

# MSCI Global Investable Market Indexes Methodology Summary

## Introduction

This document is a summary of selected provisions of the MSCI Global Investable Market Indexes Methodology. It is provided for informational purposes only in order to highlight key elements of the methodology’s framework. It does not contain nor purport to contain all elements of the methodology. For a complete understanding of the methodology, please refer to the full methodology book available at MSCI’s web site at the following link:

[http://www.msci.com/eqb/methodology/meth\\_docs/MSCI\\_May14\\_GIMIMethod.pdf](http://www.msci.com/eqb/methodology/meth_docs/MSCI_May14_GIMIMethod.pdf)

## Index Maintenance Overview

The MSCI Global Investable Market Indexes are maintained with the objective of reflecting the evolution of the underlying equity markets and segments on a timely basis, while remaining replicable and stable. In particular, index maintenance involves:

- Semi-Annual Index Reviews (SAIRs) in May and November (Figure 1)
- Quarterly Index Reviews (QIRs) in February and August (Figure 2)
- Ongoing event-related changes; which are generally implemented in the indexes as they occur.

**Figure 1. SAIR Process**



**Methodology Book Sections:**

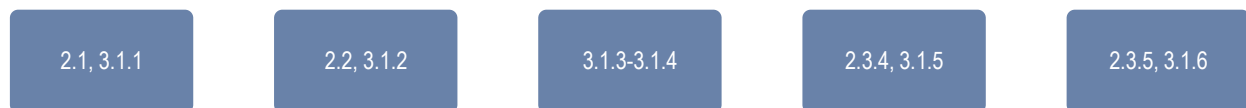
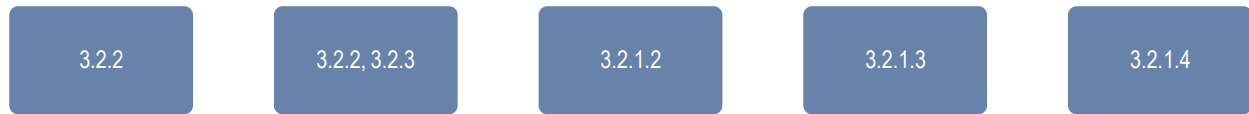


Figure 2. QIR Process



Methodology Book Sections:



# Index Review Process

## Update Equity Universe

The Equity Universe is updated during SAIRs by (1) identifying eligible equity securities and (2) classifying these eligible equity securities into the appropriate country (Table 1).

Table 1. Security Eligibility and Country Classification

Eligible Equity Securities	Security Country Classification
<ul style="list-style-type: none"> <li>Includes <u>listed equity and equity-like securities</u></li> <li>Real estate investment trusts in some countries and certain income trusts in Canada are also eligible for inclusion</li> <li>Excludes: mutual funds, ETFs, equity derivatives, limited partnerships and most investment trusts</li> </ul> <p><i>For details, please refer to Appendix I of the methodology</i></p>	<ul style="list-style-type: none"> <li>Determined by the <u>country of incorporation of the issuing company and the primary listing of the security</u></li> <li>Each company and its securities are classified in only one country</li> <li>Country specific rules are implemented for some markets (e.g. Russia, China, US)</li> <li>In cases where the country of incorporation and primary listing of the security point to different markets, additional factors are considered to determine country classification.</li> </ul> <p><i>For details, please refer to Appendix III of the methodology</i></p>

In the case of QIRs, only sizable companies are added, particularly those that meet investability requirements (see Table 2) and satisfy the following size requirements<sup>1</sup>:

<sup>1</sup> Section 3.2.2 of the methodology book

- A full company market capitalization that exceeds 1.8 times the Interim Market Size-Segment Cutoff (defined later in the document);
- A security free float-adjusted market capitalization that exceeds 1.8 times one-half the Interim Market Size-Segment Cutoff.

## Determine Market Investable Equity Universes

The Market Investable Equity Universes are updated during the Index Reviews. Investability requirements are applied at the overall company level such as full company market capitalization represented by the aggregation of all eligible listed and unlisted securities of a company and at the individual security level, such as free float-adjusted market capitalization (“float MCap”) and liquidity measures.

**Table 2. Market Investability Requirements**

Requirements	Non-Constituents	Review	Existing Constituents	Review	Meth. Book Section
Equity Universe Minimum Size Requirement (UMSR)	USD162 Million (revised at each SAIR)	SAIR	Not Evaluated	NA	2.2.1 3.1.2.1
Equity Universe Minimum Free Float-Adjusted Market Capitalization	½ of UMSR Smaller FM: ¼ UMSR	SAIR	Not Evaluated	NA	2.2.2 3.1.2.2 5.2.1.1
Minimum Liquidity Requirement:					
12 Month Annual Traded Value Ratio (ATVR)	DM: ≥ 20% EM & FM Average Liq: ≥ 15% FM Low Liq ≥ 5% FM Very Low Liq ≥ 2.5%	SAIR/ QIR	DM: ≥ 2/3 of 20% EM & FM Average Liq: ≥ 2/3 of 15% FM Low Liq ≥ 2/3 of 5% FM Very Low Liq ≥ 1%	SAIR	2.2.3 3.1.2.3 5.2.2
3 Month ATVR	DM: ≥ 20%, last four quarters EM: ≥ 15%, last four quarters FM: NA	SAIR/ QIR	DM: ≥ 5%, most recent quarter EM: ≥ 5%, most recent quarter FM: NA	SAIR/ QIR	2.2.3 3.1.2.3 3.2.3
3 Month Frequency of Trading (FOT)	DM: ≥ 90%, last four quarters EM: ≥ 80%, last four quarters FM: NA	SAIR/ QIR	DM: ≥ 80%, most recent quarter EM: ≥ 70%, most recent quarter FM: NA	SAIR/ QIR	2.2.3 3.1.2.3 3.2.3
12 Month Frequency of Trading (FOT)	DM: NA EM: NA FM: 50%	SAIR	DM: NA EM: NA FM: 10%	SAIR	5.2.2
Maximum Stock Price	≤ USD10,000	SAIR/ QIR	Not Evaluated	NA	2.2.3

**Table 3. Market Investability Requirements (cont'd)**

Requirement	Non-Constituents	Review	Existing Constituents	Review	Meth. Book Section
Global Minimum Foreign Inclusion Factor (FIF)	DM & EM: $\geq 0.15$ ; If $< 0.15$ , float MCap must be $\geq 1.8x$ minimum Float MCap of the Interim Standard Index Cutoff  Larger FM: $\geq 0.15$ ; If $< 0.15$ , full MCap $\geq$ Interim Size-Segment cutoff; float MCap must be $\geq 1.8x \frac{1}{2}$ UMSR  Smaller FM: $\geq 0.15$ ; If $< 0.15$ , full MCap $\geq$ Interim Size-Segment cutoff float MCap must be $\geq 1.8x \frac{1}{2}$ UMSR	SAIR	Not Evaluated (see section on final size-segment requirements)	NA	2.2.4 2.3.5.1 3.1.2.4 5.2.1.2
Minimum Length of Trading	$\geq 3$ months before implementation date, except IPOs with company and float MCap $\geq 1.8x$ of the Interim Standard Index Cutoffs post sizable offering	SAIR	Not Evaluated	NA	2.2.5 3.3.4.1
Minimum Foreign Room Requirement	$\geq 15\%$ ; if $\leq 25\%$ , included with a 0.5 FIF adjustment	SAIR/ QIR	Not evaluated (see section on final size segment requirements)	NA	2.2.6 3.1.2.5

Note:

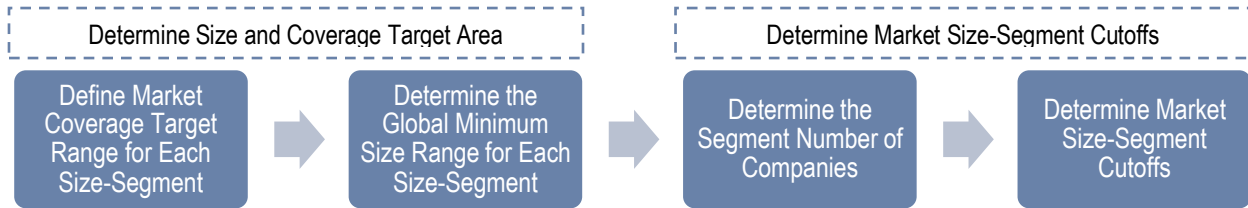
- DM and EM refer to Developed Markets and Emerging Markets, respectively.
- All investability requirements apply at the individual security level with the exception of the Equity UMSR.
- If a security fails to meet Minimum Liquidity Requirements, it may be represented by a relevant eligible (i.e., passes liquidity requirements) Depositary Receipt trading in the same region (i.e., EMEA, Asia Pacific or Americas).
- Existing constituents of a Standard Index in Emerging Markets having a weight of more than 10% in the respective country index that fail liquidity requirements may remain in the index with an adjustment factor of 0.5. Please refer to the methodology book, Section 3.1.2.3.

## Determine Segment Number of Companies (NOC) and the Market Size-Segment Cutoffs

In each market, MSCI first creates a Large Cap Index, a Standard Index (Large + Mid) and an Investable Market Index (Large + Mid + Small Cap). The Mid Cap Index is then derived from the difference between the Standard Index and the Large Cap Index, while the Small Cap Index is derived from difference between IMI and the Standard Index. The resulting Large Cap, Mid Cap and Small Cap Indexes are non-overlapping. In order to create size components that can be meaningfully aggregated into composites, individual market size segments are designed to balance the following two objectives:

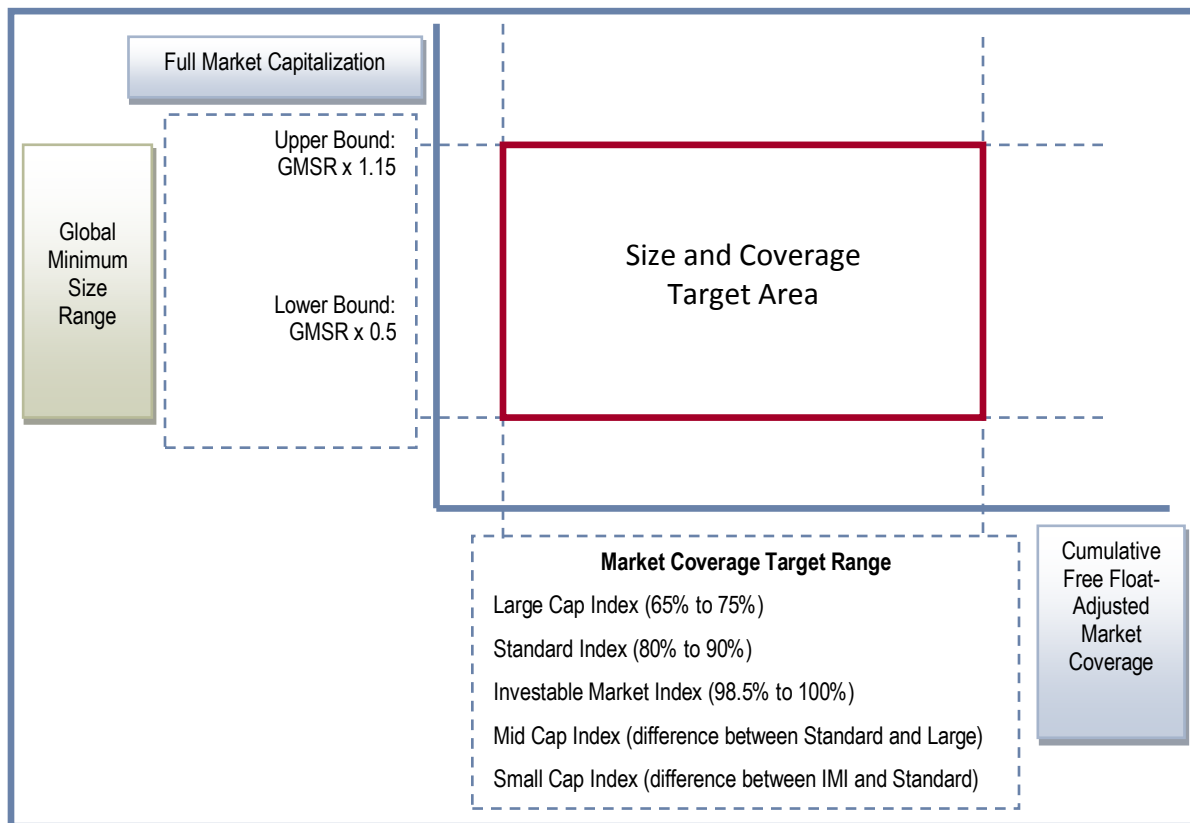
- Achieving global size integrity by including companies of comparable and relevant sizes in a given size segment across all markets in a composite index.
- Achieving consistent market coverage by representing each market's size segment in its proportional weight in the underlying investable equity universe.

The following general process is followed prior to assigning companies to appropriate size-segments:



The size and coverage area is derived from the Market Coverage Target Range (or Coverage Range) and the Global Minimum Size Range for each size-segment (see figure 3). The Global Minimum Size Range is defined based on the Global Minimum Size Reference (GMSR). The definition of the GMSR is provided in Table 4.

Figure 3. Size and Coverage Target Area



**Table 4. Global Minimum Size Reference**

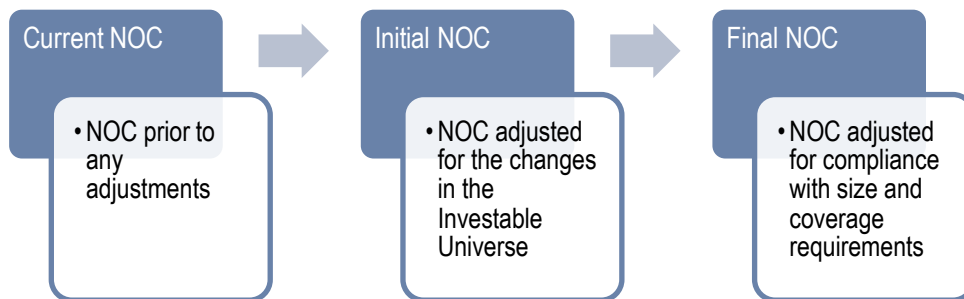
<p style="text-align: center;"><b>SAIR</b> Methodology Book Section 3.1.3</p>	<p style="text-align: center;"><b>QIR/Daily</b> Methodology Book Section 3.2.1.1</p>
<ol style="list-style-type: none"> <li>1. GMSR is reset based on the fully updated DM Equity Investable Universe.</li> <li>2. At each respective size Index (IMI, Standard, Large) GMSR for DM is the full market capitalization (“MCap”) of the company at the same rank that determined the GMSR at the previous SAIR as long as the cumulative free float coverage is between the following:                             <ul style="list-style-type: none"> <li>• Large Cap: 70% and 72%</li> <li>• Standard: 85% and 87%</li> <li>• IMI: 99% and 99.25%</li> </ul> </li> <li>3. If not, the rank is reset to the company that reaches a cumulative free float-adjusted coverage at or within the specified range above. GMSR is set to the full MCap of this company.</li> <li>4. For EM and Larger FM, the GMSR is set at ½ of DM GMSR. For Smaller FM the GMSR is set at ¼ of DM GMSR.</li> </ol>	<ol style="list-style-type: none"> <li>1. At QIRs, daily GMSR as of the price cutoff date is used.</li> <li>2. Daily GMSR is based on the existing DM Equity Investable Universe.</li> <li>3. The calculation algorithm is the same as described in the GMSR calculation for SAIRs.</li> </ol>

**Determine Segment Number of Companies and Respective Market Size-Segment Cutoffs**

The Market Size-Segment Cutoffs (Cutoff) used for segment allocation of companies are based on the Number of Companies (NOC). NOC is reviewed only at the SAIRs. At QIRs, NOC is only adjusted to reflect deletions from the MSCI Investable Equity Universe<sup>2</sup>.

The objectives of the NOC Review at SAIRs are to:

- Reflect the changes in the MSCI Equity Investable Universe (Initial NOC)
- Achieve the size and coverage requirements specified above (Final NOC)

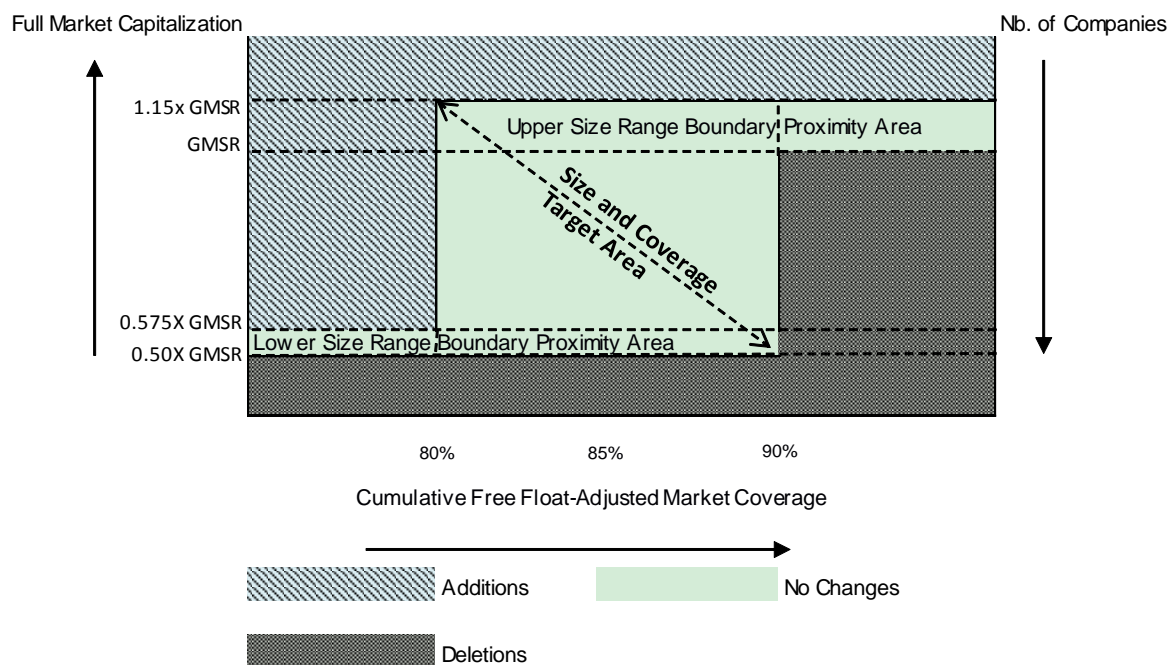


<sup>2</sup> Section 3.2.3 of the methodology book

More specifically, the following outlines the process to determine the NOC during SAIR:

#	Step	Note
1	Determine the Current NOC	This is the NOC as of the Price Cutoff Date of the SAIR prior to any Index Review related adjustments and would be the same NOC reflected in the daily files made available the day after the Price Cutoff Date.
2	Determine the Interim Market Size-Segment Cutoff ("Interim Cutoff")	The Interim Cutoff corresponds to the full market capitalization of the company ranked at the Current NOC (as noted in step 1) reflecting updated Number of Shares (NOS) data for that Index Review. It is based on the current Investable Equity Universe.
3	Determine the Initial NOC	The Initial NOC is equal to the number of companies in the updated Equity Investable Universe with full company market capitalization above or equal to the Interim Cutoff, excluding non-current constituents with full company market capitalization below 0.5x GMSR.
4	Make adjustments to the Initial NOC if needed	Depending on the location of the Market Size-Segment Cutoff derived from the Initial NOC relative to the Size and Coverage Area, an increase in, or reduction of, the Segment NOC may be required (see <a href="#">Table 5</a> and <a href="#">Table 6</a> ).  No adjustments needed if: <ul style="list-style-type: none"> <li>• The full market cap of the company at the Initial NOC is either within the size and coverage area or within the lower or upper size range boundary proximity area.</li> <li>• The full market cap of the company at the Initial NOC is above the upper bound of the GMSR (or 1.15x GMSR) and there are no investable companies between this cutoff and the upper boundary of the GMSR</li> </ul>

**Table 5. Changing NOC to Comply with the Size and Coverage Target Area**



**Table 6. Making Adjustments to the Final NOC**

Position Relative the Size-Coverage Area	Required Adjustment to the NOC <sup>3</sup>	Magnitude of the Adjustment
> 1.15x GMSR and there are investable companies between the company corresponding to the Initial NOC and 1.15x GMSR	Increase	Add all companies with full MCap > 1.15x GMSR
< the lower boundary of the Market Coverage Target Range	Increase	Add all companies with full MCap > upper limit of the lower size range boundary proximity area, if any, that are required to reach the lower boundary of the market coverage target range
< 0.5x GMSR	Decrease	<p>Delete no more than 5% of the Initial NOC to bring the market size-segment cutoff into compliance with size and coverage target area. If this brings the market size-segment cutoff into compliance or if at least half of the free float MCap that lies between the smallest company before the adjustment of the Initial NOC and the lower bound of the global minimum size range is removed then no further reduction is necessary.</p> <p>If not, a reduction of not more than 20% of the Initial NOC is made to remove no more than half of the free-float adjusted MCap that lies between the smallest company before the adjustment of the Initial NOC and the lower bound of the Global Minimum Size Range.</p>
> the upper boundary of the Market Coverage Target Range	Decrease	Delete no more than 5% of the Initial NOC to bring the market size segment cutoff into compliance with size and coverage target area. Only companies with full MCap lower than the lower limit of the Upper Size Range Boundary Proximity area can be removed.

Note: In market segments with a small number of companies (i.e., 20 or less initial NOC), the deletion of the first two companies is not subject to the limits described above.

Once the NOC is determined, the Cutoff is set to the full company market capitalization of the company with the rank corresponding to that NOC. The Cutoffs used at the time of SAIRs as well as for ongoing index maintenance are bounded by the Global Minimum Size Range.

At the QIRs, the market size-segment cutoff is determined at the full MCap of the company ranked in the market investable equity universe (not including newly eligible companies) at the segment NOC (i.e., first two steps of the SAIR process).

- The NOC is not reviewed at a QIR, with the exception of the adjustment resulting from deletion of companies due to failing short-term liquidity requirements (see methodology book, section 3.2.3)
- The Market Size-Segment Cutoff is not limited by the Global Minimum Size Range

<sup>3</sup> Additions are made in descending order of full market capitalization.

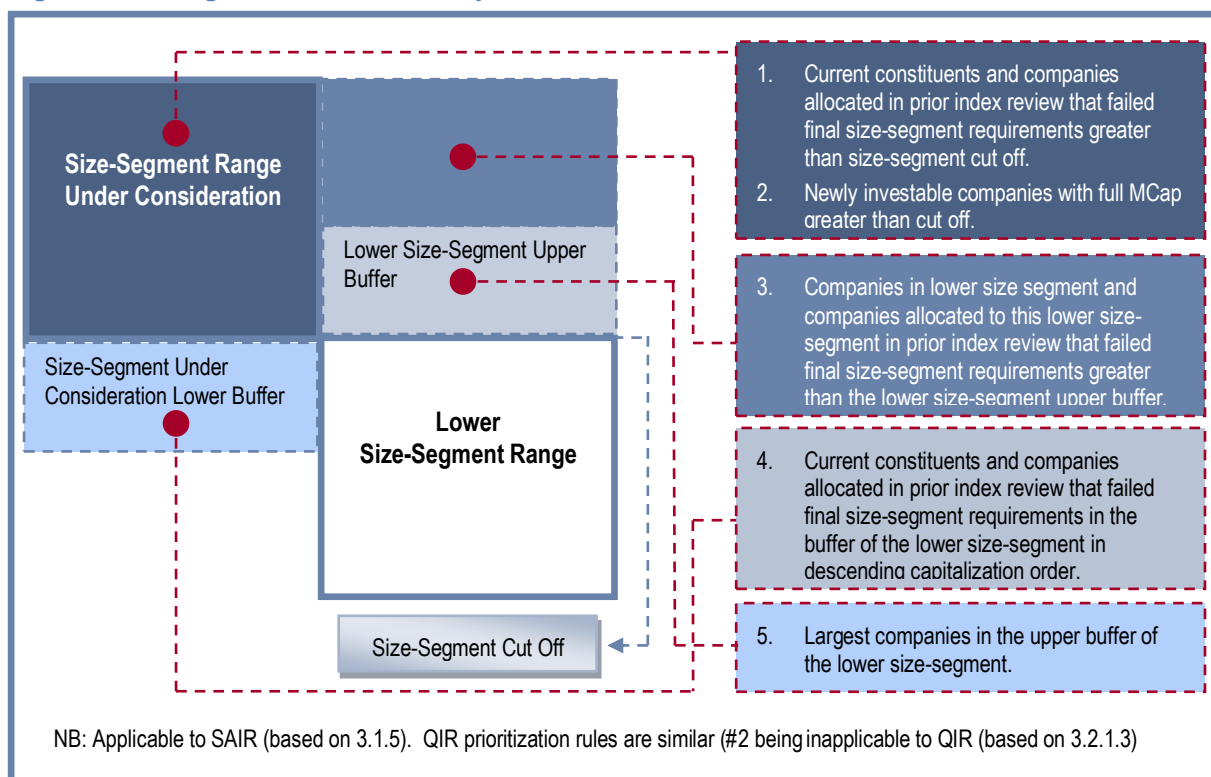


## Assigning Companies to Appropriate Size-Segments

In order to manage index turnover, buffer zones are used for migration of companies between Size-Segment Indexes. An existing constituent may be allowed to remain in its current size-segment even if its full company market capitalization falls above or below its Market Size-Segment, as long as its full company market capitalization falls within the upper or lower buffer zone of the respective Market Size-Segment Cutoff (see note 1 below on determining buffer zones). However, companies located in the buffer zones may migrate to another Size-Segment as required in order to reach the necessary Segment NOC (see priority rule 5 below). Companies are initially assigned to the Standard, Large Cap and IMI segments and then assigned to the Mid and Small Cap segments.

During Index Reviews, the following diagram shows the prioritization rules involved in the allocation process:

Figure 4. Size-Segment Allocation Priority Rules



Notes:

1. Buffer zones are determined as follows:
  - a. Upper Buffer Zone of Size-Segment: Multiply the next immediate larger size-segment cutoff by 1.5x for SAIR and 1.8x for QIR to determine the upper bound of the zone. The cutoff and this upper bound define the zone. For example, to determine the upper bound of the upper buffer zone of the small cap size segment during SAIR, take the Standard Cutoff and multiply it by 1.5x.
  - b. Lower Buffer Zone of Size-Segment: Multiply the size-segment cutoff by 0.67x for SAIR and 0.5x for QIR to determine the lower bound of the zone. The cutoff and this lower bound define the zone.
2. For migration rules applicable to potential constituents of the Small Cap Size-Segment and the concept of the Small Cap Entry Buffer Zone, please refer to the methodology book, section 3.1.5.1.
3. For QIRs, notwithstanding the above priority rules, note that the following companies are retained in their size-segment and the NOC is increased or decreased accordingly (methodology book, section 3.2.1.3)
  - a. Companies migrating from lower size segment but are below GMSR
  - b. Companies migrating from upper size-segment but are above the upper bound of GMSR

## Assess Conformity with Final Size-Segment Investability Requirements

In order to enhance the replicability of Size-Segment Indexes, additional size-segment investability requirements are set for the Investable Market and the Standard Indexes as defined in the table below:

**Table 7. Final Size-Segment Investability Requirement**

Requirement	Non-Constituents & Migrating Constituents	Existing Constituents	Meth. Book Section
Minimum Free Float-Adjusted Market Capitalization Requirement	<ul style="list-style-type: none"> <li>&gt; Float MCap Cutoff (set to 1/2 of the Market Size-Segment Cutoff)</li> <li>&gt; 1.8x Float MCap Cutoff if FIF&lt;0.15</li> </ul>	SAIR: DM&EM: $\geq \frac{2}{3}$ of the threshold set for non-constituents  Larger FM: $\frac{2}{3} \times \frac{1}{2} \times \text{UMSR}$ Smaller FM: $\frac{2}{3} \times \frac{1}{4} \times \text{UMSR}$  QIR: Not evaluated	2.3.5.1 3.1.6.2
Global Minimum FIF	See above	SAIR: Small Cap: $\geq 0.15$  QIR: Not evaluated	3.1.6.2

Note:

- Existing Standard Index constituents in the lower buffer (i.e., within area of Small Cap Size-Segment or SAIR allocation priority #4, see Figure 5) that fail additional investability requirements of the Standard Index are moved to Small Cap instead of being deleted from the IMI.

Securities that are part of the Market Investable Equity Universe, but did not meet additional investability requirements at the previous SAIR, are not added to the Investable Market Indexes as part of the QIR, unless they meet the criteria outlined in section 3.2.2 of the Global Investable Market Indexes methodology book. During Index Reviews, current constituents with less than 25% foreign room are subject to an adjustment factor based on Table 8 below.

**Table 8. Adjustment Factors for Index Constituents**

Current Adjustment Factor	Post Review Adjustment Factor				
	$\geq 25\%$	$\geq 15, < 25\%$	$\geq 7.5\%, < 15\%$	$\geq 3.75\%, < 7.5\%$	$< 3.75\%$
1	1	1	0.5	0.25	0
0.5	1	0.5	0.5	0.25	0
0.25	1	0.5	0.25	0.25	0

Notes:

- Exceptions to the < 3.75% rule: Security must have an eligible DR (level II and III DRs listed on NYSE, NASDAQ and London Stock Exchange. Must also have a 12 month ATVR > 20% for DM and > 15% for EM and FM.
- An upward movement of the adjustment factor following a previous reduction in foreign room will only be considered 12 months after the weight reduction unless the upward movement of the adjustment factor is primarily driven by a change in FOL.
- A security deleted from the index given a foreign room < 3.75% will only be considered for inclusion 12 months after its deletion unless it is primarily driven by FOL.
- In the case of #2 and #3, increases in adjustment factor or re-inclusion due to FOL increase will only be considered in an index review if the FOL increase occurred prior to the price cutoff date of the previous index review.
- Minimum free float requirements for Index Constituents are checked before the application of the adjustment factor. In contrast, minimum free float requirements for Non-Constituents are checked after the application of the adjustment factor.

## End Notes

### Market Investability Requirements

#### Equity Universe Minimum Size Requirement (UMSR) and Minimum Free Float-Adjusted Market Capitalization

1. Sort companies in DM Equity Universe in descending order of full market capitalization ("Full MCap")
  2. Calculate cumulative coverage of the free float-adjusted market capitalization ("Float MCap") at each company.
  3. Once cumulative Float MCap coverage of 99% is achieved, the Full MCap of the company at that point defines UMSR. This rank is noted for the UMSR adjustment during the next SAIR.
- During the next SAIR, the coverage at the noted rank will determine the new UMSR as well as the new rank as follows:
    - 99% to 99.25%, UMSR is set to the current Full MCap of the company at that rank
    - Below 99%, UMSR and rank is reset to the Full MCap and rank of the company at the 99% coverage.
    - Above 99%.25%, UMSR and rank is reset to the Full MCap and rank of the company at the 99.25% coverage.
  - Same UMSR is used for both DM and EM.
  - Minimum Float MCAP requirement is equal to 50% of UMSR

#### Annual Traded Value Ratio and Frequency of Trading

- Monthly median traded values (MMTV) = median daily traded value x number of days in the month the security traded
  - Daily traded value = number of shares traded intra-day x closing price
- Monthly median traded value ratio (MMTVR) = MMTV / free float adjusted security MCap
- 12-Month ATVR = average of the MMTVR for the previous 12 months (or months this data is available – 6, 3 or 1 month) x 12 (to annualize)
- 3-Month ATVR = average of the MMTVR for the previous 3 months (or 1 month if unavailable) x 12
- ATVR values and thresholds are not rounded
- FOT = Number of days a Security Traded vs. Number of market trading days during a 3 month period
- Adjustments are done where ATVR/FOT are decisive elements for inclusion or exclusion:
  - Suspended securities: suspension days are excluded
  - Large public offerings: trading volumes after public offering are used
  - Deleted Securities (last 12 months): excludes trading volumes of month security deletion was announced and deleted.

**Foreign Inclusion Factor**

- Free Float: Proportion of shares outstanding that is available for purchase in the public equity markets by international investors (accounts for free float and/or foreign ownership limits)
- For securities with free float greater than 15% and not subject to FOL, the FIF is equal to the estimated free float, rounded up to the closest 5%
- For securities with free float less than 15% and not subject to FOL, the FIF is equal to the estimated free float, rounded to the closest 1%.
- For securities subject to FOLs, the FIF is equal to the lesser of:
  - Estimated free float available to foreign investors,
    - Rounded up to the closest 5%, if the free float is greater than 15%
    - Rounded to the closest 1%, if the free float is less than 15%
  - FOL rounded to the closest 1%.

**Foreign Room**

- Proportion of shares still available to foreign investors relative to the maximum allowed
- Conformity with minimum free float-adjusted MCap for constituents will be assessed before the application of adjustment factor (see table on final size segment investability)

**Index Data Cutoff Dates**

The following are the general guidelines on cutoff dates used for the Index Reviews.

**Table 9. Data Cutoff Dates**

	February QIR	May SAIR	August QIR	November SAIR
<b>Equity Universe Update (includes FIF and NOS)</b>	End of November	End of February	End of May	End of August
<b>Price Cutoff Date</b>	Any of the last 10 business days of January	Any of the last 10 business days of April	Any of the last 10 business days of July	Any of the last 10 business days of October
<b>Foreign Room Updates to Existing Equity Universe</b>	End of December	End of March	End of June	End of September
<b>Data for Calculating Liquidity Requirements</b>	End of December	End of March	End of June	End of September

Note:

1. For details, please refer to the Global Investable Market Indexes methodology book, sections 3.1.9 and 3.2.5.
2. A business day is defined as a day from Monday to Friday where markets cumulatively constituting of more than 80% of the market capitalization of the MSCI ACWI Index are expected to be open.

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<sup>1</sup> As of September 30, 2013, as reported on January 31, 2014 by eVestment, Lipper and Bloomberg