong and flows down to respective regional and sector indices.

- Historically low constituent numbers - This is related to indices that "consistently" (to be defined by country) have less than the requisite number of constituents. In this situation, the Index Action Committee reviews each potential index that is deficient and determines whether it should continue as an index.

- Regional indices are built by rolling up the country indices and the number of shares of each constituent will be the same in both the country and regional index.

- TRBC codes of Indices' constituents are updated only at the time of rebalance. TRBC codes of index securities are not allowed to change between rebalances.

- Sector indices are built using the Thomson Reuters Business Classification (TRBC) methodology and sector indices will be produced if enough constituents are available for the index to be created, as described in the previous section. The creation of sector indices is subject to the "minimum constituent rule" which means that Thomson Reuters will only produce a sector index if the minimum constituents rule is complied with.

- At each rebalance the internal Index Action Committee (IAC) reviews the preliminary list of constituents to ensure that the indices have the attributes they claim to possess. The IAC will review the results of the liquidity filter and may propose overrides to the list to prevent any eventual coverage miss of critical companies. The IAC will also review recent IPO's and Spin-off to decide if the securities in question are relevant enough to qualify for a fast track inclusion in the index.

- The rebalance results are shared with clients two weeks in advance of the rebalance effective date. The data notification includes companies that are being added and dropped to the universe of constituents, as well as indices that are being created, resumed or discontinued.
GOVERNANCE

Index Action Committee

There is an internal index action committee (IAC) at Thomson Reuters Indices. The IAC reviews country and region indices and rebalances. It is composed of the Thomson Reuters Equity Indices Index Manager, Head of Index Administration, Head of Product Management, Head of Commercials, Head of Data Operations and the Head of Technology.

The main activity of this Index Action Committee is to insure that the attributes the index claims to possess – the necessary liquidity, capitalization assignment (large, mid or small-cap) or style considerations – are indeed present. These reviews take place at each rebalance and at each quarterly review. The Index Action Committee also deals with unusual corporate actions which are not handled by the pricing methodology or by the internal data management team that makes hand-adjustments to the index for items such as mergers and delistings. These reviews take place on a monthly or more frequent basis. Finally, as each index needs a minimum number of constituents in order for its price to be computed, the Index Committee decides if an index should be discontinued or possibly resurrected. This decision will normally be made during the rebalance period but could happen more often.
APPENDIX

Appendix I:

Thomson Reuters Top 50 Indices

The Thomson Reuters Top 50 indices are market capitalization weighted indices and serve as a group of comprehensive large cap, standalone indices. The indices currently cover the largest 50 stocks in 16 of the global G-20 economies. The Top 50 index suite also includes Thomson Reuters Euro Zone 50 index, which has the largest 50 stocks from Euro Zone countries. The list of Thomson Reuters Top 50 Equity Indices is available here along with the list of Thomson Reuters Equity Indices.

The Top 50 indices are derived from respective Thomson Reuters Country indices. Once the constituents selection is completed for a Thomson Reuters Global Equity broad market index, all the constituents are arranged in descending order of market capitalization. The 50 largest stocks by market capitalization are then selected to create a Top 50 index.

Thomson Reuters Top 50 Indices are rebalanced bi-annually. In the case of constituent companies being reduced between rebalances due to corporate actions such as mergers, delisting or liquidation, no new constituents are added. Additions to the indices happen only during rebalance.

Top 50 indices must have at least 50 constituents at the time of inception and after rebalance. If the constituent count drops to 40 during two consecutive rebalances, the Top 50 index is still published, after which Top 50 index is no longer published. If a Top 50 index meets the threshold constituent requirement, then drops below the minimum required to continue calculation and subsequently meets the requirement again at a later date, it will not be published immediately. If the index continues to meet threshold constituents requirements for two consecutive rebalances, it will be published from the second rebalance onwards.

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6 Thomson Reuters Russia Top 50 Index is an exception to this rule, Index Action Committee has decided to continue publishing the index even when the index has less than 40 constituents.
Thomson Reuters Standalone Indices

Thomson Reuters Europe 500 Index

The Thomson Reuters Europe 500 index is a market capitalization weighted standalone index, derived from Thomson Reuters Europe index and has both price and total return variants. The countries included are Euro Zone countries i.e. - Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal and Spain and few other European countries i.e. UK, Switzerland, Norway, Sweden and Denmark. Once the constituents selection is completed for stated countries, all the constituents are combined and are arranged in descending order of market capitalization. The 500 largest stocks by market capitalization are then selected to create a Europe 500 index. The index is rebalanced bi-annually with our Thomson Reuters Equity Indices. In the case of constituent companies being reduced between rebalances due to corporate actions such as mergers, delisting or liquidation, no new constituents are added. Additions to the indices happen only during rebalance.

Thomson Reuters United States 500 Index

The Thomson Reuters United States 500 index is a market capitalization weighted standalone index, derived from Thomson Reuters United States index and has both price and total return variants. Once the constituents selection is completed for United States country index, all the constituents are arranged in descending order of market capitalization. The 500 largest stocks by market capitalization are then selected to create a United States 500 index. The index is rebalanced bi-annually with our Thomson Reuters Equity Indices. In the case of constituent companies being reduced between rebalances due to corporate actions such as mergers, delisting or liquidation, no new constituents are added. Additions to the indices happen only during rebalance.

Thomson Reuters Global Ex Frontier Large and Mid Cap Index

The Thomson Reuters Global Ex Frontier Large and Mid Cap Index is a market capitalization weighted standalone index, derived from Thomson Reuters Global Equity index and has both price and total return variants. All the countries of Thomson Reuters Global Equity Index
except Frontier market\textsuperscript{7} are included in the index. Once the constituents selection is completed for stated countries, all the constituents are combined and are arranged in descending order of market capitalization and their market cap weight is computed. The top 85\% by market cap weight are then selected to create a Global Ex Frontier Large and Mid Cap index. The index is rebalanced bi-annually with our Thomson Reuters Equity Indices.

**Thomson Reuters Asia Ex Japan, Pakistan and Vietnam Large and Mid Cap Index**

The Thomson Reuters Asia Ex Japan, Pakistan and Vietnam Large and Mid Cap Index is a market capitalization weighted standalone index, derived from Thomson Reuters Asia Ex Japan index and has both price and total return variants. All the countries of Thomson Reuters Asia Ex Japan Index except Pakistan and Vietnam are included in the index. Once the constituents selection is completed for stated countries, all the constituents are combined and are arranged in descending order of market capitalization and their market cap weight is computed. The top 85\% by market cap weight are then selected to create an Asia Ex Japan, Pakistan and Vietnam Large and Mid Cap index. The index is rebalanced bi-annually with our Thomson Reuters Equity Indices.

**Thomson Reuters Global Infrastructure Indices**

Thomson Reuters Infrastructure Indices are an independent, transparent and rules based suite of benchmarks for measuring the performance of listed global and regional infrastructure investments. The suite includes transport infrastructure, energy infrastructure, communications infrastructure and utility companies from developed and emerging markets.

The approach taken to equity identification relies on the five-level Thomson Reuters Business Classification (TRBC) categorization hierarchy\textsuperscript{8} to classify candidates, and using that classification as the sole basis for inclusion or exclusion.

\textsuperscript{7} Countries that are classified as frontier markets in Appendix III.

\textsuperscript{8} http://thomsonreuters.com/business-classification/
The specific TRBC filters used in the identification of infrastructure equities are:

- **Utilities**:
  - Utilities (TRBC Code - 59), but

- **Infrastructure (Communications)**
  - Satellite Systems & Accessories (TRBC Code - 57 10 20 10 16)
  - Telecommunications Network Infrastructure (TRBC Code - 58 10 10 10 14)
  - Satellite Service Operators (TRBC Code - 58 10 10 20 12)

- **Infrastructure (Energy)**
  - Oil & Gas Transportation Services (TRBC Code - 50 10 30 30)

- **Infrastructure (Transport)**
  - Airport Services – NEC (TRBC Code - 52 40 70 10 10)
  - Airport Operators (TRBC Code - 52 40 70 10 11)
  - Marine Port Services – NEC (TRBC Code - 52 40 70 20 10)
  - Port Operators (TRBC Code - 52 40 70 20 12)
  - Marine Cargo Handling Services (TRBC Code - 52 40 70 20 13)
  - Highway & Rail Tracks – NEC (TRBC Code - 52 40 70 30 10)
  - Highway Operators (TRBC Code - 52 40 70 30 11)
  - Railway Operators (TRBC Code - 52 40 70 30 12)

There are four indices in the Thomson Reuters Global Infrastructure index family, available in Price and Total Return variants:

- Thomson Reuters Global Balanced Infrastructure Index
- Thomson Reuters Global Developed Infrastructure Index
- Thomson Reuters Global Emerging Infrastructure Index
- Thomson Reuters Global Infrastructure Index

All four indices and their return variants are available in AUD, CHF, EUR, GBP, JPY and USD currencies.

Constituents for the family of Global Infrastructure indices are selected from a parent universe defined by the corresponding Thomson Reuters Indices. All of the indices, with the exception
of Global Balanced Infrastructure Index, are free-float market capitalization weighted, with a weight cap on individual constituents applied at 10% during rebalance. Constituents with a free-float market capitalization below US$500M are excluded.

The Global Balanced Infrastructure Index is intended to de-emphasize the Utilities portion of the portfolio, which typically makes up 70% or more of the market cap weight. The individual sectors are weighted by the following strategy:

- Utilities: 50%
- Infrastructure: 50%

Constituents within the sectors are free-float market capitalization weighted.

As described above, the Global Infrastructure indices are built using the constituent universe of the parent index, on the same rebalance schedule. Below are the steps to select the constituents:

- The constituents of the appropriate parent index (Global, Global Developed, or Global Emerging) for the current rebalance are retrieved.
- The TRBC-based Utilities and Infrastructure filter is applied.
- The free float market capitalization minimum threshold (US$500M) is applied, and any equity below that threshold is discarded.
- Weighting is applied as follows:
  - For Global, Global Developed, and Global Emerging, the indices are free float market capitalization weighted. A 10% individual weight cap is applied.
  - For Global Balanced Infrastructure Index, the top 50 utilities and the top 50 infrastructure constituents, by market cap, are selected.
    - A 5% individual weight cap is applied.
    - Each of the sub-groups (utilities and infrastructure) is allocated 50% of the total weight. Equities are free-float market capitalization weighted within those sub-groups.
    - If there are fewer than 50 infrastructure equities available, all available infrastructure equities are selected, and additional utilities are included to bring the constituent count to 100.
## Appendix II: Exchanges Used in Thomson Reuters Equity Indices

<table>
<thead>
<tr>
<th>TR INDEX COUNTRY</th>
<th>EXCHANGE</th>
<th>TR INDEX COUNTRY</th>
<th>EXCHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina*</td>
<td>Buenos Aires SE (MERVAL)</td>
<td>Malaysia</td>
<td>Bursa Malaysia/Kuala Lumpur SE</td>
</tr>
<tr>
<td>Australia</td>
<td>Australian SE</td>
<td>Mexico</td>
<td>Bolsa Mexicana de Valores</td>
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<tr>
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<td>Vienna SE</td>
<td>Morocco</td>
<td>Casablanca SE</td>
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<td>Bahrain SE</td>
<td>Netherlands</td>
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<td>Norway</td>
<td>Muscat Securities Market (OMAN)</td>
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<td>China International (HK traded)</td>
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<td>Doha/Qatar Exchange</td>
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*Represents End of Day (EOD) Data
## Appendix III: Countries and their Market Classification

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Appendix IV: Business Rules

Selecting candidates for a country level index

Thomson Reuters uses the country of incorporation, security’s primary listing and volume to determine the membership in a country index. In most cases, the country of incorporation is same as primary listing. There are instances where the country of incorporation is not where the security has the primary listing. In those cases Thomson Reuters uses the security’s primary listing to determine membership in a particular country’s domestic index.

As an example, Allot Communications is incorporated in the Israel, trades in Israel as well as in United States but Israel listing is a primary one where it trades most. Hence it is in Thomson Reuters Israel country index. Another example is International Consolidated Airlines Group, which is incorporated in Spain, trades in Spain and London but London listing is a primary listing where it has most of volume coming from. Hence we have it in Thomson Reuters United Kingdom index.

Here are the other rules to select candidates for a country level index:

- For rebalance purposes, start and end dates are determined when selecting equities.
- Prices reflected in the rebalance are based on trading days determined according to the prior year calendar
- Stocks considered suspended or dead are considered ‘dead’ as of the “last traded date”
- Only equities with a current status of “active” are included
- Equity end date status is determined as follows:
  - If the stock is currently suspended or dead and the “last traded date” is less than or equal to the end date for this rebalance, then the status on the end date is “dead”.
  - If the stock is currently active then the status is “active”.

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9 Primary listing is country of security’s listing where it trades most.
Selecting candidates for a region or global index

- Candidates for regional and global indices include all constituents within the countries that comprise the index. All rules for country level indices apply to regional and global indices.
- A constituent may exist in more than one country index. Equities are considered equal if they possess the same ISIN:
  - If only one of the set of duplicates is the primary equity, we use that equity and exclude secondaries
  - If all duplicates are secondaries, one of the equities is randomly selected and the others are excluded

Determining prices, shares, and FX rates for rebalancing for each equity in the list of candidates

- Thomson Reuters supplies price, USD price, share count, free float percentage and free float adjusted share count for each trading date that falls within the range of the dates covered by the rebalance
- If USD price, or share count is not available, the value is considered zero
- If free float percentage is not available, the value is considered 50%. Free float adjusted share count is considered equal to share count

Finding prices, shares and FX rates for pricing

- For daily pricing, data is supplied for each of the equities that are constituents on that day
- If an FX rate, price or share count is not available on a requested date, Thomson Reuters selects the next best date with available data
- The next best date for pricing is the first date, working backward from the requested date, for which there is non-zero pricing
- The next best date for share count is the first date, working backward from the requested date, for which there is non-zero share count
- The next best date for an FX rate is the first date, working backward from the requested date, for which there is a non-zero FX rate – the rate is used to convert
equity price to USD

- If a dividend was paid on the requested date, it is included. The FX rate used for the dividend is the first date, going backward from the requested date, for which there is a non-zero FX rate. This FX rate is used to convert the dividend to USD.
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Index_Queries@thomsonreuters.com