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Index Methodology

# MSCI Global Investable Market Indices Methodology

Index Construction Objectives, Guiding Principles and Methodology for the  
MSCI Global Investable Market Indices

May 2013

# Contents

Outline of the Methodology Book.....	9
Section 1: Introduction to the MSCI Global Investable Market Indices.....	10
Section 2: Constructing the MSCI Global Investable Market Indices.....	12
2.1. Defining the Equity Universe.....	12
2.1.1. Identifying Eligible Equity Securities.....	12
2.1.2. Country Classification of Eligible Securities.....	13
2.2. Determining the Market Investable Equity Universes.....	13
2.2.1. Equity Universe Minimum Size Requirement.....	14
2.2.2. Equity Universe Minimum Float-Adjusted Market Capitalization Requirement.....	15
2.2.3. DM and EM Minimum Liquidity Requirement.....	15
2.2.4. Global Minimum Foreign Inclusion Factor Requirement.....	16
2.2.5. Minimum Length of Trading Requirement.....	17
2.2.6. Minimum Foreign Room Requirement.....	17
2.3. Defining Market Capitalization Size-Segments for Each Market.....	18
2.3.1. Defining the Market Coverage Target Range for Each Size-Segment....	19
2.3.2. Determining the Global Minimum Size Range for Each Size-Segment..	20
2.3.2.1. Defining the Global Minimum Size Reference.....	20
2.3.3. Determining the Segment Number of Companies and Associated Market Size-Segment Cutoffs.....	21
2.3.4. Assigning Companies to the Size-Segments.....	23
2.3.5. Applying Final Size-Segment Investability Requirements and Index Continuity Rules.....	23
2.3.5.1. Minimum Free Float Market Capitalization Requirement.....	23
2.3.5.2. Minimum Liquidity Requirement for the Standard Indices.....	24
2.3.5.3. Minimum Foreign Room Requirement.....	25

- 2.4. Index Continuity Rules for the Standard Indices .....25
- 2.5. Creating Style Indices within Each Size-Segment.....26
- 2.6. Classifying Securities under the Global Industry Classification Standard26
- 2.7. Creating Size-Segment Indices: Examples .....28
  - 2.7.1. Determining Market Size-Segment Cutoffs and Assigning Companies to the Size-Segments .....28
- Section 3: Maintaining the MSCI Global Investable Market Indices .....30
  - 3.1. Semi-Annual Index Reviews in May and November .....30
    - 3.1.1. Updating the Equity Universe .....31
      - 3.1.2. Updating the Market Investable Equity Universes .....31
        - 3.1.2.1. Updating the Equity Universe Minimum Size Requirement.....31
        - 3.1.2.2. Updating the Equity Universe Minimum Free Float–Adjusted Market Capitalization .....32
        - 3.1.2.3. Minimum Liquidity Requirement for Existing Constituents.....32
        - 3.1.2.4. Global Minimum Foreign Inclusion Factor Requirement.....33
        - 3.1.2.5. Minimum Foreign Room Requirement .....33
      - 3.1.3. Recalculating the Global Minimum Size References and Global Minimum Size Ranges .....33
      - 3.1.4. Reassessing the Segment Number of Companies and the Market Size-Segment Cutoffs .....33
        - 3.1.4.1. Determining Initial Segment Number of Companies .....34
        - 3.1.4.2. Changes in the Segment Number of Companies.....34
    - 3.1.5. Assigning Companies to Appropriate Size-Segments.....36
      - 3.1.5.1. Using Buffer Zones to Manage the Migration of Companies between Size-Segment Indices.....37
    - 3.1.6. Assessing Conformity with Final Size-Segment Investability Requirements .....38
      - 3.1.6.1. For New Constituents .....38
      - 3.1.6.2. For Existing Constituents.....38

- 3.1.7. Semi-Annual Index Review of Changes in Foreign Inclusion Factors (FIFs) 40
- 3.1.8. Semi-Annual Index Review of Changes in Number of Shares (NOS).....40
- 3.1.9. Date of Data Used for Semi-Annual Index Review .....40
- 3.2. Quarterly Index Reviews in February and August .....42
- 3.2.1. Quarterly Index Review of Size-Segment Migrations.....42
- 3.2.1.1.Updating the Global Minimum Size References and Global Minimum Size Ranges 42
- 3.2.1.2.Reassessing the Market Size-Segment Cutoffs .....42
- 3.2.1.3.Assigning Companies to Appropriate Size-Segments.....42
- 3.2.1.4.Assessing Conformity with Final Size-Segment Investability Requirements .....43
- 3.2.2. Quarterly Index Review of Addition of Companies Currently not Constituents of the Investable Market Indices .....45
- 3.2.3. Quarterly Index Review of Changes in FIFs .....46
- 3.2.4. Quarterly Index Review of Changes in Number of Shares (NOS) .....47
- 3.2.5. Date of Data Used for Quarterly Index Review .....47
- 3.3. Ongoing Event-Related Changes.....48
- 3.3.1. Determining the Interim Market Size-Segment Cutoffs for Daily Maintenance.....49
- 3.3.2. Updating the Segment Number of Companies .....49
- 3.3.3. Corporate Events Affecting Existing Index Constituents .....50
- 3.3.3.1.Changes in FIF, Number of Shares or Industry Classification for Existing Constituents .....50
- 3.3.3.2.Changes in Size or Style Segment Classification as a Result of a Large Corporate Event .....51
- 3.3.3.3.Early Inclusions of Non-Index Constituents.....52
- 3.3.3.4.Early Deletions of Existing Constituents .....53
- 3.3.4. Corporate Events Affecting Non-Index Constituents .....54
- 3.3.4.1.IPOs and Other Early Inclusions.....54

- 3.3.5. Corporate Events Affecting the Index Review .....55
- 3.4. Announcement Policy .....56
  - 3.4.1. Semi-Annual Index Review .....56
  - 3.4.2. Quarterly Index Review .....56
  - 3.4.3. Ongoing Event-Related Changes.....56
    - 3.4.3.1. Client Announcements .....56
    - 3.4.3.2. Public Announcements .....58
  - 3.4.4. IPOs and Other Early Inclusions.....58
  - 3.4.5. Global Industry Classification Standard (GICS) .....58
- Section 4: MSCI All Cap Indices .....60
  - 4.1. Constructing the MSCI All Cap Indices .....60
    - 4.1.1. Micro Cap Maximum Size Requirement .....60
    - 4.1.2. Micro Cap Minimum Size Requirement .....61
    - 4.1.3. Micro Cap Minimum Liquidity Requirement .....61
    - 4.1.4. Global Minimum Foreign Inclusion Factor Requirement.....61
    - 4.1.5. Minimum Length of Trading Requirement .....61
  - 4.2. Maintaining the MSCI All Cap Indices .....62
    - 4.2.1. Semi-Annual Index Reviews in May and November .....62
      - 4.2.1.1. Updating the Micro Cap Minimum Size Requirement .....62
      - 4.2.1.2. Assigning Companies to the Micro Cap Size-Segment .....63
    - 4.2.2. Quarterly Index Reviews of February and August .....63
    - 4.2.3. Ongoing Event-Related Changes.....63
- Section 5: MSCI Frontier Markets Indices .....64
  - 5.1. Frontier Markets Definition .....64
    - 5.1.1. Updating MSCI Frontier Markets Index Coverage .....64
    - 5.1.2. Standalone Country Indices.....64

5.2. Methodology used to construct and maintain the MSCI Frontier Markets Indices .....65

5.2.1. Categorization of Frontier Markets into Larger and Smaller Markets ...66

5.2.1.1. Equity Universe Minimum Float-Adjusted Market Capitalization Requirement.....66

5.2.1.2. Global Minimum Foreign Inclusion Factor Requirement.....67

5.2.1.3. Global Minimum Size Reference.....67

5.2.2. Categorization of Frontier Markets into very low, low or average liquidity markets .....68

5.2.3. Final Size-Segment Investability Requirements .....69

5.2.4. Index Continuity Rules .....69

5.2.5. Implementation of Corporate Events.....69

5.2.6. IPOs and Other Early Inclusions.....69

Appendices .....70

Appendix I: Equity Markets and Universe .....71

Eligible Markets (Developed Markets) .....71

Eligible Markets (Emerging Markets).....72

Eligible Markets (Frontier Markets) .....73

Eligible Classes of Securities (Developed Markets).....74

Eligible Classes of Securities (Developed Markets).....74

Eligible Classes of Securities (Emerging Markets) .....75

Eligible Classes of Securities (Frontier Markets).....76

REITs .....77

Canadian Income Trusts .....77

Appendix II: Market Classification Framework .....78

Appendix III: Country Classification of Securities.....79

General framework.....79

Other cases .....80

Country specific cases .....80

Change of Incorporation .....81

Review and Maintenance .....82

Country of Coverage of Companies not Eligible for Inclusion in the MSCI Global Investable Market Indices.....82

MSCI Ineligible Securities .....83

Appendix IV: Free Float Definition and Estimation Guidelines .....84

    Defining and Estimating Free Float .....84

    Classification of Shareholder Types .....85

    Special Cases .....86

    Foreign Ownership Limits (FOLs) .....87

    Calculation of Free Float .....88

    Assigning a Free Float-Adjustment Factor.....89

    Calculating the Free Float-Adjusted Market Capitalization .....91

    Treatment of Non-Voting Depository Receipts in Thailand .....92

Appendix V: Global Industry Classification Standard (GICS) .....95

    Introduction .....95

    GICS Company Classification .....97

Appendix VI: Price Source for Securities.....103

Appendix VII: Policy Regarding Trading Suspensions and Market Closures During Index Reviews .....104

Appendix VIII: Updating the Global Minimum Size References and Ranges.....106

    General Principles for Updating the Global Minimum Size References and Ranges .....106

Appendix IX: Minimum Market-Relative Liquidity Requirements for the Standard Index .....108

Appendix X: MSCI Frontier Markets Indices Country Classification .....109

Appendix XI: Transition .....110

Provisional Indices .....111

    Deriving the Size-Segment Indices at Initial Construction of the Provisional Indices.....111

    Publication of Provisional Indices.....111

Reflecting Constituent Changes in the Standard Indices at the Transition Points .....112

Index Reviews and Treatment of On-Going Market Events During the Transition Period .....114

    Ongoing Event Related Changes.....114

    May 2007 Annual Full Country Index Review of the Standard Indices and Semi-Annual Index Review of the Small Cap Index .....114

    August 2007 Quarterly Index Review .....115

    November 2007 Semi-Annual Index Review .....115

    February 2008 Quarterly Index Review .....116

    May 2008 Semi-Annual Index Review.....116

Transitioning Other Indices.....116

    Global Value and Growth Indices .....116

    Euro and Pan-Euro Indices .....116

    Indices Based on the Standard Indices.....117

    GCC Countries Indices.....117

    Summary Transition Timeline .....118

Appendix XII: Transition of MSCI China A Index.....120

Appendix XIII: MSCI DR Indices .....123

    Client Service Information is Available 24 Hours a Day .....127

    Notice and Disclaimer .....127

    About MSCI .....127



# Outline of the Methodology Book

This methodology book outlines MSCI's index objectives and details the methodology employed to create and maintain the MSCI Global Investable Market Indices.

Section 1 provides an introduction and background to the MSCI Global Investable Market Index family including the objectives and design of the indices.

Section 2 details the principles and the methodology used for index construction. This includes the investability requirements and the size-segmentation methodology used in constructing the indices.

Section 3 describes the maintenance principles employed for reflecting the evolution of the markets in a timely fashion while providing index stability and controlling turnover.

Section 4 details the principles and the methodology used for MSCI All Cap Indices construction.

Section 5 details the principles and the methodology used for MSCI Frontier Markets Indices construction.

The Appendices contain details on equity market coverage, country classification of securities, free float definition and estimation, and other attributes.

This book was last updated in May 2013.

# Section 1: Introduction to the MSCI Global Investable Market Indices

For over 35 years, MSCI has constructed the most widely used international equity indices for institutional investors. The MSCI global equity indices have maintained their leading position because they have evolved over time to continue to appropriately reflect the international investable opportunity set of equities while addressing the changing and expanding investment interests of cross-border investors.

MSCI's objective is to construct and maintain its global equity indices in such a way that they may contribute to the international investment process by serving as:

- Relevant and accurate performance benchmarks.
- The basis for asset allocation and portfolio construction across geographic markets, size-segments, style segments, and sectors.
- Effective research tools.
- The basis for investment vehicles.

Developments in international equity markets and investment management processes have led many investors to desire very broad coverage and size-segmentation of the international equity markets. To address these desires and continue to meet our index construction and maintenance objective, after a thorough consultation with members of the international investment community, MSCI enhanced its Standard Index methodology, by moving from a sampled multi-cap approach to an approach targeting exhaustive coverage with non-overlapping size and style segments. The MSCI Standard and MSCI Small Cap Indices, along with the other MSCI equity indices based on them, transitioned to the Global Investable Market Indices methodology described in this methodology book. The transition was completed at the end of May 2008.

The Enhanced MSCI Standard Indices are composed of the MSCI Large Cap and Mid Cap Indices. The MSCI Global Small Cap Index transitioned to the MSCI Small Cap Index resulting from the Global Investable Market Indices methodology, and contains no overlap with constituents of the transitioned MSCI Standard Indices. In addition, under the MSCI Global Investable Market Indices methodology, there are new Small Cap Indices covering Emerging Markets countries. There are also new MSCI Value and Growth Indices constructed from the Small Cap Indices for both Emerging and Developed Markets. Together, the relevant MSCI Large Cap, Mid Cap and Small Cap Indices make up the MSCI Investable Market Index for each country, composite, sector, and style index that MSCI offers.

Based on transparent and objective rules, the Global Investable Market Indices are intended to provide:

- Exhaustive coverage of the investable opportunity set with non-overlapping size and style segmentation.
- A strong emphasis on investability and replicability of the indices through the use of size and liquidity screens.

- Size segmentation designed to achieve an effective balance between the objectives of global size integrity and country diversification.
- An innovative maintenance methodology that provides a superior balance between index stability and reflecting changes in the opportunity set in a timely way.
- A complete and consistent index family, with Standard, Large Cap, Mid Cap, Small Cap, and Investable Market Indices.

In addition to the innovations listed above, the Global Investable Market Indices methodology retains many of the features of the original methodology, such as:

- The use of a building block approach to permit the creation and calculation of meaningful composites.
- The creation of sector and industry indices using the Global Industry Classification Standard (GICS<sup>®</sup>).
- The creation of Value and Growth Indices using the current MSCI Global Value and Growth Methodology.
- Minimum free float requirements for eligibility and free float-adjusted capitalization weighting to appropriately reflect the size of each investment opportunity and facilitate the replicability of the Indices.
- Timely and consistent treatment of corporate events and synchronized rebalancings, globally.

In November 2010 MSCI also introduced a Micro Cap Size-Segment for developed markets as well as the MSCI World All Cap Index consisting of the Large, Mid, Small and Micro Cap Size-Segments in order to further broaden the coverage of the international equity markets.

## Section 2: Constructing the MSCI Global Investable Market Indices

Constructing the MSCI Global Investable Market Indices involves the following steps:

- Defining the Equity Universe.
- Determining the Market Investable Equity Universe for each market.
- Determining market capitalization size-segments for each market.
- Applying Index Continuity Rules for the Standard Index.
- Creating style segments within each size-segment within each market.
- Classifying securities under the Global Industry Classification Standard (GICS®).

Each of these steps is described in detail below.

### 2.1. Defining the Equity Universe

The Equity Universe is defined by:

- Identifying eligible equity securities, and
- Classifying these eligible equity securities into the appropriate country.

#### 2.1.1. Identifying Eligible Equity Securities

All listed equity securities, including Real Estate Investment Trusts (REITs) and certain income trusts in Canada are eligible for inclusion in the Equity Universe. Conversely, mutual funds (other than Business Development Companies in the U.S.), ETFs, equity derivatives, limited partnerships, and most investment trusts are not eligible for inclusion in the Equity Universe.

Preferred shares that exhibit characteristics of equity securities are generally eligible. As the definition of the preferred shares may vary from country to country or even from one company to another, MSCI analyses this type of security on a case by case basis. The key criterion for a preferred share to be eligible is that it should not have features that make it resemble – and behave like – a fixed income security, such as the entitlement to a fixed dividend and/or, in case of liquidation, an entitlement to a company's net assets which is limited to the par value of the preferred share. On the other hand, preferred shares whose only difference compared to common shares is a limited voting power are typically eligible for inclusion in the Equity Universe.

### 2.1.2. Country Classification of Eligible Securities

Each company and its securities (i.e., share classes) is classified in one and only one country, which allows for a distinctive sorting of each company by its respective country.

The DM Equity Universe consists of all securities in the Equity Universe classified into a Developed Market.

Please refer to Appendix I: Equity Markets and Universe and Appendix III: Country Classification of Securities for further details.

## 2.2. Determining the Market Investable Equity Universes

A Market Investable Equity Universe for a market is derived by applying investability screens to individual companies and securities in the Equity Universe that are classified in that market. A market is equivalent to a single country, except in DM Europe, where all DM countries in Europe are aggregated into a single market for index construction purposes. Subsequently, individual DM Europe country indices within the MSCI Europe Index are derived from the constituents of the MSCI Europe Index under the Global Investable Market Indices methodology.

The Global Investable Equity Universe is the aggregation of all Market Investable Equity Universes. The DM Investable Equity Universe is the aggregation of all the Market Investable Equity Universes for Developed Markets.

Some of the investability requirements referred to above are applied at the individual security level and some at the overall company level, represented by the aggregation of individual securities of the company. As such, the inclusion or exclusion of one security does not imply the automatic inclusion or exclusion of other securities of the same company.

The investability screens used to determine the Investable Equity Universe in each market are:

- Equity Universe Minimum Size Requirement.
- Equity Universe Minimum Free Float-Adjusted Market Capitalization Requirement.
- DM and EM Minimum Liquidity Requirement.
- Global Minimum Foreign Inclusion Factor Requirement.
- Minimum Length of Trading Requirement.
- Minimum Foreign Room Requirement.

**2.2.1. Equity Universe Minimum Size Requirement**

This investability screen is applied at the company level.

In order to be included in a Market Investable Equity Universe, a company must have the required minimum full market capitalization. This minimum full market capitalization is referred to as the Equity Universe Minimum Size Requirement. The Equity Universe Minimum Size Requirement applies to companies in all markets, Developed and Emerging, and is derived as follows:

- First, the companies in the DM Equity Universe are sorted in descending order of full market capitalization and the cumulative coverage of the free float-adjusted market capitalization of the DM Equity Universe is calculated at each company. Each company’s free float-adjusted market capitalization is represented by the aggregation of the free float-adjusted market capitalization of the securities of that company in the Equity Universe.
- Second, when the cumulative free float-adjusted market capitalization coverage of 99% of the sorted Equity Universe is achieved, the full market capitalization of the company at that point defines the Equity Universe Minimum Size Requirement.
- The rank of this company by descending order of full market capitalization within the DM Equity Universe is noted, and will be used in determining the Equity Universe Minimum Size Requirement at the next rebalance.

**Example:**

Using the steps mentioned above, in this example the full market capitalization of the 8008<sup>th</sup> company of USD 150 million will be chosen as the Equity Universe Minimum Size Requirement.

Company	Country	Full Market Capitalization (USD millions)	Free Float-Adjusted Market Capitalization (USD millions)	Cumulative Free Float-Adjusted Market Capitalization Coverage	Rank of Company
A	a	400,000	400,000	1.29%	1
B	a	360,000	360,000	2.45%	2
C	a	275,000	250,000	3.26%	3
AD	a	250,000	250,000	4.06%	4
AE	b	240,000	190,000	4.68%	5
AF	c	235,000	95,000	4.98%	6
GG	a	230,000	230,000	5.73%	7
AH	a	225,000	225,000	6.45%	8
AL	d	210,000	210,000	7.13%	9
...		...	...	...	...
...		...	...	...	...
...		...	...	...	...
WWW	f	1,000	250	98.99%	8,007
XYZ	g	150	130	99.00%	8,008
YYY	f	125	125	99.01%	8,009
ZZZZ	f	100	100	99.01%	8,010
...		...	...	...	...
<b>Total</b>			<b>31,000,000</b>	<b>100.00%</b>	

At the time of the May 2013 SAIR, the Equity Universe Minimum Size Requirement was USD 143 million. Companies with full market capitalizations below this level are not included in any Market Investable

Equity Universe. The Equity Universe Minimum Size Requirement is reviewed and, if necessary revised, at Semi-Annual Index Reviews.

## 2.2.2. Equity Universe Minimum Float-Adjusted Market Capitalization Requirement

This investability screen is applied at the individual security level. To be eligible for inclusion in a Market Investable Equity Universe, a security must have a free float-adjusted market capitalization equal to or higher than 50% of the Equity Universe Minimum Size Requirement.

## 2.2.3. DM and EM Minimum Liquidity Requirement

This investability screen is applied at the individual security level. To be eligible for inclusion in a Market Investable Equity Universe, a security must have adequate liquidity measured by:

- Twelve month and 3-month Annual Traded Value Ratio (ATVR);
- Three month Frequency of Trading.

The ATVR screens out extreme daily trading volumes, taking into account the free float-adjusted market capitalization size of securities. The aim of the 12-month and 3-month ATVR together with 3-month Frequency of Trading is to select securities with a sound long and short-term liquidity.

A minimum liquidity level of 20% of 3-month ATVR and 90% of 3-month Frequency of Trading over the last 4 consecutive quarters, as well as 20% of 12-month ATVR are required for the inclusion of a security in a Market Investable Equity Universe of a Developed Market. This rule is referred to as the DM Minimum Liquidity Requirement.

A minimum liquidity level of 15% of 3-month ATVR and 80% of 3-month Frequency of Trading over the last 4 consecutive quarters, as well as 15% of 12-month ATVR are required for the inclusion of a security in a Market Investable Equity Universe of an Emerging Market. This rule is referred to as the EM Minimum Liquidity Requirement.

In instances when a security does not meet the above criteria, the security will be represented by a relevant liquid eligible Depositary Receipt if it is trading in the same geographical region.<sup>1</sup> Depositary Receipts are deemed liquid if they meet all the above mentioned criteria for 12-month ATVR, 3-month ATVR and 3-month Frequency of Trading.

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<sup>1</sup> Exceptions: In Russia liquid ADRs may be eligible for inclusion in the Market Investable Equity Universe despite trading in a different time-zone. In Peru, liquid U.S. listings other than ADRs may be eligible for inclusion in the Market Investable Equity Universe. MSCI classifies markets into three main geographical regions: EMEA, Asia Pacific and Americas.

Concerning the level of a stock price, there may be liquidity issues for securities trading at a very high stock price. Hence, a limit of USD 10,000 has been set and securities with stock prices above USD 10,000 fail the liquidity screening. This rule applies only for non-constituents of the MSCI Global Investable Market Indices. Consequently, current constituents of the MSCI Global Investable Market Indices would remain in the index if the stock price passes the USD 10,000 threshold.

The ATVR of each security is calculated in a 3-step process:

- First, monthly median traded values are computed using the median daily traded value, multiplied by the number of days in the month that the security traded. The daily traded value of a security is equal to the number of shares traded during the day, multiplied by the closing price of that security. The median daily traded value is the median of the daily traded values in a given month.
- Second, the monthly median traded value of a security is divided by its free float-adjusted security market capitalization at the end of the month, giving the monthly median traded value ratio.
- Finally, the 12-month ATVR is obtained by taking the average of the monthly median traded value ratios of the previous 12 months – or the number of months for which this data is available (previous 6 months, 3 months or 1 month) – and annualizing it by multiplying it by 12. The 3-month ATVR is obtained by taking the average of the monthly median traded value ratios of the previous 3 months – or 1 month if no 3 month of data is available – and annualizing it by multiplying it by 12.<sup>2</sup>

The 3-month Frequency of Trading is determined by dividing the number of days a security traded during a 3-month period by the number of trading days within this period.<sup>3</sup>

#### 2.2.4. Global Minimum Foreign Inclusion Factor Requirement

This investability screen is applied at the individual security level.

To be eligible for inclusion in a Market Investable Equity Universe, a security's Foreign Inclusion Factor (FIF) must reach a certain threshold. The FIF of a security is defined as the proportion of shares outstanding that is available for purchase in the public equity markets by international investors. This

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<sup>2</sup> ATVR values used in the regular Index Reviews as well as the relevant thresholds are not rounded.

<sup>3</sup> In some circumstances, MSCI may apply relevant adjustments to the liquidity values obtained in the above algorithm. For example, at the time of the regular index reviews, in those cases where the ATVR and/or Frequency of Trading are the decisive elements that trigger the non-addition or deletion of a security, the ATVR and Frequency of Trading of securities that have been suspended during the relevant period are reviewed to exclude the suspension days. In the cases of large public offerings that significantly increase a security's free float-adjusted market capitalization and liquidity, MSCI typically uses trading volumes after the public offering. In addition, when determining the potential re-addition of a security that was deleted in the prior 12-months, MSCI typically adjusts ATVR values by excluding the trading volumes of the month during which the deletion of the security was announced and implemented.



proportion accounts for the available free float of and/or the foreign ownership limits applicable to a specific security (or company).

In general, a security must have a FIF equal to or larger than 0.15 to be eligible for inclusion in a Market Investable Equity Universe. This rule is referred to as the Global Minimum Foreign Inclusion Factor Requirement.

Exceptions to this general rule are made only in the limited cases where the exclusion of securities of a very large company would compromise the Standard Index's ability to fully and fairly represent the characteristics of the underlying market. Please refer to [Sub-section 2.3.5: Applying Final Size-Segment Investability Requirements and Index continuity Rules](#) for more details.

### 2.2.5. Minimum Length of Trading Requirement

This investability screen is applied at the individual security level.

For an IPO to be eligible for inclusion in a Market Investable Equity Universe, the new issue must have started trading at least four months before the implementation of the initial construction of the index or at least three months before the implementation of a Semi-Annual Index Review. This rule is referred to as the Minimum Length of Trading Requirement. This requirement is applicable to small new issues in all markets.

Large IPOs and large primary / secondary offerings of non index-constituents are not subject to the Minimum Length of Trading Requirement and may be included in a Market Investable Equity Universe and the Standard Index outside of a Quarterly or Semi-Annual Index Review. Please refer to [Sub-section 3.3.4.1: IPOs and Other Early Inclusions](#) for details.

### 2.2.6. Minimum Foreign Room Requirement<sup>4</sup>

This investability screen is applied at the individual security level.

For a security that is subject to a Foreign Ownership Limit (FOL) to be eligible for inclusion in a Market Investable Equity Universe, the proportion of shares still available to foreign investors relative to the maximum allowed (referred to as "foreign room") must be at least 15%.

For more information on the adjustment applied to securities within the Market Investable Equity Universe that have foreign room less than 25%, please refer to Sub-section 2.3.5.3 for details.

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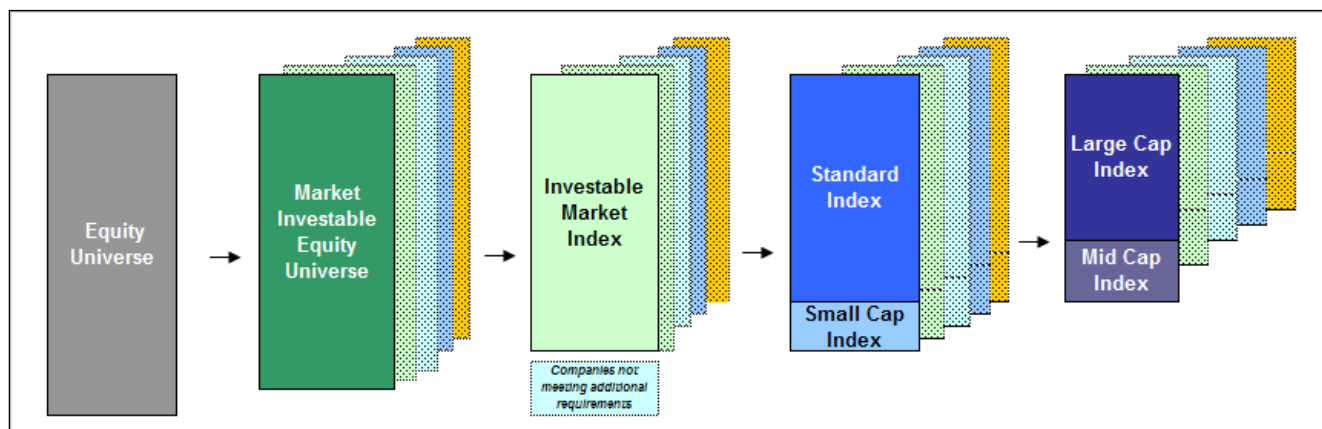
<sup>4</sup> Indian securities included in the Reserve Bank of India's official list of securities for which the caution limit or ban limit has been reached would not be considered for the inclusion in Market Investable Equity Universe. More generally, based on information available from the country regulatory authority, for securities where further purchase are restricted due to foreign ownership restriction, the securities would not be considered for the inclusion in Market Investable Equity Universe.

## 2.3. Defining Market Capitalization Size-Segments for Each Market

Once a Market Investable Equity Universe is defined, it is segmented into the following size-based indices:

- Investable Market Index (Large + Mid + Small).
- Standard Index (Large + Mid)
- Large Cap Index
- Mid Cap Index
- Small Cap Index

The structure of the MSCI Global Investable Market Index family in each market is depicted below.



The Investable Market Index, the Standard Index and the Large Cap Index are created first, while the Mid Cap Index is derived as the difference between the Standard Index and the Large Cap Index and the Small Cap Index is derived as the difference between the Investable Market Index and the Standard Index.

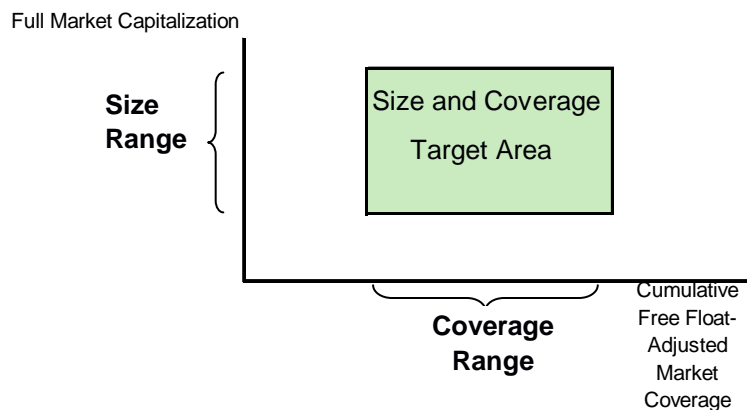
In order to create size-segments that can be meaningfully aggregated into composites, the individual Market Size-Segments need to balance the following two objectives:

- *Achieving Global Size Integrity* by ensuring that, within a given size-segment of a composite index, only companies of comparable and relevant sizes are included across all markets. This can be measured by looking at a size-segment cutoff relative to a free float-adjusted market capitalization coverage target based on the Global Investable Equity Universe.
- *Achieving Consistent Market Coverage* by ensuring that each market's size-segment is represented in its proportional weight in the composite universe. This can be measured by looking at a size-segment cutoff relative to a consistent and comparable target size-segment coverage within each market.

It is not possible to achieve both of these objectives consistently and simultaneously across all markets. Therefore, to balance these objectives, the methodology sets a minimum size cutoff for each size-segment in each market using:

- A size range for all markets derived from a free float-adjusted target market capitalization of the Global Investable Equity Universe, together with
- A target free float-adjusted coverage range set within each individual Market Investable Equity Universe.

The intersection of these ranges specifies a Size and Coverage Target Area as depicted below. This is done for each of the three size-segment indices, namely the Investable Market Index, the Standard Index, and the Large Cap Indices.



Creating the Size-Segment Indices in each market involves the following steps:

- Defining the Market Coverage Target Range for each size-segment.
- Determining the Global Minimum Size Range for each size-segment.
- Determining the Market Size-Segment Cutoffs and associated Segment Number of Companies
- Assigning companies to the size-segments.
- Applying final size-segment investability requirements.

**2.3.1. Defining the Market Coverage Target Range for Each Size-Segment**

To define the Size-Segment Indices for a market, the following free float-adjusted market capitalization Market Coverage Target Ranges are applied to the Market Investable Equity Universe:

- Large Cap Index: 70% ± 5%.

- Standard Index: 85% ± 5%.
- Investable Market Index: 99%+1% or -0.5%.

The Mid Cap Index market coverage in each market is derived as the difference between the market coverage of the Standard Index and the Large Cap Index in that market.

The Small Cap Index market coverage in each market is derived as the difference between the free float-adjusted market coverage of the Investable Market Index and the Standard Index in that market.

### 2.3.2. Determining the Global Minimum Size Range for Each Size-Segment

The Global Minimum Size Range for each size-segment is determined by defining a Global Minimum Size Reference for Large Cap, Standard, and Investable Market Indices, and specifying a range of 0.5 times to 1.15 times those References.

#### 2.3.2.1. Defining the Global Minimum Size Reference

The Global Minimum Size Reference for the Large Cap, Standard, and Investable Market size-segments are derived in a similar manner to the derivation of the Equity Universe Minimum Size as follows:

- First, the companies in the DM Investable Equity Universe are sorted in descending order of full market capitalization and the cumulative free float-adjusted market capitalization coverage of the DM Investable Equity Universe is calculated at each company.
- Then, the respective full market capitalizations of the companies that provide the following cumulative free float-adjusted market capitalization coverage of the DM Investable Equity Universe are chosen:
  - DM Large Cap Index: 70% coverage.
  - DM Standard Index: 85% coverage.
  - DM Investable Market Index: 99% coverage.
- For Emerging Markets, the Global Minimum Size Reference is set at one-half the corresponding level of full market capitalization used for the Developed Markets for each size-segment.

The Global Minimum Size References for the Large Cap, Standard, and Investable Market segments, based on April 2013 data, are set forth below.

The full market capitalization of the company that provides an 85% cumulative free float-adjusted coverage of the DM Investable Equity

Universe is USD 4.13 billion. This level, therefore, defines the Global Minimum Size Reference for DM Standard Indices. Applying the range of 0.5 times to 1.15 times to this Global Minimum Size Reference gives the Global Minimum Size Range of USD 2.07 billion to USD 4.749 billion for the DM Standard Indices. The EM range for the Standard Indices, therefore, is USD 1.03 billion to USD 2.38 billion.

Global Minimum Size Reference			
Percent of Free Float Adjusted Market Coverage	Developed Markets Investable Equity Universe	Developed Markets Global Minimum Size Reference	Emerging & Larger Frontier Markets Global Minimum Size Reference (50% of DM)
		May-13	May-13
<b>Universe</b>			
70%	Large Cap	11,787	5,893
85%	Mid Cap	4,130	2,065
99%	Small Cap	396	198

All market caps are in USD millions. Data as of the close of April 17, 2013

### 2.3.3. Determining the Segment Number of Companies and Associated Market Size-Segment Cutoffs

The Market Size-Segment Cutoffs are derived by identifying a size cutoff which falls within, or as close as possible to, the Size and Coverage Target Area for that size-segment. For each size-segment, for each market, this is achieved as follows:

- The companies in the Market Investable Equity Universe are sorted in descending order of full market capitalization.
- The cumulative free float-adjusted capitalization coverage of the Market Investable Equity Universe is calculated at each company.
- MSCI notes the respective full market capitalization of the companies that provide the following free float-adjusted market capitalization coverage for the relevant size-segments:
  - Large Cap Index: 70%
  - Standard Index: 85%.
  - Investable Market Index: 99%.\*
- If the full market capitalization of the relevant company lies within the Global Minimum Size Range for the size-segment, then:
  - The full market capitalization of the relevant company defines the Market Size-Segment Cutoff for that size-segment at that point in time.

- The number of companies with full market capitalization greater than or equal to the relevant company provides the Segment Number of Companies, which will be used to maintain the indices over time.
- If it is not, then:
  - The number of companies is decreased until the full market capitalization of the smallest company in the size-segment is equal or higher than the lower bound of the Global Minimum Size Range for that size-segment. Or,
  - The number of companies is increased to include all companies with a full market capitalization higher than the upper bound of the Global Minimum Size Range for that size-segment.
  - The full market capitalization of the last company defines the Market Size-Segment Cutoff for that segment and the Segment Number of Companies is set to this company's rank.

This process is designed to give priority to global size integrity over market coverage in situations where both objectives cannot be achieved simultaneously.

\* For the Investable Market Index, at initial construction, the above process is not followed in order to provide as broad a coverage as possible without sacrificing size integrity. At initial construction the Market Size-Segment Cutoffs and associated Segment Number of Companies of the Investable Market segment are derived by including all companies equal to or larger than the Global Minimum Size Reference for the Investable Market Indices. As of April 12, 2007, the Global Minimum Size Reference was USD 370 million.

Since Size-Segment Indices are based on company full market capitalization, all securities of a company are always classified in the same size-segment. As a result, there may be more securities than companies in a given size-segment.

The Market Size-Segment Cutoffs and Segment Number of Companies are maintained daily, and updated at Semi-Annual and Quarterly Index Reviews, additionally taking into account index stability and continuity rules.

#### 2.3.4. Assigning Companies to the Size-Segments

At initial construction, all companies with full market capitalization greater than or equal to that of the full market capitalization of the company that defines the Market Size-Segment Cutoff are assigned to that size-segment.

At Semi-Annual and Quarterly Index Reviews, the company assignment rules additionally take into account, new additions, and index continuity and stability rules.

Between Semi-Annual and Quarterly Index Reviews, the assignment of companies resulting from corporate events (e.g., mergers, IPOs, spin-offs) to the appropriate size-segments are based on Market Size-Segment Cutoffs that are updated daily. This process is described in Sub-section 3.3: Ongoing Event-Related Changes.

#### 2.3.5. Applying Final Size-Segment Investability Requirements and Index Continuity Rules

To enhance the replicability of Size-Segment Indices, additional size-segment investability requirements are set for the Investable Market and the Standard Indices.

##### 2.3.5.1. Minimum Free Float Market Capitalization Requirement

If the Market Size-Segment Cutoff is within the Global Minimum Size Range for the Investable Market Index, a security can be included in the Investable Market Index only if its free float-adjusted market capitalization is at least 50% of the Market Size-Segment Cutoff for the Investable Market Index. In the case of the Market Size-Segment Cutoff being above the Global Minimum Size Range upper boundary for the Investable Market Index, the security's free float-adjusted market capitalization must be at least 50% of the upper boundary of the Global Minimum Size Range for the Investable Market Index. In the case of the Market Size-Segment Cutoff being below the Global Minimum Size Range lower boundary for the Investable Market Index, the security's free float-adjusted market capitalization must be at least 50% of the lower boundary of the Global Minimum Size Range for the Investable Market Index.

If the Market Size-Segment Cutoff is within the Global Minimum Size Range for the Standard Index, a security can be included in the Standard Index only if its free float-adjusted market capitalization is at least 50% of the Market Size-Segment Cutoff for the Standard Index. In the case of the Market Size-Segment Cutoff being above the Global Minimum Size Range upper boundary for the Standard Index, the security's free float-adjusted market capitalization must be at least 50% of the upper boundary of the Global Minimum Size Range for the Standard Index. In the case of the Market Size-Segment Cutoff being below the Global Minimum Size Range lower boundary for the Standard Index, the security's free float-adjusted market capitalization must be

at least 50% of the lower boundary of the Global Minimum Size Range for the Standard Index. Any company excluded from the Standard Index based on this rule is also excluded from the Investable Market Index.

For a security with a Foreign Inclusion Factor (FIF) lower than 0.15 to be included in the Standard Market Index, its free float-adjusted market capitalization must be at least 1.8 times the minimum free float-adjusted market capitalization required for the Standard Index. Please refer to the Sections 3.1.6.2 and 3.2.1.4 for details on assessing conformity with the Final Size-Segment Investability Requirements for existing constituents.

### **2.3.5.2. Minimum Liquidity Requirement for the Standard Indices**

The liquidity of constituents is especially important for the Standard Indices, as these indices are widely used for performance benchmarking and as the basis for creating investment vehicles. Therefore, a Market-Relative 12 month ATVR screen is also applied for determining eligibility of securities for the Standard Indices. The 12-month ATVR levels for the Market-Relative Liquidity Requirement are updated at each SAIR and published in this methodology book. In the calculation of the 12-month ATVR used in the above screening, the trading volumes in depositary receipts associated with that security, such as ADRs or GDRs, are also considered.<sup>5</sup>

In addition, as described in Section 2.2.3, in order to be eligible for inclusion in the Market Investable Equity Universe of a Developed Market, among other criteria, a security must have a 3-month Frequency of Trading of at least 90% over the last four consecutive quarters. To be eligible for inclusion in the Market Investable Equity Universe of an Emerging Market, among other criteria, a security must have a 3-month Frequency of Trading of at least 80% over the last four consecutive quarters. However, as the liquidity requirements are more stringent for the Standard Indices, all securities from Developed and Emerging Markets with the 3-month Frequency of Trading of below 90% over the last four consecutive quarters are excluded from the Standard Indices.

Companies that do not meet this investability screen and are therefore not included in the Standard Indices are also not eligible for the Small Cap Index in that market as they exceed the full market capitalization size threshold for the Small Cap Index. As a result, these companies are not included in any of the indices within the MSCI Global Investable Market Index family.

Please see Appendix IX: Minimum Market-Relative Liquidity Requirements for the Standard Index for more details.

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<sup>5</sup> In addition the trading volumes of Canadian securities on the TSE are aggregated with the trading volumes of such securities on the eligible U.S. exchanges.



There are no additional size-segment investability requirements affecting securities in the Large Cap, Mid Cap, or the Small Cap Indices in addition to the Market-Relative Liquidity Requirement.

### 2.3.5.3. Minimum Foreign Room Requirement

For a security that is subject to a Foreign Ownership Limit (FOL) to be included in the Investable Market Index at its entire free-float adjusted market capitalization, the proportion of shares still available to foreign investors relative to the maximum allowed (referred to as “foreign room”) must be at least 25%. If a security's foreign room is less than 25% and equal to or higher than 15%, MSCI will use an adjustment factor of 0.5 to reflect the actual level of foreign room to adjust the security's final foreign inclusion factor (FIF). As described in Sub-Section 2.2.6, securities will not be eligible for inclusion in a Market Investable Equity Universe if the foreign room is less than 15%.

The adjustment factor will be applied to the security actual FIF to arrive at the final FIF of the security. Conformity with the minimum free float-adjusted market capitalization requirements for Investable Market Index constituents will be assessed using the free float-adjusted market capitalization after the application of the adjustment factor.

## 2.4. Index Continuity Rules for the Standard Indices

Although index continuity rules described in this sub-section are primarily designed for maintaining the country Standard Indices, they are also applied at initial construction, and impact some markets, such as New Zealand.

Index continuity is a desirable feature of an index as it avoids the temporary inclusion or exclusion of market indices in composite indices at different times. In order to achieve index continuity, as well as provide some basic level of diversification within a market index, notwithstanding the effect of other index construction rules contained herein, a minimum number of five constituents will be maintained for a DM Standard Index and a minimum number of three constituents will be maintained for an EM Standard Index. The application of this requirement involves the following steps.

- If after the application of the index construction methodology, a Standard Index contains fewer than five securities in a Developed Market or three securities in an Emerging Market, then the largest securities by free float-adjusted market capitalization are added to the Standard Index in order to reach five constituents in that Developed Market or three in that Emerging Market.
- At subsequent Index Reviews, if the free float-adjusted market capitalization of a non-index constituent is at least 1.50 times the free float-adjusted market capitalization of the smallest existing constituent after rebalancing, the larger free float-adjusted market capitalization security replaces the smaller one.

When the Index Continuity Rule is in effect, the Market Size-Segment Cutoff is set at 0.5 times the Global Minimum Size Reference for the Standard Index rather than the full market capitalization of the smallest company in that market's Standard Index.

## 2.5. Creating Style Indices within Each Size-Segment

All securities in the investable equity universe are classified into Value or Growth segments using the MSCI Global Value and Growth methodology. This methodology is available at [http://www.msci.com/eqb/methodology/meth\\_docs/MSCI\\_Dec07\\_GIMIVGMethod.pdf](http://www.msci.com/eqb/methodology/meth_docs/MSCI_Dec07_GIMIVGMethod.pdf)

- The MSCI Global Value and Growth methodology is applied to the Standard and Small Cap Indices on a market-by-market basis.
- IN DM Europe, the Value and Growth Indices will be created from the MSCI Europe Standard and Small Cap Indices, rather than the country indices. Value and Growth country indices will be derived from these constituents.
- The Large Cap and Mid Cap Value and Growth Indices are derived using the Value and Growth Inclusion Factors from the Standard Value and Growth Indices.
- The Investable Market Index Value and Growth Indices are created by aggregating the Value and Growth segments of the Standard and Small Cap Indices.
- The Standard Value and Growth Indices use the full set of variables as per the MSCI Global Value and Growth methodology.
- However, for Small Cap Indices, the Long Term Forward EPS Growth rate variable is not used as a variable to define the growth investment style characteristic, due to lack of consistent coverage by street analysts.

## 2.6. Classifying Securities under the Global Industry Classification Standard

All securities in the Global Investable Equity Universe are assigned to the industry that best describes their business activities. To this end, MSCI has designed, in conjunction with Standard & Poor's, the Global Industry Classification Standard (GICS). The GICS currently consists of 10 sectors, 24 industry groups, 68 industries, and 154 sub-industries. Under the GICS, each company is assigned uniquely to one sub-industry according to its principal business activity. Therefore, a company can only belong to one industry grouping at each of the four levels of the GICS.

Classifying securities into their respective sub-industries can be complex, especially in an evolving and dynamic environment. The GICS guidelines used to determine the appropriate industry classification are as follows:

- A security is classified in a sub-industry according to the business activities that generate approximately 60% or more of the company's revenues.
- A company engaged in two or more substantially different business activities, none of which contributes 60% or more of revenues, is classified in the sub-industry that provides the majority of both the company's revenues and earnings.

- Where the above guidelines cannot be applied, or are considered inappropriate, further analysis is conducted, and other factors are analyzed to determine an appropriate classification.

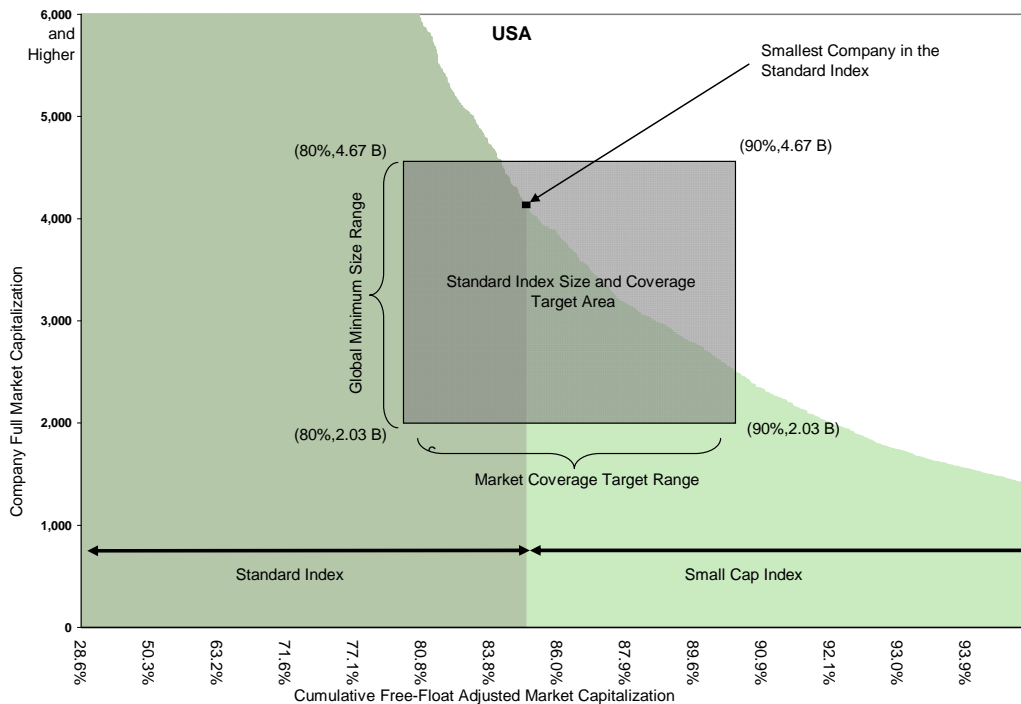
For further details on the GICS see Appendix V: Global Industry Classification Standard (GICS).

## 2.7. Creating Size-Segment Indices: Examples

### 2.7.1. Determining Market Size-Segment Cutoffs and Assigning Companies to the Size-Segments

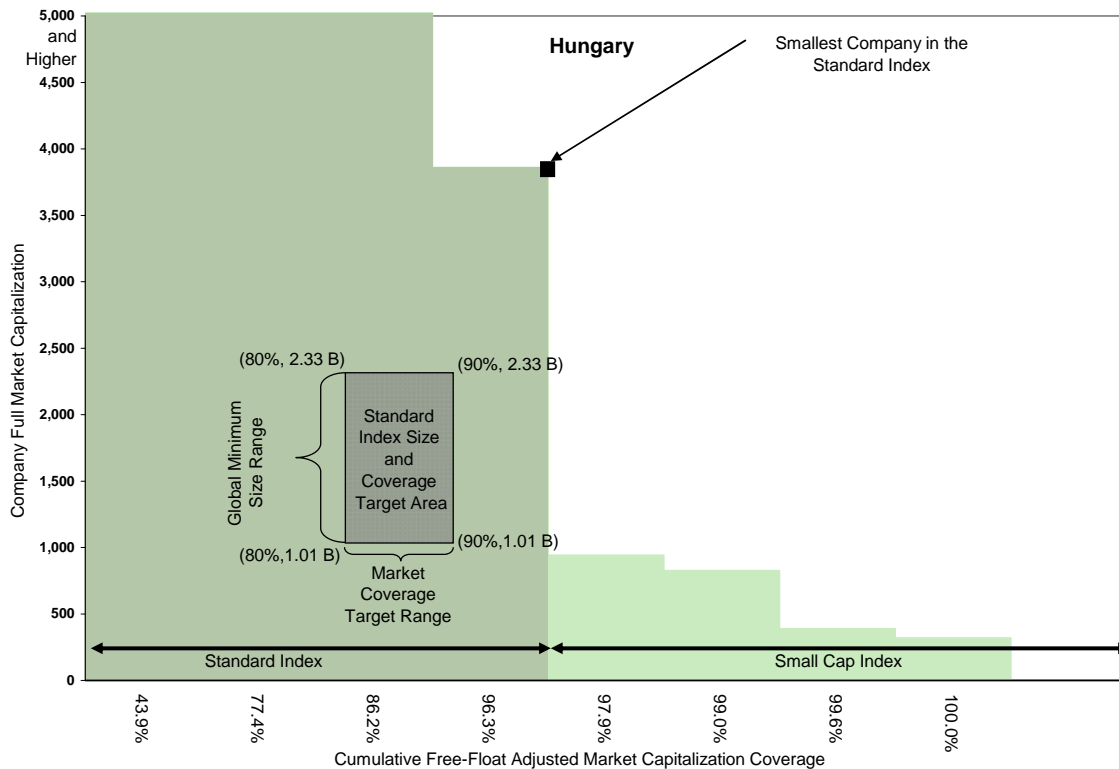
**Example:**

For the USA Standard segment, companies are counted in descending order of full market capitalization starting with the largest company. Companies continue to be counted until the cumulative free float-adjusted market capitalization of the companies reaches 85% of the free float-adjusted market capitalization of the US Market Investable Equity Universe. In this example, the full market capitalization of the last company counted is within the Global Minimum Size Range. The rank of this company in the US Market Investable Equity Universe (645) defines the Segment Number of Companies for the size-segment and its full market capitalization (USD 4.1 billion) defines the Market Size-Segment Cutoff between Standard and Small Cap segments in the US.



**Example:**

For the Hungary Standard segment, companies are counted in descending order of full market capitalization starting with the largest company. Companies continue to be counted until the cumulative free float-adjusted market capitalization of the companies reaches 85% of the free float-adjusted market capitalization of the Hungary Market Investable Equity Universe. In this example, the full market capitalization of the last company counted is significantly above the upper bound of the Global Minimum Size Range. All companies in Hungary, above the upper bound are added resulting in the cumulative free float-adjusted market capitalization coverage above 90%, the upper bound of the Market Coverage Target Range. The rank of the last company counted (4) defines the Segment Number of Companies and its full market capitalization (USD 3.8 billion) defines the Size-Segment Cutoff between the Hungary Standard and Small Cap Indices. The next largest company has a full market capitalization of USD 941 million, below the lower bound of the Global Minimum Size Range.



## Section 3: Maintaining the MSCI Global Investable Market Indices

The MSCI Global Investable Market Indices are maintained with the objective of reflecting the evolution of the underlying equity markets and segments on a timely basis, while seeking to achieve:

- Index continuity,
- Continuous investability of constituents and replicability of the indices, and
- Index stability and low index turnover.

In particular, index maintenance involves:

- Semi-Annual Index Reviews (SAIRs) in May and November of the Size-Segment and Global Value and Growth Indices which include:
  - Updating the indices on the basis of a fully refreshed Equity Universe.
  - Taking buffer rules into consideration for migration of securities across size and style segments.
  - Updating Foreign Inclusion Factors (FIFs) and Number of Shares (NOS).
- Quarterly Index Reviews (QIRs) in February and August of the Size-Segment Indices aimed at:
  - Including significant new eligible securities (such as IPOs which were not eligible for earlier inclusion) in the index.
  - Allowing for significant moves of companies within the Size-Segment Indices, using wider buffers than in the SAIR.
  - Reflecting the impact of significant market events on FIFs and updating NOS.
- Ongoing event-related changes. Changes of this type are generally implemented in the indices as they occur. Significantly large IPOs are included in the indices after the close of the company's tenth day of trading.

### 3.1. Semi-Annual Index Reviews in May and November

The objective of the SAIRs is to systematically reassess the various dimensions of the Equity Universe for all markets on a fixed semi-annual timetable. A SAIR involves a comprehensive review of the Size-Segment and Global Value and Growth Indices.

During each SAIR, the Equity Universe is updated and the Global Minimum Size Range is recalculated for each size-segment. Then, the following index maintenance activities are undertaken for each market:

- Updating the Market Investable Equity Universe.
- Recalculating the Global Minimum Size References and Global Minimum Size Ranges
- Reassessing the Segment Number of Companies and the Market Size-Segment Cutoffs.

- Assigning companies to the size-segments taking into account buffer zones.
- Assessing conformity with Final Size-Segment Investability Requirements.

### 3.1.1. Updating the Equity Universe

During each SAIR, the Equity Universe is updated by identifying new equity securities that were not part of the Equity Universe at the previous Quarterly Index Review and classifying them into countries.

Details on the determination of the Equity Universe are in Sub-section 2.1: Defining the Equity Universe.

### 3.1.2. Updating the Market Investable Equity Universes

During each SAIR, each new company/security in the updated Equity Universe is evaluated for investability using the same investability screens described in Sub-section 2.2: Determining the Market Investable Equity Universes. Existing constituents, on the other hand, are evaluated using buffers around these investability requirements as explained below.

#### 3.1.2.1. Updating the Equity Universe Minimum Size Requirement

The Equity Universe Minimum Size Requirement is updated at each SAIR in the following manner:

The cumulative free float-adjusted market capitalization coverage at the company rank that was used to define the Equity Universe Minimum Size Requirement at the previous rebalance is calculated.

If the coverage of the updated DM Equity Universe at that rank falls:

- between 99% and 99.25%, the Equity Universe Minimum Size Requirement is set to the current full market capitalization of the company at that rank.
- below 99%, the Equity Universe Minimum Size Requirement is reset to the full market capitalization of the company at 99% coverage and the rank of that company is noted for the next rebalance.
- above 99.25%, Equity Universe Minimum Size Requirement and rank are reset based on the full market capitalization of the company at 99.25% coverage.

The same Equity Universe Minimum Size Requirement is used for both Developed and Emerging Markets.

**Example:** Suppose that at the previous SAIR the Equity Universe Minimum Size Requirement was set at USD 145 million and reflected the full market capitalization of the company ranked as the 8008<sup>th</sup> largest company by full market capitalization in the DM Equity Universe. Say that in the current

SAIR, the full market capitalization of the company at the 8008<sup>th</sup> rank is USD 151 million and the cumulative free float-adjusted market capitalization representation at that company's rank is 98.9%. In addition, suppose the top 8201 companies cover 99.0% of the free float-adjusted market capitalization and the full market capitalization of the company at the 8201<sup>st</sup> rank is USD 147 million. Then USD 147 million is set as the new Equity Universe Minimum Size Requirement. The full market capitalization of the company at the 8201<sup>st</sup> rank will be the initial reference for the next SAIR.

New companies are evaluated relative to this updated threshold, whereas all existing constituents will not be evaluated relative to this investability requirement.

### 3.1.2.2. Updating the Equity Universe Minimum Free Float-Adjusted Market Capitalization

The Equity Universe Minimum Free Float-Adjusted Market Capitalization Requirement is calculated as 50% of the updated Equity Universe Minimum Size Requirement.

New companies are evaluated relative to this updated threshold, whereas all existing constituents will not be evaluated relative to this investability requirement.

### 3.1.2.3. Minimum Liquidity Requirement for Existing Constituents

An existing constituent of the Investable Market Indices may remain in a Market Investable Equity Universe if its 12-month ATVR falls below the Minimum Liquidity Requirement as long as it is above 2/3rd of the minimum level requirement of 20% for Developed Markets and 15% for Emerging Markets, i.e., 13.3% and 10%, respectively. In addition, in order to remain in the Investable Market Indices the existing constituent must have:

- The 3-month ATVR of at least 5%;
- The 3-month Frequency of Trading of at least 80% for Developed Markets and 70% for Emerging Markets.

If an existing constituent, represented by a local listing no longer meets the above requirements, liquid Depositary Receipts that do meet such requirements can be considered for inclusion. Depositary Receipts can only be considered if they are listed in the same geographical region as the local listing of the underlying security.

If an existing constituent of a Standard Index in Emerging Markets fails to meet the liquidity requirements, but has a weight of more than 10% in the respective country index and its float adjusted market capitalization is above 0.5 times the Global Minimum Size Reference for Emerging Markets, then



such constituent will remain in the index. However, MSCI would apply a Liquidity Adjustment Factor of 0.5 to the weight of the security, and in the subsequent index review, MSCI:

- Would delete the security from the index if the security does not meet all liquidity requirements for existing constituents calculated after applying the Liquidity Adjustment Factor or
- Would maintain the security in the GIMI and remove the Liquidity Adjustment Factor if the security meets all the liquidity requirements for new constituents, calculated before applying the Liquidity Adjustment Factor for two consecutive Semi-Annual Index Reviews or
- Would continue maintaining the security in the GIMI with the Liquidity Adjustment Factor of 0.5 if none of the above conditions are met

#### **3.1.2.4. Global Minimum Foreign Inclusion Factor Requirement**

New securities with a FIF lower than 0.15 are included in the Market Investable Equity Universe if their free float-adjusted market capitalization exceeds 1.8 times half of the Standard Index Interim Market Size-Segment Cutoff. Interim Market Size-Segment Cutoffs are calculated daily in order to determine eligibility for early inclusion of securities. They are based on the current Market Investable Equity Universe (please refer to section 3.3.1: Determining the Interim Market Size-Segment Cutoffs for Daily Maintenance for more details).

All existing constituents will not be evaluated relative to this investability requirement.

#### **3.1.2.5. Minimum Foreign Room Requirement**

New securities that are subject to a Foreign Ownership Limit (FOL) are eligible for inclusion in the Market Investable Equity Universe if foreign room of the securities is at least 15%. All existing constituents will not be evaluated relative to this investability requirement.

### **3.1.3. Recalculating the Global Minimum Size References and Global Minimum Size Ranges**

The Global Minimum Size References and corresponding ranges are reset at the SAIRs using a process similar to the one used to update the Equity Universe Minimum Size Requirement. More details may be found in Appendix VIII: Updating the Global Minimum Size References and Ranges.

### **3.1.4. Reassessing the Segment Number of Companies and the Market Size-Segment Cutoffs**

The Segment Number of Companies and the corresponding Market Size-Segment Cutoffs are updated to account for changes in each Market Investable Equity Universe.

#### 3.1.4.1. Determining Initial Segment Number of Companies

If the Interim Market Size-Segment Cutoff<sup>6</sup> is equal or above the lower bound of the Global Minimum Size Range, then the Initial Segment Number of Companies is equal to the number of companies in the updated Investable Equity Universe with the full company market capitalization equal or above the Interim Market Size-Segment Cutoff. If the Interim Market Size-Segment Cutoff is below the lower bound of the Global Minimum Size Reference, then the Initial Segment Number of Companies is equal to the sum of:

- The number of companies in the updated Investable Equity Universe with the full company market capitalization equal or above the lower bound of the Global Minimum Size Range and;
- The number of companies in the updated Equity Investable Universe that were also part of the Investable Market Indices prior to the SAIR with the full market capitalization below the Global Minimum Size Range, but above the Interim Market Size-Segment Cutoff.

This Initial Segment Number of Companies takes into account the newly eligible companies as well as deletions from the updated Equity Investable Universe.

#### 3.1.4.2. Changes in the Segment Number of Companies

The full market capitalization of the company ranked in the updated Market Investable Equity Universe at the Initial Segment Number of Companies and the cumulative free float-adjusted market capitalization coverage at this company rank are used to verify that the Initial Segment Number of Companies falls either:

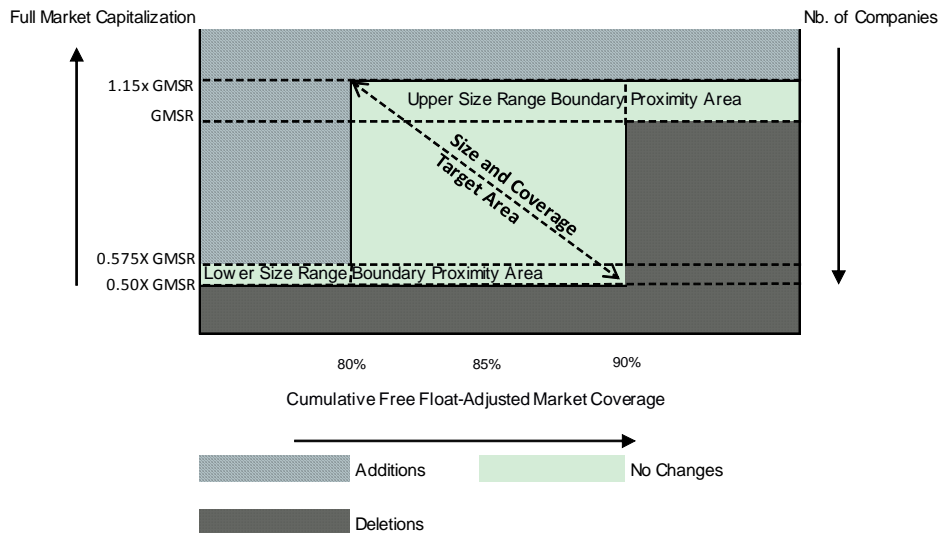
- within the Size and Coverage Target Area for the Size-Segment Index or
- within the Lower or Upper Size Range Boundary Proximity Areas, which span from 0.5 times to 0.575 times and from one time to 1.15 times the Global Minimum Size Reference respectively (please refer to the diagram below for more details).

If it does, the Segment Number of Companies post SAIR becomes equal to this Initial Segment Number of Companies, and the full market capitalization corresponding to the smallest company in the Segment Number of Companies becomes the Market Size-Segment Cutoff for that market and is used in this SAIR. The Segment Number of Companies is also equal to the Initial Segment Number of Companies in the cases when the full company market capitalization of the company corresponding to the Initial Segment Number of Companies is above the Global Minimum Size Range and there are no investable companies between this company and the upper boundary of the Global Minimum Size Range.

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<sup>6</sup> The Interim Market Size-Segment Cutoff during SAIR is calculated the same way as the Interim Market Size-Segment Cutoffs, which are reported daily, however the Number of Shares and Foreign Inclusion factor post SAIR are used in the calculations and the value is not limited by the Global Minimum Size Range.

### Changing Segment Number of Companies



If the Initial Segment Number of Companies falls outside of the size and coverage target area, the Initial Segment Number of Companies is changed to bring it closer to the area. In making this change, consideration is given to index stability and index turnover, which may impact the ability of Market Size-Segment Cutoffs to fall within the Size and Coverage Target range.

Depending on the location of the Market Size-Segment Cutoff derived from the Initial Segment Number of Companies relative to the Size and Coverage Target Area, an increase in, or a reduction of, the Segment Number of Companies may be required.

- When the Market Size-Segment Cutoff is above the upper boundary of the Global Minimum Size Range and there are investable companies between the company corresponding to the Initial Segment Number of Companies and the upper boundary of the Global Minimum Size Range, or the Market Size-Segment is below the lower boundary of the Market Coverage Target Range, additions to the Size-Segment Index are needed.
- When the Market Size-Segment Cutoff is below the lower boundary of the Global Minimum Size Range, or above the Market Coverage Target Range, deletions from the Size-Segment Index are needed.

The process for adjusting the Segment Number of Companies is as follows:

- If additions to the Segment Number of Companies are required:
  - The number of companies is increased to include all companies with a full market capitalization higher than the upper boundary of the Global Minimum Size Range.
  - The number of companies is increased to include all companies with a full market capitalization higher than the 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.
  - The additions are made in descending order of full market capitalization. The full market capitalization of the last added company then becomes the Market Size-Segment Cutoff. If the full

market capitalization of the last added company is above the upper boundary of the Global Minimum Size Range then the Market Size-Segment Cutoff is set at this upper boundary of the Global Minimum Size Range.

- If a reduction of the Segment Number of Companies is required to reach the Size and Coverage Target Area, limits are placed on the decrease in the number of companies, to further enhance index stability. These limits are implemented in the following steps:
  - First, a reduction of no more than 5% of the Initial Segment Number of Companies is made to bring the Market Size-Segment Cutoff into compliance with the Size and Coverage Target Area. Only the companies with full company market capitalization lower than the lower limit of the Upper Size Range Boundary Proximity Area can be removed.
  - If this reduction brings the Market Size-Segment Cutoff into compliance with the Global Minimum Size Range, or removes at least half the free float-adjusted market capitalization that lies between the smallest company before the adjustment of the Initial Segment Number of Companies and the lower bound of the Global Minimum Size Range, no further adjustment is necessary.
  - If not, then a reduction of not more than 20% of the Initial Segment Number of Companies is made to remove at most half the free float-adjusted market capitalization that lies between the smallest company before adjusting the Initial Segment Number of Companies and the lower bound.
  - In market segments with a small number of companies, the deletion of the first two companies is not subject to the limits described above.
  - When a limit is placed on the decrease in the number of companies, as explained above, the full market capitalization of the smallest company in the index will remain below the lower boundary of the Global Minimum Size Range. In this case, the Market Size-Segment Cutoff is set at this lower bound of 0.5 times the Global Minimum Size Reference instead of the size of the smallest company.

### 3.1.5. Assigning Companies to Appropriate Size-Segments

During an SAIR, companies are assigned with the following priority to the Size-Segments until the Segment Number of Companies is achieved:

- Current constituents of a given Size-Segment Index, as well as companies assigned to this Size-Segment during last Index Review that failed the Final Size-Segment Investability Requirements, greater than the Market Size-Segment Cutoff.
- Newly investable companies with a full market capitalization greater than the Market Size-Segment Cutoff.
- Companies in the lower Size-Segment Index, as well as companies assigned to this Size-Segment during last Index Review and failed the Final Size-Segment Investability Requirements, greater than the upper buffer threshold of the lower size-segment. (Buffer zones for size-segments are explained in more detail below).
- Current constituents of a given Size-Segment Index, as well as companies assigned to this Size-Segment during the last Index Review that failed the Final Size-Segment Investability Requirements, in the lower buffer of the Size-Segment in descending capitalization order, until the threshold of the buffer is reached.
- The largest companies from the upper buffer of the next lower size-segment.

Once companies have been assigned to the Standard, Large and Investable Market Segments, companies are then assigned to the Mid and Small Cap Segments. The Mid Cap Segment comprises the companies that are in the Standard Segment but not the Large Cap Segment. The Small Cap Segment comprises the companies that are in the Investable Market Segment but not in the Standard Segment.

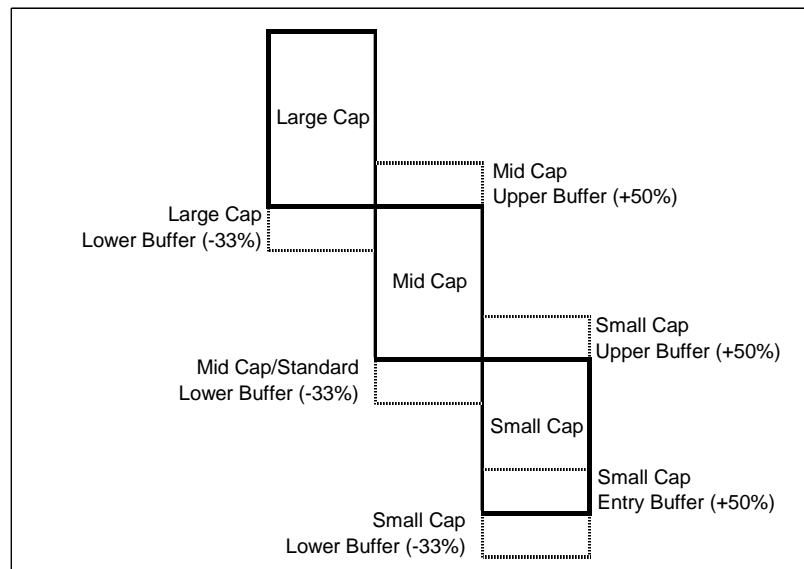
**3.1.5.1. Using Buffer Zones to Manage the Migration of Companies between Size-Segment Indices**

In order to better reflect the investment processes of size managers, allow for timely representation of market developments when securities move far away from size-segment thresholds, and help control index turnover, buffer zones are used to control the migration of companies between Size-Segment Indices.

An existing constituent is generally allowed to remain in its current size-segment even if its full market capitalization falls below (above) the Market Size-Segment Cutoff that defines the lower (upper) boundary of its segment, as long as its company full market capitalization falls within a buffer zone below (above) the Market Size-Segment Cutoff. The buffer zones at SAIRs are defined with boundaries at -33% and +50% of the Market Size-Segment Cutoff between two size-segments. At Quarterly Index Reviews, the buffer zones are set at -50% and +80%.

In addition, a Small Cap Entry Buffer Zone is used for the entry in the Small Cap Indices of non current constituents. It is defined with a boundary at +50% the Market Size-Segment Cutoff for the Investable Market Index. The inclusion in the Small Cap Indices of all newly eligible companies above the Investable Market Size-Segment Cutoff could lead to a excessively large number of additions of small companies. Consequently, non current constituents within the Small Cap Entry Buffer Zone which are assigned to the Small Cap Segment are included in the Small Cap Indices only to the extent that they replace current constituents which have fallen below the Small Cap Lower Buffer. The remaining companies are not included in the Investable Market Indices, but are still taken into account to determine the Segment Number of Companies.

SAIR Buffers



### 3.1.6. Assessing Conformity with Final Size-Segment Investability Requirements

#### 3.1.6.1. For New Constituents

Once companies are assigned to each size-segment, the securities of companies in each segment are evaluated for conformity with the additional size-segment investability requirements for each size-segment. The securities of newly eligible companies and of companies migrating from the lower segment are required to meet the additional investability requirements as described in Sub-section 2.3.5: Applying Final Size-Segment Investability Requirements and Index Continuity Rules and Appendix IX: Minimum Market-Relative Liquidity Requirements for the Standard Index.

In addition, IPOs eligible for early inclusion according to Sub-section 3.3.4.1, and for which the effective date of inclusion is either 5 days before the effective date of the SAIR or 3 days after, will be made effective to coincide with the SAIR. For example, when the effective date of inclusion of the IPO is November 28 (3 business days before December 1), while the effective date of the SAIR is December 1, the IPO will be added effective December 1.

For companies trading on a conditional basis (when-issued trading) prior to their listing and unconditional trading, MSCI intends to assess the inclusion of the company in the MSCI Indices on its first day of conditional trading.

#### 3.1.6.2. For Existing Constituents

Existing constituents may remain in the size-segment indices if they would otherwise fail the additional investability requirements for Free Float Market Capitalization and 12-month ATVR described in Sections 2.3.5.1 and 2.3.5.2 but still meet 2/3<sup>rd</sup> of the threshold<sup>7</sup>. Existing constituents of the Small Cap Index must have a FIF of equal to or larger than 0.15 to remain in the index. Existing constituents of the Standard Index with FIF of less than 0.15 must meet 2/3<sup>rd</sup> of the 1.8 times of the minimum free float-adjusted market capitalization required for the Standard Index. In addition, existing Standard Index constituents may remain in the size-segment if:

- The 3-month ATVR and Frequency of Trading are at least 10% and 80% respectively for Developed Markets
- The 3-month ATVR and Frequency of Trading are at least 7.5% and 80% respectively for Emerging Markets

If an existing Standard Index constituent, represented by a local listing no longer meets the above requirements, liquid eligible Depositary Receipts that do meet such requirements may be considered for

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<sup>7</sup> For potential deletions of existing constituents of the MSCI Global Standard Indices other significant liquid listings will be taken into account in the calculation of the 12-month ATVR if insufficient liquidity is the only reason for deletion.

inclusion. Depositary Receipts can only be considered if they are listed in the same geographical region as the local listing of the underlying security.

Existing Standard Index constituents in the lower buffer that fail the additional investability requirements of the Standard Index are moved to the Small Cap Index. Any other Standard Index constituent that fails these requirements is not included in any of the indices within the MSCI Global Investable Market Index family.

Current constituent securities for which there is less than 25% foreign room may have their weight adjusted by the application of an adjustment factor to reflect their actual level of foreign room.

The post-review adjustment factor depends on the current adjustment factor and the actual level of foreign room of the securities, as shown in the table below:

Post-review adjustment factor					
	foreign room >= 25%	15% <= foreign room < 25%	7.5% <= foreign room < 15%	3.75% <= foreign room < 7.5%	foreign room < 3.75%
Current adjustment factor = 1	1	1	0.5	0.25	0
Current adjustment factor = 0.5	1	0.5	0.5	0.25	0
Current adjustment factor = 0.25	1	0.5	0.25	0.25	0

If the foreign room of an existing constituent decreases below 3.75% and the security does not have a liquid eligible Depositary Receipt (DR), then the adjustment factor equals 0.<sup>8</sup> However, if the foreign room of an existing constituent decreases below 3.75% and the security has a liquid eligible DR, then the adjustment factor equals 0.25. Eligible DRs are limited to level II and level III American Depositary Receipts (ADR) listed on the New York Stock Exchange or the NASDAQ, Global Depositary Receipts (GDR) as well as ADRs listed on the London Stock Exchange. DRs are deemed liquid if their 12-month ATVR is above 20% for Developed Markets and 15% for Emerging Markets and Frontier Markets.

In order to preserve index continuity, conformity with the minimum free float-adjusted market capitalization requirements for existing IMI Index constituents will be assessed using the free float-adjusted market capitalization before the application of the adjustment factor. That is, existing constituents of the IMI Index with FIF (before the application of the adjustment factor) of greater than or equal to 0.15 must meet 2/3<sup>rd</sup> of the minimum free float-adjusted market capitalization required for the Standard or Small Cap Index to remain in the Standard or Small Cap Index, respectively. Existing constituents of the Standard Index with FIF (before the application of the adjustment factor) of less than

<sup>8</sup> The adjustment factor equals 0 for (i) Indian securities included in the Reserve Bank of India's official list of securities for which the caution limit or ban limit has been reached; (ii) more generally, based on information available from the country regulatory authority, for securities where further purchase are restricted due to foreign ownership restriction.

0.15 must meet 2/3<sup>rd</sup> of the 1.8 times of the minimum free float-adjusted market capitalization required for the Standard Index to remain in the Standard Index.

Conformity with the minimum free float-adjusted market capitalization requirements for non-current IMI constituents will be assessed using the free float-adjusted market capitalization after the application of the adjustment factor.

Foreign room level will be reviewed on a quarterly basis coinciding with the regular MSCI Index Reviews. Generally, an upward movement of the adjustment factor for existing constituents 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<sup>9</sup>. For a security that is deleted from the index as a result of having a foreign room lower than 3.75%, its index inclusion will only be reconsidered 12 months after its deletion.

### 3.1.7. Semi-Annual Index Review of Changes in Foreign Inclusion Factors (FIFs)

During a SAIR, changes in FIFs can result from:

- The implementation of the Annual Full Country Float Review at the May SAIR. Once a year a detailed review of the shareholder information used to estimate free float for constituent and non-constituent securities is carried out for each country. The review is comprehensive, covering all aspects of shareholder information.
- Changes in FIFs that result from events that occurred in the course of the past quarter such as large market transactions, secondary offerings not reflected at the time of the event. These are identical to those typically implemented during Quarterly Index Reviews, as outlined in Sub-section: 3.2.3. Quarterly Index Review Changes in FIFs, including the thresholds mentioned in the footnote for large market transactions

### 3.1.8. Semi-Annual Index Review of Changes in Number of Shares (NOS)

During a SAIR, changes in NOS may result from events that occurred or were not captured in the course of the previous quarter. These are identical to those typically implemented during Quarterly Index Reviews (QIRs), as outlined in Sub-section 3.2.4: Quarterly Index Review of Changes in Number of Shares.

### 3.1.9. Date of Data Used for Semi-Annual Index Review

In general, the standard data cut off dates for the May and November SAIRs are as follows:

- (i) for data used for updating the Equity Universe (incorporating all FIF and NOS changes), the end of February for the May SAIR and the end of August for the November SAIR;

<sup>9</sup>During a regular Index Review, for any existing constituents of the MSCI India IMI whose weight is decreased as a result of a change in the adjustment factor due to low foreign room, MSCI will continue to monitor any potential increased foreign room due to an increase in FOL (as officially announced by the Reserve Bank of India) until five business days before the effective date of that Index Review



- (ii) for the prices used for calculating market capitalization generally any one of the last 10 business days of April for the May SAIR and of October for the November SAIR, respectively;
- (iii) for data used for incorporating all foreign room changes to existing Equity Universe, the end of March for the May SAIR and the end of September for the November SAIR; and
- (iv) for data used for calculation of liquidity requirements, the end of March for the May SAIR and of September for the November SAIR, respectively.

A business day is defined as a day from Monday to Friday where markets cumulatively constituting more than 80% of the MSCI All Countries World Index market capitalization are expected to be open.

As a general rule, price movements after the price cutoff date will not impact the results of the index review. However, in cases of extraordinary events or news related to a specific company identified as a migration between the size-segments or as an addition to the IMI based on the index review price cutoff date MSCI may decide not to change the company's size-segment allocation. In such instances, the company would either be maintained in its current size-segment or not added to the IMI. Examples of such extraordinary events or news are allegations of fraud, falsification of accounting data or news on a takeover bid resulting in a significant reduction (or increase) in company's market capitalization between the index review price cutoff date and the announcement date or/and in its suspension for an undetermined period. Market cap fluctuations or suspensions of trading after the index review announcement date typically would not result in the reversion of an already announced decision on the company's size-segment allocation. The policy on implementation of the index review changes for securities suspended around the index review implementation dates is stated in Appendix VII of this document.

In some cases, the FIF and the NOS of a security may be monitored and updated right up to the cutoff date for the prices (described in Section 3.1.9(ii) above). Such cases typically include securities with low foreign room, lock-up expiration, block sales/buys that occur after the cutoff dates described in Section 3.1.9(i) and (iii) above, additions to the Standard/Small Cap Index, as well as deletions from the Standard Index as part of the Index Review.

MSCI monitors the full company market capitalization (issuer level) of the Market Investable Equity Universes on a monthly basis as a part of its ongoing maintenance. As a reminder, the full company market capitalization is the aggregated market capitalization of all listed and unlisted securities of an issuer. Additional securities identified for existing index constituents by the tenth business day of a given month will be introduced on the third business day of the following month. Please note that Number of Shares (NOS), Foreign Inclusion Factors (FIF) and weights in the MSCI indices are not affected by the updates.

Please refer to Appendix VII: Policy Regarding Market Closures During Index Reviews for details on MSCI's policy regarding market closures during index reviews.

## 3.2. Quarterly Index Reviews in February and August

QIRs are designed to ensure that the indices continue to be an accurate reflection of the evolving equity marketplace. This is achieved by a timely reflection of significant market driven changes that were not captured in the index at the time of their actual occurrence but are significant enough to be reflected before the next SAIR. QIRs may result in additions or deletions due to migration to another Size-Segment Index, and changes in FIFs and in NOS. Only additions of significant new investable companies are considered, and only for the Standard Index. The buffer zones used to manage the migration of companies from one segment to another are wider than those used in the SAIR. The style classification is reviewed only for companies that are reassigned to a different size-segment.

### 3.2.1. Quarterly Index Review of Size-Segment Migrations

During each Quarterly Index Review, the following index maintenance activities are performed to identify migrations from one Size-Segment to another:

- Updating the Global Minimum Size References and Global Minimum Size Ranges.
- Reassessing the Market Size-Segment Cutoffs.
- Assigning companies to the Size-Segment Indices.
- Assessing conformity with Final Size-Segment Investability Requirements.

#### 3.2.1.1. Updating the Global Minimum Size References and Global Minimum Size Ranges

The Global Minimum Size Range is reset at the QIR by recalculating the Global Minimum Size Reference based on the existing DM Investable Equity Universe, excluding any newly eligible companies, as described in Appendix VIII: Updating the Global Minimum Size References and Ranges.

#### 3.2.1.2. Reassessing the Market Size-Segment Cutoffs

The Market Size-Segment Cutoff is determined as the full market capitalization of the company ranked in the Market Investable Equity Universe, excluding any newly eligible companies, at the Segment Number of Companies for the relevant segment.

The buffer ranges at the QIR are set up to +80% above and down to -50% below the Market Size-Segment Cutoff between two size-segments.

#### 3.2.1.3. Assigning Companies to Appropriate Size-Segments

During a QIR, companies in the Market Investable Equity Universe are preliminarily assigned to the Size-Segment Indices until the Segment Number of Companies is achieved with the following priority:

- Current constituents of a given Size-Segment Index, as well as companies assigned to this Size-Segment during last Index Review that failed the Final Size-Segment Investability Requirements, greater than the Market Size-Segment Cutoff.
- Companies in the lower Size-Segment Index, as well as companies assigned to this Size-Segment during last Index Review and failed the Final Size-Segment Investability Requirements , greater than the upper buffer threshold of the lower size-segment.
- Current constituents of a given Size-Segment Index, as well as companies assigned to this Size-Segment during the last Index Review that failed the Final Size-Segment Investability Requirements, in the lower buffer of the Size-Segment in descending capitalization order, until the threshold of the buffer is reached.
- The largest companies from the upper buffer of the next lower size-segment.

However, companies that would migrate from the lower Size-Segment Index but are below the lower bound of the Global Minimum Size Range, as well as companies that would migrate from upper Size-Segment but are above the upper bound of the Global Minimum Size Range, are retained in their current Size-Segment. The Segment Number of Companies is increased or decreased accordingly.

Once companies have been assigned to the Standard, Large and Investable Market Indices, companies are then assigned to the Mid and Small Cap Indices. The Mid Cap Index comprises the companies that are in the Standard Index but not the Large Cap Index. The Small Cap Index comprises the companies that are in the Investable Market Index but not in the Standard Index.

#### **3.2.1.4. Assessing Conformity with Final Size-Segment Investability Requirements**

Once the securities are assigned to the appropriate Size-Segment Indices, the securities that migrate from the Small Cap Indices to the Standard Indices are evaluated for compliance with the additional investability requirements for the Standard Index. Please refer to Sub-section 2.3.5: Applying Final Size-Segment Investability Requirements and Index Continuity Rules.

In addition, an existing constituent of the Standard Index can remain in the Size-Segment only if:

- The 3-month ATVR and Frequency of Trading are at least 10% and 80% respectively for Developed Markets
- The 3-month ATVR and Frequency of Trading are at least 7.5% and 80% respectively for Emerging Markets

An existing constituent of the Small Cap Index, not migrating to the Standard Segment can remain in the Size-Segment only if:

- The 3-month ATVR and Frequency of Trading are at least 5% and 80% respectively for Developed Markets
- The 3-month ATVR and Frequency of Trading are at least 5% and 70% respectively for Emerging Markets

If an existing constituent, represented by a local listing no longer meets the above liquidity requirements, liquid Depositary Receipts that do meet such requirements can be considered for inclusion. Depositary Receipts can only be considered if they are listed in the same geographical region as the local listing of the underlying security.

If an existing constituent of a Standard Index in Emerging Markets fails to meet the liquidity requirements, but has a weight of more than 10% in the respective country index and its free float adjusted market capitalization is above 0.5 times the Global Minimum Size Reference for Emerging Markets, then such constituent will remain in the index. However, MSCI would apply a Liquidity Adjustment Factor of 0.5 to the weight of the security, and in the subsequent index review, MSCI:

- Would delete the security from the index if the security does not meet all liquidity requirements for existing constituents calculated after applying the Liquidity Adjustment Factor; or
- Would maintain the security in the GIMI and remove the Liquidity Adjustment Factor if the security meets all the liquidity requirements for new constituents, calculated before applying the Liquidity Adjustment Factor for two consecutive Semi-Annual Index Reviews; or
- Would continue maintaining the security in the GIMI with the Liquidity Adjustment Factor of 0.5 if none of the above conditions are met.

Similarly to the foreign room treatment during SAIRs, current constituent securities for which there is less than 25% foreign room may have their weight adjusted by the application of an adjustment factor to reflect their actual level of foreign room.

The post-review adjustment factor depends on the current adjustment factor and the actual level of foreign room of the securities, as shown in the table below:

Post-review adjustment factor					
	foreign room >= 25%	15% <= foreign room < 25%	7.5% <= foreign room < 15%	3.75% <= foreign room < 7.5%	foreign room < 3.75%
Current adjustment factor = 1	1	1	0.5	0.25	0
Current adjustment factor = 0.5	1	0.5	0.5	0.25	0
Current adjustment factor = 0.25	1	0.5	0.25	0.25	0

If the foreign room of an existing constituent decreases below 3.75% and the security does not have a liquid eligible Depositary Receipt (DR), then the adjustment factor equals 0.<sup>10</sup>

<sup>10</sup> The adjustment factor equals 0 for (i) Indian securities included in the Reserve Bank of India's official list of securities for which the caution limit or ban limit has been reached; (ii) more generally, based on information available from the country regulatory authority, for securities where further purchase are restricted due to foreign ownership restriction.

If the foreign room of an existing constituent decreases below 3.75% and the security has a liquid eligible DR, then the adjustment factor equals 0.25. Eligible DRs are limited to level II and level III American Depositary Receipts (ADR) listed on the New York Stock Exchange or the NASDAQ, Global Depositary Receipts (GDR) as well as ADRs listed on the London Stock Exchange. DRs are deemed liquid if their 12-month ATVR is above 20% for Developed Markets and 15% for Emerging Markets and Frontier Markets.

Foreign room level will be reviewed on a quarterly basis coinciding with the regular MSCI Index Reviews. Generally, an upward movement of the adjustment factor for existing constituents 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. For a security that is deleted from the index as a result of having a foreign room lower than 3.75%, its index inclusion will only be reconsidered 12 months after its deletion.

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 Indices as part of the QIR, unless they meet the criteria outlined in section 3.2.2.

### **3.2.2. Quarterly Index Review of Addition of Companies Currently not Constituents of the Investable Market Indices**

Securities that are currently not constituents of the Investable Market Indices and that meet the investability screens described in Sub-section 2.2, including large IPOs that were not added earlier, and in addition meet the requirements listed below, are added to the Standard Index.

- A full market capitalization that exceeds 1.8 times both the Interim Market Size-Segment Cutoff and the lower bound of the Global Minimum Size Range
- A free float-adjusted market capitalization that exceeds 1.8 times both one-half the Interim Market Size-Segment Cutoff and one-half the lower bound of the Global Minimum Size Range
- A 12-month ATVR that exceeds the Minimum Market-Relative Liquidity Requirement for the Standard Index

These companies are assigned to the Large Cap Index if their full market capitalization exceeds the Large Cap Cutoff; they are assigned to the Mid Cap Index otherwise.

In addition, IPOs eligible for early inclusion according to Sub-section 3.3.4.1, and for which the effective date of inclusion is either 5 days before the effective date of the QIR or 3 days after, will be made effective to coincide with the QIR. For example, when the effective date of inclusion of the IPO is August 29 (3 business days before September 1), while the effective date of the QIR is September 1, the IPO will be added effective September 1.

For companies trading on a conditional basis (when-issued trading) prior to their listing and unconditional trading, MSCI intends to assess the inclusion of the company in the MSCI Indices on its first day of conditional trading.

### 3.2.3. Quarterly Index Review of Changes in FIFs

Significant changes in free float estimates and corresponding FIFs are reflected in the indices at the QIRs. These changes may result from the following:

- Large market transactions involving changes in strategic ownership, which are publicly announced (for example transactions made by way of immediate book-building and other processes such as block sales or block buys).<sup>11</sup>
- Secondary offerings that were not reflected immediately in the indices given the lack of sufficient notice or small size (less than 5% of the security's number of shares).
- Increases in Foreign Ownership Limits (FOLs).
- Decreases in FOLs which did not require foreign investors to immediately sell shares in the market.
- Re-estimations of free float figures resulting from the reclassification of shareholders from strategic to non-strategic (and vice versa) and/or updates to number of shares outstanding.
- Public disclosure of the new shareholder structure for companies involved in mergers, acquisitions or spin-offs, where different from the pro forma free float estimate at the time of the event.
- Large conversions of exchangeable bonds and other similar securities into already existing shares.
- End of lock-up periods or expiration of loyalty incentives for otherwise non-strategic shareholders, which determine the reclassification of these shareholdings and result in an increase in free float.
- Other events of similar nature. However, FIF changes resulting from updates in Non-Voting Depositary Receipts (NVDRs) in Thailand are applied in the indices only on a semi-annual basis at SAIRs and not quarterly.

FIF changes resulting from a change in free float of less than 1% will not be implemented, except in cases of corrections.

In general, the above mentioned changes are implemented as part of a given regular Index Review if they take place prior to the standard data cutoff date (as defined in Sub-Section 3.1.9 for SAIRs and 3.2.5 for QIRs) of that Index Review. However, changes in the FIF due to block buys / block sales that meet the conditions described in footnote 11, and large conversions may be implemented as part of the Index

<sup>11</sup> These changes will be implemented as part of the Index Review following the completion of the event provided they satisfy one of the following conditions when the event is completed:

- The absolute size of the FIF change is 0.15 or more, or
- The change in free float-adjusted market capitalization resulting from the FIF change represents at least:
  - USD 1 billion for securities classified in the US.
  - USD 500 million for securities classified in Developed Markets other than the US.
  - USD 200 million for securities classified in the Emerging Markets.

Changes that do not meet the above conditions will be implemented as part of the May Semi-Annual Index Review

Review even if they take place after the regular data cut off date. Such changes can be announced by MSCI until 3 business days before the Index Review effective date.

### 3.2.4. Quarterly Index Review of Changes in Number of Shares (NOS)

Small changes in NOS, typically less than 5% of the shares outstanding, are generally updated at the QIR rather than at the time of the change, to minimize index turnover provided the absolute NOS change is greater than 1,000 shares and percentage NOS change is greater than 0.02%. Changes may occur due to:

- Exercise of options or warrants and employee stock option plans.
- Conversion of convertible bonds or other instruments, including periodic conversion of preferred stocks, and small debt-to-equity swaps.
- Periodic share buybacks and cancellation of treasury shares.
- Increases in a security's number of shares resulting from acquisition of non-listed companies and conversion of unlisted shares.
- Small equity offerings.
- Other events that could not be implemented on or near the effective dates, and where no Price Adjustment Factor (PAF) is necessary.
- Share cancellations.
- primary equity offerings and secondary offerings typically less than 5% of the security's number of shares for index constituents except for micro cap segment.
- primary equity offering typically less than 25% of the security's number of shares for non-US micro cap securities.

Updates in number of shares implemented as part of the QIR could also trigger a review of the free float of the security. Any resultant change in FIF would be implemented simultaneously.

In general, the above mentioned changes are implemented as part of a given regular Index Review if they take place prior to the standard data cutoff date (as defined in Sub-Section 3.1.9 for SAIRs and 3.2.5 for QIRs) of that Index Review. However, changes in the NOS due to events such as, but not limited to, conversions, acquisition of unlisted companies and large cancellation of treasury shares may be implemented as part of the Index Review even if they take place after the regular data cut off date. Such changes can be announced by MSCI until 3 business days before the Index Review effective date.

### 3.2.5. Date of Data Used for Quarterly Index Review

In general, the standard data cut off dates for the February and August QIRs are as follows:

- (i) for data used for incorporating all FIF and NOS changes to the existing Equity Universe, the end of November for the February QIR and the end of May for the August QIR;
- (ii) for the prices used for calculating market capitalization generally any one of the last 10 business days of January for the February QIR and of July for the August QIR, respectively;
- (iii) for data used for incorporating all foreign room changes to existing Equity Universe, the end of December for the February QIR and the end of June for the August QIR; and
- (iv) for data used for calculation of liquidity requirements, the end of December for the February QIR and of June for the August QIR, respectively.

A business day is defined as a day from Monday to Friday where markets cumulatively constituting more than 80% of the MSCI All Countries World Index market capitalization are expected to be open.

As a general rule, price movements after the price cutoff date will not impact the results of the index review. However, in cases of extraordinary events or news related to a specific company identified as a migration between the size-segments or as an addition to the IMI based on the index review price cutoff date MSCI may decide not to change the company's size-segment allocation. In such instances, the company would either be maintained in its current size-segment or not added to the IMI. Examples of such extraordinary events or news are allegations of fraud, falsification of accounting data or news on a takeover bid resulting in a significant reduction (or increase) in company's market capitalization between the index review price cutoff date and the announcement date or/and in its suspension for an undetermined period. Market cap fluctuations or suspensions of trading after the index review announcement date typically would not result in the reversion of an already announced decision on the company's size-segment allocation. The policy on implementation of the index review changes for securities suspended around the index review implementation dates is stated in Appendix VII of this document.

In some cases, the FIF and the NOS of a security may be monitored and updated right up to the cutoff date for the prices (described in Section 3.2.5(ii) above). Such cases typically include securities with low foreign room, lock-up expiration, block sales/buys that occur after the cutoff dates described in Section 3.2.5(i) and (iii) above, additions to the Standard/Small Cap Index, as well as deletions from the Standard Index as part of the Index Review.

MSCI monitors the full company market capitalization (issuer level) of the Market Investable Equity Universes on a monthly basis as a part of its ongoing maintenance. As a reminder, the full company market capitalization is the aggregated market capitalization of all listed and unlisted securities of an issuer. Additional securities identified for existing index constituents by the tenth business day of a given month will be introduced on the third business day of the following month. Please note that Number of Shares (NOS), Foreign Inclusion Factors (FIF) and weights in the MSCI indices are not affected by the updates.

Please refer to Appendix VII: Policy Regarding Market Closures During Index Reviews for details on MSCI's policy regarding market closures during index reviews.

### 3.3. Ongoing Event-Related Changes

Ongoing event-related changes to the indices are the result of mergers, acquisitions, spin-offs, bankruptcies, reorganizations and other similar corporate events. They can also result from capital reorganizations in the form of rights issues, bonus issues, public placements and other similar corporate actions that take place on a continuing basis. These changes generally are reflected in the indices at the time of the event.



These events can affect many aspects of an index and its constituents, including inclusion or deletion of companies outside of the Index Reviews, weight changes due to changes in FOLs, FIFs, NOS, etc., and changes in size, style and/or industry classification.

To evaluate the impact of changes resulting from events on the assignment of companies into size-segments, it is necessary to maintain the Market Size-Segment Cutoffs and Segment Number of Companies on a daily basis as described below.

The handling of ongoing event-related changes can be classified in two broad categories:

- Corporate events affecting existing index constituents, described in Sub-section 3.3.3 below.
- Corporate events affecting non-index constituents, described in Sub-section 3.3.4 below.

The technical details relating to the handling of specific corporate event types can be found in the MSCI Corporate Events Methodology book available at:

<http://www.msci.com/products/indices/size/methodology.html>

### **3.3.1. Determining the Interim Market Size-Segment Cutoffs for Daily Maintenance**

For the purpose of determining eligibility for early inclusion of securities, such as significant IPOs, and/or assigning a company and its securities post a corporate event, e.g., mergers and spin-offs, to the appropriate Size-Segment Index an Interim Size-Segment Cutoff is used. To derive this number the following steps are followed:

- The Global Minimum Size References and Global Minimum Size Ranges of the Large Cap, the Standard, and the Investable Market Indices are updated daily as described in Appendix VIII: Update of Global Minimum Size References and Ranges.
- On a daily basis, each Market Size-Segment Cutoff is set to be the full market capitalization of the company of the rank equal to the Segment Number of Companies for that Size-Segment in the Market Investable Equity Universe.
- The Interim Market Size-Segment Cutoff is set to:
  - The lower bound of the Global Minimum Size Range, if the Market Size-Segment Cutoff is below the lower bound.
  - The upper bound of the Global Minimum Size Range, if the Market Size-Segment Cutoff is above the upper bound.
  - The Market Size-Segment Cutoff, if it is within the Global Minimum Size Range.

The daily values for the Market Size-Segment Cutoffs, the Segment Number of Companies and the Global Minimum Size Range are based on data from the previous trading day.

### **3.3.2. Updating the Segment Number of Companies**

If a company is added or deleted from a size-segment as a result of a corporate event, the Segment Number of Companies is correspondingly increased or decreased.

### 3.3.3. Corporate Events Affecting Existing Index Constituents

Corporate events can affect existing index constituents in various ways:

- Changes in Foreign Inclusion Factor (FIF), number of shares or industry classification for existing constituents.
- Changes in size or style segment classification as a result of a large corporate event.
- Early inclusions of non-index constituents.
- Early deletions of existing index constituents.

#### 3.3.3.1. Changes in FIF, Number of Shares or Industry Classification for Existing Constituents

In order to ensure that the index accurately reflects the investability of the underlying securities, it is a general policy to coordinate changes in number of shares with changes in FIF.

When two companies merge, or a company acquires or spins-off another company, the free float of the resulting entity is estimated on a pro forma basis, using the pro forma number of shares if applicable, and the corresponding FIF is applied simultaneously with the event. When there is a subsequent public disclosure regarding the new shareholder structure, which results in a different free float estimation than that made at the time of the event, the FIF will be updated at the next Index Review. Other corporate events, which result in a change in shareholder structure or FOLs and FIFs, will typically be reflected in the indices simultaneously with the implementation of the event in the index. Any other pending shareholder information updates or reclassifications will generally also be reflected in the pro forma free float estimation related to the event.

Decreases in FOLs in which foreign investors are obliged to immediately sell shares in the market will be reflected in the indices as soon as possible.

Changes in NOS and FIF resulting from primary equity offerings representing more than 5% of the security's number of shares are generally implemented as of the close of the first trading day of the new shares, if all necessary information is available at that time. Otherwise, the event is implemented as soon as practicable after the relevant information is made available. A primary equity offering involves the issuance of new shares by a company.

Changes in NOS and FIF resulting from primary equity offerings representing less than 5% of the security's number of shares are deferred to the next regularly scheduled Index Review following the completion of the event.

For public secondary offerings of existing constituents representing more than 5% of the security's number of shares, where possible, MSCI will announce these changes and reflect them shortly after the results of the subscription are known. Secondary public offerings that, given lack of sufficient notice, were not reflected immediately will be reflected at the next Index Review. Secondary offerings involve the distribution of existing shares of current shareholders' in a listed company and are usually pre-announced by a company or by a company's shareholders and open for public subscription during a pre-determined period.

For US securities, increases in NOS and changes in FIF resulting from primary equity offerings and from secondary offerings representing at least 5% of the security's number of shares will be implemented as soon as practicable after the offering is priced. Generally, implementation takes place as of the close of the same day that the pricing of the shares is made public. If this is not possible, the implementation will take place as of the close of the following trading day.

Changes in industry classification resulting from a corporate event are generally implemented simultaneously with the event. Other changes in industry classifications are implemented at the end of the month.

#### **3.3.3.2. Changes in Size or Style Segment Classification as a Result of a Large Corporate Event**

In order to reflect significant changes in the market capitalization of existing constituents in the Global Investable Market Indices and in the World All Cap Indices in a timely fashion while minimizing index turnover, the Size-Segment classification of a security is reviewed simultaneously with the event, if the market capitalization change implied by the event, including potential update in the number of shares for the security, is deemed significant.

A significant market capitalization change is defined as an increase of 50% or greater, or a decrease of 33% or more, relative to the company's full market capitalization before the event.

The company's post-event full market capitalization is then compared to the Interim Size-Segment Cutoffs in order to determine the classification of that security in the appropriate size-segment. The final decision is generally taken at the time of the completion of the event or, if the event is not effective yet, at the time of the confirmed announcement and is based on the latest market information available at the time of the analysis, including the latest NOS, FIF, and market prices.

In addition, the securities must pass the investability screens described in Sub-section 2.2.

In particular, the free float-adjusted market capitalization of securities added to the Standard Index must be at least 50% of the Standard Index Interim Size-Segment Cutoff. Moreover, the securities added to the Standard Index must meet the size-segment investability requirements for the Standard Index described in Sub-sections 2.3.5.2 and 2.3.5.3. However, in some situations, MSCI may decide to proceed with the addition of the security even if the conditions described under 2.3.5.2 are not fully met, for example when the corporate event is likely to increase the future liquidity of a security.

For a security to be added to the Small Cap Index, the free float-adjusted market capitalization must be at least 50% of the Small Cap Interim Size-Segment Cutoff.

However, a World Micro Cap Index constituent will not be considered for a size-segment migration to the Small Cap Index or Standard Index due to a significant market capitalization increase at time of the event but at Index Reviews, unless there is a merger or acquisition of a Small Cap Index constituent or a Standard Index constituent with or by a World Micro Cap Index constituent.

If the company is added to, or removed from a size-segment, then it results in an increase or a decrease in the Segment Number of Companies for the size-segment.

For these significant events, if the post-event entity moves from being a non-constituent to a constituent of the Global Investable Market Indices, the style characteristics of the affected securities are reviewed. The same applies for the post-event entity that migrates from the World Micro Cap Index or the Small Cap Index to an upper Size-Segment Index. If the post-event entity moves from the Standard Index to the Small Cap Index or remains in the same Size-Segment Index (with the Large and Mid Cap Indices being considered as one size index), the style characteristics of the affected securities are not reviewed. If the post-event entity moves from the Standard Index or Small Cap Index to the World Micro Cap Index, the style characteristics of the affected securities are removed as there are no style characteristics for the World Micro Cap constituents.

The guidelines regarding significant market capitalization changes described above apply in most corporate events cases. For certain corporate events where the outcome is uncertain such as acquisitions for shares or non-renounceable rights issues, or combinations of different types of corporate events, or other exceptional cases, MSCI will determine the most appropriate implementation method and announce it prior to the changes becoming effective in the indices.

### **3.3.3.3. Early Inclusions of Non-Index Constituents**

When there is a corporate event affecting index constituents, non-index constituents that are involved in the event are generally considered for immediate inclusion in the MSCI Global Investable Market Indices, as long as they meet all the index constituent eligibility rules and guidelines described in Sub-sections 2.2 and 2.4 with the exception of the length of trading and liquidity screens.

For example, if a non-constituent company acquires a constituent company, the constituent company's securities may be replaced by the securities of the acquiring company. Similarly, if a constituent company merges with a non-constituent company, the merged company may replace the constituent company. In addition, if a constituent's share class is converted into another share class that is new or currently not in the index, this new share class can be included in the index to replace the current share class.

Such non-index constituents are generally included in the same size-segment and Value and Growth Indices as the affected index constituents, since they are considered to be a continuation of the index constituents. However, if the difference between the post-event market capitalization of the non-index constituents and the respective index constituents is deemed significant, as discussed in Sub-section: 3.3.3.2, a size-segment review is conducted for the non-index constituents. A style review is conducted if the non-index constituents are included to different Size-Segment Indices from the affected index constituents. Thereafter, the non-index constituents are included in the appropriate Size-Segment Indices by comparing the company's post-event full market capitalization with the Interim Market Size-Segment Cutoff, and in the appropriate style indices based on their style attribution within the relevant Size-Segment Indices. In particular, the company post-event full market capitalization must be above at least 1 time the Interim Market Size-Segment Cutoff and the security free float-adjusted market capitalization must be above at least 50% of the Interim Market Size-Segment Cutoff.

Securities spun-off from existing constituents are also considered for inclusion at the time of the event. A systematic size-segment classification review is conducted for all spun-off securities from existing Global Investable Market Index constituents provided that they pass all the investability screens described in Sub-section 2.2 with the exception of the length of trading and liquidity screens. In addition, the free float-adjusted market capitalization of securities added to the Standard Index must be at least 50% of the Standard Index Interim Size-Segment Cutoff. For a security to be added to the Small Cap Index, the free float-adjusted market capitalization must be at least 50% of the Small Cap Interim Size-Segment Cutoff. Securities spun-off from the World Micro Cap Index are also considered for inclusion at time of the event, but only for the World Micro Cap Index size-segment. For a security to be added to the World Micro Cap Index, the free float-adjusted market capitalization must be at least 50% of the Micro Cap Minimum Size Requirement for Existing Constituents as described in Sub-section 4.1.2. A style review is performed for spun-off securities if they are included in different Size-Segment Indices from the spinning-off securities and/or the spinning-off securities move to other Size-Segment Indices at the time of the event. No style reviews are performed for spun-off securities that are considered to be included in the World Micro Cap Index, as there are no style characteristics for the World Micro Cap constituents. Thereafter, the spun-off securities are included in the appropriate Size-Segment Indices by comparing the company's post-event full market capitalization with the Interim Market Size-Segment Cutoff, and in the appropriate style indices based on their style attribution within the relevant Size-Segment Indices.

#### **3.3.3.4. Early Deletions of Existing Constituents**

Securities of companies that file for bankruptcy, companies that file for protection from their creditors and/or are suspended and for which a return to normal business activity and trading is unlikely in the near future will be removed from the MSCI Global Investable Market Indices as soon as practicable. Companies that fail stock exchanges listing requirements with announcements of delisting from the stock exchanges will be treated in the same way. When the primary exchange price is not available, the securities will be deleted at an over-the-counter or equivalent market price when such a price is available and deemed relevant. If no over-the-counter or equivalent price is available, the company will be deleted at the smallest price (unit or fraction of the currency) at which a security can trade on a given exchange.

Securities may also be considered for early deletion in other significant cases, such as decreases in free float and FOLs, or when a constituent company acquires or merges with a non-constituent company or spins-off another company.

In practice, when a constituent company is involved in a corporate event which decreases by more than 33% the company's full market capitalization, the securities of the constituent company are considered for early deletion from the indices simultaneously with the event. Securities are also considered for early deletion in cases of corporate events where the Foreign Inclusion Factor (FIF) of the security decreases or is expected to decrease below 0.15.

Moreover, existing constituents of the Standard Index with a FIF already lower than 0.15 may be considered for early deletion simultaneously with an event if the FIF further decreases due to the event.

In cases of securities that are considered for early deletion, a security is removed from the indices if due to the event the security falls under one of the following scenarios:

- The security no longer passes the investability screens described in Sub-sections 2.2 and 4.1 (the security will be allocated to the World Micro Cap Index if it no longer passes the screens described in Sub-section 2.2 but still passes the screens described in Sub-section 4.1).
- The security is a constituent of the Standard Index and would be maintained in the Standard Index based on its company's full market capitalization after the event, however its float-adjusted market capitalization does not meet  $2/3^{\text{rd}}$  of one half of the Standard Index Interim Size-Segment Cutoff.<sup>12</sup>
- The security is a constituent of the Standard Index and would be migrated to the Small Cap Index based on its company's full market capitalization after the event, however its float-adjusted market capitalization does not meet one half of the Small Cap Index Interim Size-Segment Cutoff.
- The security is a constituent of the Small Cap Index and its float-adjusted market capitalization does not meet  $2/3^{\text{rd}}$  of one half of the Small Cap Index Interim Size-Segment Cutoff following the event.

Conversions of a constituent's share class into another share class may also result in the deletion of one or more share classes from the indices.

For securities that are suspended, the market price immediately prior to the suspension will be carried forward during the suspension period.

### 3.3.4. Corporate Events Affecting Non-Index Constituents

#### 3.3.4.1. IPOs and Other Early Inclusions

In general, newly listed equity securities available to foreign investors are considered for inclusion in the MSCI Global Investable Market Indices, according to MSCI's Global Investable Market Indices methodology rules and guidelines, at the time of the Index Reviews. However, for IPOs, which are

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<sup>12</sup> If the Standard Index constituent has a FIF lower than 0.15 after the event, the minimum float-adjusted market capitalization requirement is  $2/3^{\text{rd}}$  of the 1.8 times one half of the Standard Index Interim Size-Segment Cutoff.

significant in size and meet all the MSCI inclusion criteria, an early inclusion, outside of the Index Reviews, may be considered for inclusion in the Standard Index. If the decision is made to include an IPO early, the inclusion will generally become effective after the close of the security's tenth day of trading. However, in certain cases, another date may be chosen for the inclusion to reduce turnover, for example, where the normal inclusion date is close to the effective date of the next Index Review, as described in Sub-sections 3.1.6.1 (for the Semi-Annual Index Reviews) and 3.2.2 (for the Quarterly Index Reviews).

For companies trading on a conditional basis (when-issued trading) prior to their unconditional trading, MSCI intends to assess the inclusion of the company in the MSCI Indices on its first day of conditional trading.

In order for an IPO and other newly eligible securities to qualify for an early inclusion to the Standard Index, a security must meet the index constituent eligibility rules and guidelines described in Sub-section 2.2 with the exception of the length of trading and liquidity screens, meet the size-segment investability requirements described in Sub-section 2.3.5.1 and have a company full market capitalization of at least 1.8 times the Interim Market Size-Segment Cutoff and free float-adjusted market capitalization of at least 1.8 times one-half of the Interim Market Size-Segment Cutoff as of the close of its first or second trading day.<sup>13</sup>

Securities may also be considered for early inclusion in other significant cases, including but not limited to those resulting from restructuring in the industry giving rise to a large new company or a large primary or secondary public offering of an already listed security if the size of the offering exceeds the IPO threshold of 1.8 times one-half of the Interim Market Size-Segment Cutoff. Such cases will be treated in the same way as IPOs of significant size.

### 3.3.5. Corporate Events Affecting the Index Review

Some corporate events, such as, but not limited to, additions to or deletions from the Indices or corporate events that trigger a significant market capitalization change relative to the company's full market capitalization before the event (increase of 50% or greater, or decrease of 33% or more), may have an impact on the index changes announced at the time of the Index Reviews. In such situation and if the completion date of the corporate event is effective between the Index Review price-cutoff date and one month after the Index Review effective date, MSCI may amend the Index Review result and announcement to consider the impact of the corporate event, in order to avoid potential reverse turnover. MSCI may amend the Index Review changes until five business days before the Index Review effective date.

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<sup>13</sup> IPOs with a FIF of less than 0.15 would have to meet the same criteria for early inclusion as IPOs with a FIF of 0.15 or higher.

To communicate these amendments, a separate announcement will be sent to the clients either with the Index Review announcement or with the corporate event announcement depending on the announcement date of the event.

MSCI reserves the right to handle specific cases differently if more appropriate.

## 3.4. Announcement Policy

### 3.4.1. Semi-Annual Index Review

The results of the SAIRs are announced at least two weeks in advance of their effective implementation dates as of the close of the last business day of May and November.

### 3.4.2. Quarterly Index Review

The results of the QIRs are announced at least two weeks in advance of their effective implementation dates as of the close of the last business day of February and August.

### 3.4.3. Ongoing Event-Related Changes

#### 3.4.3.1. Client Announcements

All changes resulting from corporate events are announced to clients prior to their implementation in the MSCI Global Investable Market Indices.

The changes are typically announced at least ten business days prior to these changes becoming effective in the indices as “expected” announcements, or as “undetermined” announcements, when the effective dates are not known yet or when aspects of the event are uncertain. MSCI sends “confirmed” announcements at least two business days prior to events becoming effective in the indices provided that all necessary public information concerning the event is available. In case a “confirmed” announcement needs to be amended, MSCI sends a “correction” announcement with a descriptive text announcement to provide details about the changes made.

For certain events, MSCI only sends “confirmed” announcements, especially due to insufficient or lack of publicly available information or late company disclosure. For the MSCI World Micro Cap Index and the MSCI Frontier Markets Small Cap Index, MSCI will generally only send “confirmed” announcements at



least two business days prior to events becoming effective in the index, provided that all necessary public information concerning the event is available.

The full list of all new and pending changes is delivered to clients on a daily basis, between 5:30 PM and 6:00 PM US Eastern Time (EST) through the Advance Corporate Events (ACE) File.

In exceptional cases, events are announced during market hours for same or next day implementation. Announcements made by MSCI during market hours are usually linked to late company disclosure of corporate events or unexpected changes to previously announced corporate events. A descriptive text announcement is sent for all corporate events effective on the same day or on the next day.

In general, MSCI also sends text announcement for corporate events effective within the next 48 hours, except for US Equities' equity offerings and market neutral events such as split, reverse split or stock dividend.

In the case of secondary offerings representing at least 5% of a security's number of shares for existing constituents, these changes will be announced prior to the end of the subscription period when possible and a subsequent announcement confirming the details of the event (including the date of implementation) will be made as soon as the results are available.

Both primary equity offerings and secondary offerings for US securities, representing at least 5% of the security's number of shares, will be confirmed through an announcement during market hours for next day or shortly after implementation, as the completion of the events cannot be confirmed prior to the notification of the pricing.

Early deletions of constituents due to bankruptcy or other significant cases are announced as soon as practicable prior to their implementation in the MSCI indices.

For MSCI Global Standard Index constituents, a more descriptive text announcement is sent to clients for significant events that meet any of the following criteria:

- Additions and deletions of constituents.
- Changes in free float-adjusted market capitalization equal to or larger than USD 5 billion, or with an impact of at least 1% of the constituent's underlying country index.

In general, no descriptive text announcement will be sent for the MSCI World Micro Cap Index constituents and Frontier Markets Small Cap Index constituents.

However, if warranted, MSCI may make descriptive text announcements for events that are complex in nature and for which additional clarification could be beneficial for any Standard, Small Cap and Micro Cap Indices.

### 3.4.3.2. Public Announcements

All additions and deletions of constituents of the MSCI Global Investable Market Indices resulting from corporate events are publicly announced prior to their implementation.

In general, other changes resulting from corporate events that affect constituents of the MSCI Global Investable Market Indices, such as changes in the Foreign Inclusion Factor (FIF) and/or in the number of shares of a constituent, are not publicly announced but are announced only to clients.

If warranted, MSCI reserves the right to make public announcements related to corporate events for special cases, such as the ineligibility of a security in the MSCI Global Investable Market Indices.

The changes are typically announced at least two business days prior to events becoming effective in the indices. Public announcements are a summary of the “confirmed” announcements that are made to clients. Public announcements are typically made shortly before a “confirmed” client announcement is made.

MSCI posts the announcements on its web site, [www.msci.com](http://www.msci.com), and on Bloomberg page MSCN. In addition, announcements are posted on Reuters public pages MSCIA for MSCI Global Standard Index constituents and MSCI Domestic Standard Index constituents.

### 3.4.4. IPOs and Other Early Inclusions

Early inclusions of large IPOs in the MSCI Standard Index Series are announced no earlier than the first day of trading and no later than before the opening of the third day of trading in the market where the company has its primary listing.

Early inclusions of already listed securities following large secondary offerings of new and/or existing shares are announced no earlier than shortly after the end of the offer period.

It is MSCI policy not to comment on the potential inclusion of equity securities to be listed in the future, including their industry classification under the Global Industry Classification Standard (GICS), their country classification and their potential inclusion in an MSCI index. The same applies to non-index constituents that are already listed which have pending large events.

### 3.4.5. Global Industry Classification Standard (GICS)

Non-event related changes in industry classification at the sub-industry level are announced at least two weeks prior to their implementation as of the close of the last US business day of each month. MSCI announces GICS changes twice a month, the first announcement being made on the first US business day of the month and the second one being made at least ten US business days prior to the last US business day of the month. All GICS changes announced in a given month will be implemented as of the close of the last US business day of the month.

## Section 4: MSCI All Cap Indices

This section should be read in conjunction with the earlier Section 2 'Constructing the MSCI Global Investable Market Indices' and Section 3 'Maintaining the MSCI Global Investable Market Indices'.

The calculation of the MSCI All Cap Indices is currently limited to Developed Markets.

### 4.1. Constructing the MSCI All Cap Indices

The MSCI All Cap Indices encompass all constituents of the MSCI Global Investable Market Indices as well as securities allocated to the MSCI Micro Cap Indices. The construction of the MSCI Global Investable Market Indices is described in detail in previous sections.

Constructing the MSCI All Cap Indices involves the following steps:

- Constructing Global Investable Market Indices as described in earlier sections.
- Constructing a Micro Cap Index for each market as described below.
- Aggregating the Global Investable Market Indices with the Micro Cap Indices.

The Micro Cap Size-Segment is constructed by including all securities which are not part of the Global Investable Market Indices and meet the following requirements:

- Micro Cap Maximum Size Requirement.
- Micro Cap Minimum Size Requirement.
- Micro Cap Minimum Liquidity Requirement.
- Global Minimum Foreign Inclusion Factor Requirement.
- Minimum Length of Trading Requirement.

Each of these screens is described in detail below.

#### 4.1.1. Micro Cap Maximum Size Requirement

This screen is applied at the company level.

A company with a full company market capitalization exceeding the Small Cap Entry Buffer (as defined in Sub-section 3.1.5.1) may not be allocated to the Micro Cap Size-Segment.

#### 4.1.2. Micro Cap Minimum Size Requirement

This screen is applied at the company level.

In order to be allocated to the Micro Cap Size-Segment, a company must have the required minimum full market capitalization and full security market capitalization. This minimum full market capitalization is referred to as the Micro Cap Minimum Size Requirement and is applied to both full company market capitalization (issuer level) and full security market capitalization. This requirement applies to companies in all Developed Markets.

The Micro Cap Minimum Size Requirement is derived using the same process as described in the Sub-section 2.2.1 targeting cumulative free float-adjusted market capitalization coverage of 99.8% of the Developed Markets Equity Universe (as defined in Sub-section 2.1).

#### 4.1.3. Micro Cap Minimum Liquidity Requirement

In order to be eligible for inclusion in the Micro Cap Size-Segment a security must have a 12-month ATVR of at least 5% and a 12-month frequency of trading of at least 50%.

#### 4.1.4. Global Minimum Foreign Inclusion Factor Requirement

This screen is applied at the individual security level.

A security must have Foreign Inclusion Factors (FIFs) equal to or larger than 0.15 to be eligible for inclusion in the Micro Cap Size-Segment.

Securities with a FIF equal to 0.15 or above will also be excluded if their free float-adjusted market capitalization is less than Micro Cap Minimum Size Requirement for Existing Constituents threshold defined in the sub-section 4.2.1.2

#### 4.1.5. Minimum Length of Trading Requirement

This screen is applied at the individual security level.

For an IPO to be eligible for inclusion in the Micro Cap Size-Segment, the new issue must have started trading at least three months before the implementation date of a Semi-Annual Index Review.

## 4.2. Maintaining the MSCI All Cap Indices

Similarly to the Large, Mid and Small Cap Size-Segments, Micro Cap Size-Segment index maintenance involves:

- Semi-Annual Index Reviews (SAIRs) in May and November which include:
  - Updating the indices on the basis of a fully refreshed Equity Universe.
  - Taking buffer rules (as defined in Sub-section 3.1.5.1) into consideration for migration of securities across size segments.
  - Updating (FIFs) and Number of Shares (NOS).
- Quarterly Index Reviews (QIRs) in February and August are aimed at:
  - Reflecting the impact of significant market events on FIFs and updating NOS.
- Ongoing event-related changes. Changes of this type are generally implemented in the indices as they occur. More information on the event-related changes can be found in the Corporate Events Methodology book

### 4.2.1. Semi-Annual Index Reviews in May and November

As described in Section 3, during each SAIR the Equity Universe is updated and all size-segments of the Global Investable Market Indices are reviewed. The following index maintenance activities are undertaken as part of the SAIR for the Micro Cap Size-Segment:

- Updating the Micro Cap Minimum Size Requirement.
- Assigning companies to the Micro Cap Size-Segment taking into account size and liquidity buffer zones.

#### 4.2.1.1. Updating the Micro Cap Minimum Size Requirement

The Micro Cap Minimum Size Requirement is updated at each SAIR in the following manner:

The cumulative free float-adjusted market capitalization coverage at the rank of the company that was used to define the Micro Cap Minimum Size Requirement at the previous rebalance is calculated.

If the coverage of the updated Developed Market Equity Universe at that rank falls:

- between 99.7% and 99.8%, the Micro Cap Minimum Size Requirement is set to the current full market capitalization of the company at that rank.
- below 99.7%, the Micro Cap Minimum Size Requirement is reset to the full market capitalization of the company at 99.7% coverage and the rank of that company is noted for the next rebalance.
- above 99.8%, the Micro Cap Minimum Size Requirement and rank are reset based on the full market capitalization of the company at 99.8% coverage and the rank of that company is noted for the next rebalance.

#### 4.2.1.2. Assigning Companies to the Micro Cap Size-Segment

All companies meeting the requirements outlined in Sub-sections 4.1.1 through 4.1.5 which are not part of the Investable Market Size-Segments are assigned to the Micro Cap Size-Segment.

Existing constituents of the Micro Cap Size-Segment may remain in the segment under the following conditions:

- company full market capitalization is not above the Small Cap Entry Buffer.
- company full market capitalization and security full market capitalization are greater than or equal to the lower of USD 10 million or the full market capitalization of the company at 99.95% coverage (Micro Cap Minimum Size Requirement for Existing Constituents).
- FIF remains above or equal to 0.15.
- 12-month frequency of trading is above or equal 10%.

#### 4.2.2. Quarterly Index Reviews of February and August

QIRs are only aimed at reflecting the impact of significant market events on FIFs and updating NOS. Typically no change in the constituents of the Micro Cap Size-Segment may take place at the time of QIRs. At the time of QIRs a company may enter the Micro Cap Size-Segment only if it is deleted from the Small Cap Size-Segment due to a low liquidity and it satisfies the conditions specified in Sub-section 4.2.1.2.

#### 4.2.3. Ongoing Event-Related Changes

Ongoing event-related changes to the indices are the result of mergers, acquisitions, spin-offs, bankruptcies, reorganizations and other similar corporate events. They can also result from capital reorganizations in the form of rights issues, bonus issues, public placements and other similar corporate actions that take place on a continuing basis. These changes generally are reflected in the indices at the time of the event.

The ongoing maintenance of the Micro Cap Size-Segment generally follows the process outlined in Sub-section 3.3.

## Section 5: MSCI Frontier Markets Indices

### 5.1. Frontier Markets Definition

MSCI starts by considering all equity markets not included in the MSCI Emerging Markets Index, that:

- demonstrate a relative openness to and accessibility for foreign investors
- are generally not considered as part of the developed markets universe<sup>14</sup>
- do not belong to countries undergoing a period of extreme economic (e.g., hyperinflation) or political instability (e.g., civil war)

MSCI then applies the following materiality requirement:

- A minimum of two companies with securities eligible for the Standard Index.

#### 5.1.1. Updating MSCI Frontier Markets Index Coverage

MSCI will on a regular basis monitor potential new markets that may qualify or current markets that may not qualify anymore for the MSCI Frontier Markets Index. Potential additions and deletions will be considered semi-annually during the May and November Semi-Annual Index Reviews.

A Standalone Country Standard Index may be added to the MSCI Frontier Markets Index at the earliest as part of the Semi-Annual Index Review that follows the creation of the Standalone Country Standard Index for that market.

Please refer to Appendix II for more information on the Market Classification Framework.

#### 5.1.2. Standalone Country Indices

MSCI will consider the creation of Standalone Country Indices for countries not currently covered by MSCI during the May and November Semi-Annual Index Reviews.

A Standalone Country Standard Index may be created for countries having a minimum of two companies with securities meeting the requirements for the Frontier Markets Standard Index.

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<sup>14</sup> E.g. Luxembourg, Iceland or Cyprus. These countries are part of the developed markets universe. Given their modest size these markets are not included in the MSCI World Index.



A Standalone Country IMI may be created for countries having a minimum of one company with securities meeting the requirements for the Frontier Markets Standard Index, and a minimum of two companies with securities meeting the requirements for the Frontier Markets Small Cap Index.

MSCI also considers the availability and accuracy of market data when deciding on the potential creation of Standalone Country Indices for countries not currently covered by MSCI.

## 5.2. Methodology used to construct and maintain the MSCI Frontier Markets Indices

This appendix should be read in conjunction with the earlier Section 2 ‘Constructing the MSCI Global Investable Market Indices’ and Section 3 ‘Maintaining the MSCI Global Investable Market Indices’.

The methodology used to construct the MSCI Frontier Markets Indices is similar, but not identical, to the construction of the indices for Developed and Emerging Markets. One of the prime differences is that the Frontier Markets are divided into Larger Frontier Markets and Smaller Frontier Markets with different minimum size requirements. Larger Frontier Markets are defined as markets for which the application of the Emerging Markets Global Minimum Size reference results in adequate Standard Size-Segment coverage. Smaller Frontier Markets require the use of a relaxed Global Minimum Size Reference (0.5 times Global Minimum Size Reference for Larger Frontier Markets) to reach sufficient Standard Size-Segment coverage. Further, there are three levels of minimum liquidity requirements – very low, low, and average – to accommodate the divergent liquidity levels in Frontier Markets. See Appendix X for the countries that fall under each classification.

In addition, to account for generally lower investability characteristics of Frontier Markets, no additional investability requirements are applied for securities to be included in the Investable Market and the Standard Indices with the exception of foreign room requirements which are identical to those applied in Developed and Emerging Markets.

More specifically, the methodological differences between the index construction for Frontier Markets countries and for countries constituting the MSCI ACWI Index are found in the following:

- Full and free float-adjusted market capitalization requirements resulting from categorization of Frontier Markets into Larger and Smaller Markets
- Liquidity requirements resulting from categorization of Frontier Markets into very low, low or average liquidity markets
- Final Size-Segment Investability Requirements
- Index Continuity Rules
- Implementation of Corporate Events
- IPOs and other early inclusions

In addition, the size segmentation into Large Cap and Mid Cap of the Standard Index is not offered for Frontier Markets with the exception of the MSCI Gulf Cooperation Council (GCC) Countries Indices.

More details on the methodological differences are described below.

### 5.2.1. Categorization of Frontier Markets into Larger and Smaller Markets

As mentioned above, in order to account for differences in market size and structure across Frontier Markets, each Frontier Market is categorized as a Larger or Smaller market. The categorization is reviewed semi-annually during the May and November Semi-Annual Index Reviews.

Each country is analyzed independently to determine the most suitable size categorization. MSCI considers several factors for the minimum size categorization of each Frontier Market:

- The number of Standard Index constituents subject to categorization.
- The differences in the Standard Index free float-adjusted market capitalization coverage when applying different Global Minimum Size References.
- Recent development of the stock market structure i.e., full market capitalization and size distribution of companies. Expected evolution of the stock market structure (e.g., future IPOs).

The categorization between the Larger and Smaller Frontier Markets results in two different sets of Equity Universe Minimum Float-Adjusted Market Capitalization Requirements as well as Global Minimum Size References.

#### 5.2.1.1. Equity Universe Minimum Float-Adjusted Market Capitalization Requirement

To be eligible for inclusion in a Market Investable Equity Universe, a security must have a free float-adjusted market capitalization equal to or higher than:

- Larger Frontier Markets: 50% of the Equity Universe Minimum Size Requirement
- Smaller Frontier Markets: 25% of the Equity Universe Minimum Size Requirement

During the May and November Semi-Annual Index Reviews, existing constituents must meet 2/3<sup>rd</sup> of the threshold in order to be maintained in the size-segment indices.

Example:

If, using the definition in section 2.2.1, the Equity Universe Minimum Size Requirement is set at USD 150 million, then a security in a larger market must have a free float-adjusted market capitalization equal to or higher than USD 75 million to be eligible for inclusion in a Market Investable Equity Universe, and USD 37.5 million in a smaller market.

During a Semi-Annual Index Review, and assuming an Equity Universe Minimum Size Requirement set at USD 150 million, an existing constituent in a larger market must have a free float-adjusted market capitalization equal to or higher than USD 50 million to be maintained in the size-segment indices, and USD 25 million in a smaller market. Global Minimum Foreign Inclusion Factor Requirement.

#### **5.2.1.2. Global Minimum Foreign Inclusion Factor Requirement**

Similarly to Developed and Emerging Markets, securities with a FIF of less than 0.15 are generally not eligible for inclusion in the MSCI Frontier Markets Indices unless these securities are sufficiently large. In Frontier Markets, securities are considered as large if their full company market capitalization is above 1.8 times of the Interim Size-Segment Cutoff for the relevant Standard Country Index and their free float-adjusted market capitalization is at least 1.8 times of the relevant free float-adjusted market capitalization thresholds defined above.

Existing constituents with a FIF of less than 0.15 may remain in the Standard Index if the companies meet the full company market capitalization and liquidity criteria applied for the securities with FIF of 0.15 or higher and their free float-adjusted market is not below 2/3 of the 1.8 times of the relevant Equity Universe Minimum Size Requirement mentioned earlier.

Securities with a FIF below 0.15 may not be added to or maintained in the Small Cap Size-Segment.

#### **5.2.1.3. Global Minimum Size Reference**

The Global Minimum Size References for the Standard and Investable Market Size-Segments of the MSCI Frontier Markets Indices are linked to the corresponding Global Minimum Size References of the Emerging Markets under the MSCI Global Investable Market Indices Methodology.

The Global Minimum Size References for Larger Frontier Markets are set equal to the corresponding Emerging Markets Global Minimum Size References (refer to Sub-section 2.3.2.1), while the Global Minimum Size References for Smaller Frontier Markets are set at 0.5 times the corresponding Emerging Markets Global Minimum Size References.

### 5.2.2. Categorization of Frontier Markets into very low, low or average liquidity markets

In order to account for the differences in liquidity patterns across Frontier Markets, each Frontier Market is categorized as a very low, low or average liquidity market. The corresponding minimum liquidity requirement levels are set at 2.5%, 5% or 15% 12-month ATVR. This rule is referred to as the Frontier Markets Liquidity Requirement.

The categorization of each country is reviewed semi-annually during the May and November Semi-Annual Index Reviews.

For each Frontier Market MSCI considers the following factors:

- The proportion of the country's IMI (in terms of number of constituents and weight) deleted from the index due to failing the liquidity requirements
- The proportion of the country's Equity Universe (in terms of number of constituents and weight) not included in the IMI due to failing the liquidity requirements, and how it compares to other Frontier Markets
- The average liquidity level for the country's Equity Universe, and how it compares to other Frontier Markets
- The country's historical liquidity level trends and how they compare to other Frontier Markets
- The size and number of constituents in the country IMI Index relative to other Frontier Markets

During Semi-Annual Index Reviews, existing constituents of the IMI in average and low liquidity markets may remain in a Market Investable Universe if their 12-month ATVR stays above 2/3rd of the minimum level requirement of 15% for average liquidity markets and 5% for low liquidity markets. Existing constituents of the IMI in very low liquidity markets may remain in a Market Investable Universe if their 12-month ATVR stays above 1%.

If an existing constituent of a Standard Index in Frontier Markets fails to meet the liquidity requirements, but has a weight of more than 10% in the respective country index and its float adjusted market capitalization is above 0.5 times the Global Minimum Size Reference for Emerging Markets, then such constituent will remain in the index. However, MSCI would apply a Liquidity Adjustment Factor of 0.5 to the weight of the security, and in the subsequent index review, MSCI:

- Would delete the security from the index if the security does not meet at least half of the liquidity requirements for existing constituents calculated after applying the Liquidity Adjustment Factor or
- Would maintain the security in the GIMI and remove the Liquidity Adjustment Factor if the security meets all the liquidity requirements for new constituents, calculated before applying the Liquidity Adjustment Factor for two consecutive Semi-Annual Index Reviews or
- Would continue maintaining the security in the GIMI with the Liquidity Adjustment Factor of 0.5 if none of the above conditions are met

### 5.2.3. Final Size-Segment Investability Requirements

The MSCI Frontier Markets Indices Methodology does not apply Final Size-Segment Investability Requirements for float-adjusted market capitalization and liquidity described in Sub-sections 2.3.5.1, 2.3.5.2, 3.1.6. and 3.2.1.4

### 5.2.4. Index Continuity Rules

If after the application of the index construction methodology, a Standard Index contains fewer than two securities, then the largest securities by free float-adjusted market capitalization are added to the Standard Index in order to reach two constituents.

At subsequent Index Reviews, if the free float-adjusted market capitalization of a non-index constituent is at least 1.50 times the free float-adjusted market capitalization of the smallest existing constituent after rebalancing, the larger free float-adjusted market capitalization security replaces the smaller one.

### 5.2.5. Implementation of Corporate Events

Generally, the ongoing maintenance of the Frontier Markets Indices follows the same process as Developed and Emerging Markets, outlined in Sub-section 3.3.

As a general policy, changes resulting from corporate events are implemented in the MSCI Equity Indices as they occur simultaneously with the event, provided that all necessary public information concerning the event is available. However, changes resulting from corporate events in the Frontiers Market countries that could not be implemented on or near the effective dates – especially due to insufficient or lack of publicly available information – and where no price adjustment factor (PAF) is necessary, are implemented at the following regularly scheduled Index Reviews. Examples of such corporate events may include amongst others share placements and offerings.

### 5.2.6. IPOs and Other Early Inclusions

Similarly to Developed and Emerging Markets, IPOs which are significant in size and meet all the MSCI inclusion criteria may be considered for inclusion in the Standard Index outside Index Reviews. In order for an IPO and other newly eligible securities to qualify for early inclusion to the Standard Index, the security has to meet the same requirements as outlined in Sub-section 3.3.4.1 with the exception of the free float-adjusted market capitalization requirement. Early inclusion to the MSCI Frontier Markets Indices would have to have a free float-adjusted market capitalization of at least 1.8 times the Equity Universe Minimum Float-Adjusted Market Capitalization Requirement described in Sub-section 5.2.1.1 as of the close of its first trading day.

# Appendices

# Appendix I: Equity Markets and Universe

The tables below provide a list of Stock Exchanges, Market Segments and Eligible Security Classes that MSCI uses as the basis of the construction of the MSCI Global Investable Market Indices and MSCI Frontier Markets Indices.

## Eligible Markets (Developed Markets)

Country Name	Stock Exchange	Market Segment
AUSTRALIA	Australian Securities Exchange	
AUSTRIA	Vienna Stock Exchange	Prime Market Standard Market
BELGIUM	Euronext	Eurolist
CANADA	Toronto Stock Exchange	
DENMARK	Copenhagen Stock Exchange	
FINLAND	Helsinki Stock Exchange	Main List I List NM List
FRANCE	Euronext	Eurolist Alternext
GERMANY	Deutsche Börse Xetra	Official Market Regulated Market
GREECE	Athens Exchange	Big Capitalization Medium and Small Capitalization
HONG KONG	Stock Exchange of Hong Kong	Main Board Growth Enterprise Market
IRELAND	Irish Stock Exchange	Official Market Irish Enterprise Exchange (IEX)
ISRAEL	Tel Aviv Stock Exchange	
ITALY	Borsa Italiana	Blue Chip STAR Standard Mercato Expandi
JAPAN	Tokyo Stock Exchange	First Section Second Section Mothers
	Osaka Stock Exchange	First Section Second Section Hercules
	JASDAQ Nagoya Stock Exchange	First Section Second Section Centrex
NETHERLANDS	Euronext	Eurolist
NEW ZEALAND	New Zealand Stock Exchange New Zealand Alternative Exchange	
NORWAY	Oslo Stock Exchange	Main List SMB List Primary Capital Certificates List
PORTUGAL	Euronext	Eurolist
SINGAPORE	Singapore Exchange	Main Board SESDAQ
SPAIN	Madrid Stock Exchange	Primer Mercado
SWEDEN	Stockholm Stock Exchange	A-list O-list
	Nordic Growth Market Nya Marknaden AktieTorget	
SWITZERLAND	SIX Swiss Exchange	VIRT-X SWX SWX Local Caps
UNITED KINGDOM	London Stock Exchange	Main Market AIM
USA	New York Stock Exchange NASDAQ American Stock Exchange	

## Eligible Markets (Emerging Markets)

Country Name	Stock Exchange	Market Segment
BRAZIL	Bolsa de Valores de Sao Paulo	Traditional Level 1 Level 2 Novo Mercado
CHILE	Santiago Stock Exchange	
CHINA (1)	Shenzen Stock Exchange Shanghai Stock Exchange Stock Exchange of Hong Kong	Main Board Growth Enterprise Market
COLOMBIA	Colombian Stock Exchange	
CZECH REPUBLIC	Prague Stock Exchange	Main Market Secondary Market Free Market
EGYPT	Cairo & Alexandria Stock Exchanges	
HUNGARY	Budapest Stock Exchange	Equities Category A Equities Category B
INDIA	National Stock Exchange Mumbai Stock Exchange	
INDONESIA	Jakarta Stock Exchange	Main Board Development Board
KOREA	Korea Exchange	KSE KOSDAQ
MALAYSIA	Malaysia Stock Exchange	Main Board Second Board MESDAQ
MEXICO	Mexican Stock Exchange	
MOROCCO	Casablanca Stock Exchange	
PERU	Lima Stock Exchange	
PHILIPPINES	Philippine Stock Exchange	Main Board
POLAND	Warsaw Stock Exchange	Main Market Parallel Market
RUSSIA (1)	Moscow Exchange	
SOUTH AFRICA	Johannesburg Stock Exchange	Main Board AltX
TAIWAN (2)	Taiwan Stock Exchange GreTai Securities Market	Main Board
THAILAND	Stock Exchange of Thailand Market for Alternative Investment	
TURKEY	Istanbul Stock Exchange	National Market Second National Market New Economy Market

(1) For a more detailed description of the MSCI universe, please refer to Appendix II

(2) Securities that have been placed under the Altered Trading Method are not eligible for the MSCI Taiwan Equity Universe



## Eligible Markets (Frontier Markets)

Country Name	Stock Exchange	Market Segment
ARGENTINA	Buenos Aires Stock Exchange	
BAHRAIN	Bahrain Stock Exchange	
BANGLADESH	Dhaka Stock Exchange	
BOSNIA HERZEGOVINA (1)	Banja Luka Stock Exchange Sarajevo Stock Exchange	
BOTSWANA (2)	Botswana Stock Exchange	BSE Domestic Equity Market Venture Capital Market
BULGARIA	Bulgarian Stock Exchange	Official Market
CROATIA	Varazdin Stock Exchange  Zagreb Stock Exchange	First Quotation Second Quotation JDD Quotation Official Market Regular Market Public Companies Market
ESTONIA	Tallinn Stock Exchange	Main List Secondary List
GHANA (2)	Ghana Stock Exchange	First Official List Second Official List Third Official List
JAMAICA (2)	Jamaica Stock Exchange	
JORDAN	Amman Stock Exchange	
KAZAKHSTAN	Kazakhstan Stock Exchange	
KENYA	Nairobi Stock Exchange	MIMS AIMS
KUWAIT	Kuwait Stock Exchange	
LEBANON	Beirut Stock Exchange	Official Market
LITHUANIA	Vilnius Stock Exchange	Main List Secondary List
MAURITIUS	Stock Exchange of Mauritius	Official Market
NIGERIA	Nigeria Stock Exchange	
OMAN	Muscat Securities Market	
PAKISTAN	Karachi Stock Exchange	
PALESTINE (3)	Palestine Exchange	
QATAR	Doha Securities Market	
ROMANIA	Bucharest Stock Exchange	Tier 1 Tier 2 Tier 3
SERBIA	Belgrade Stock Exchange	Listing A Listing B Unregulated Market
SLOVENIA	Ljubljana Stock Exchange	Official Market
SRI LANKA	Colombo Stock Exchange	Main Board Second Board
TRINIDAD AND TOBAGO (4)	Trinidad and Tobago Stock Exchange	First Tier Second Tier
TUNISIA	Bourse de Tunis	Primary Market
UKRAINE	PFTS Stock Exchange Ukrainian Exchange	
UNITED ARAB EMIRATES	Abu Dhabi Securities Exchange Dubai Financial Market NASDAQ Dubai	
VIETNAM	Hanoi Stock Exchange Ho Chi Minh Stock Exchange	
ZIMBABWE (5)	Zimbabwe Stock Exchange (Harare)	

(1) Added as stand-alone country at the May 2010 Semi-Annual Index Review

(2) Added as stand-alone countries at the November 2008 Semi-Annual Index Review

(3) Added as stand-alone country at the May 2013 Semi-Annual Index Review

(4) Reclassified from Frontier Markets to stand-alone country at the May 2011 Semi-Annual Index Review

(5) Added as stand-alone countries at the November 2010 Semi-Annual Index Review

## Eligible Classes of Securities (Developed Markets)

Country Name	Classes of Securities*
AUSTRALIA	Ordinary shares Preferred shares (1) Stapled securities CDIs
AUSTRIA	Ordinary shares Preferred shares (1) Participation certificates
BELGIUM	Ordinary shares Preferred shares (1)
CANADA	Ordinary shares Units of Income Trusts Stapled securities
DENMARK	Ordinary shares
FINLAND	Ordinary shares
FRANCE	Ordinary shares Preferred shares (1) Certificats d'Investissement Certificats Coopératif d'Investissement
GERMANY	Ordinary shares Preferred shares (1)
GREECE	Ordinary shares Preferred shares (1)
HONG KONG	Ordinary shares Business trusts Stapled securities
IRELAND	Ordinary shares Units
ISRAEL	Common shares Preferred shares (1)
ITALY	Ordinary shares Preferred shares (1) Savings shares
JAPAN	Ordinary shares
NETHERLANDS	Ordinary shares Preferred shares (1) Certificates
NEW ZEALAND	Ordinary shares Preferred shares (1)
NORWAY	Ordinary shares Primary Capital Certificates
PORTUGAL	Ordinary shares
SINGAPORE	Ordinary shares Business trusts
SPAIN	Ordinary shares Preferred shares (1)
SWEDEN	Ordinary shares Swedish Depositary Receipts
SWITZERLAND	Registered shares Bearer shares Participation certificates Dividend-right certificates
UNITED KINGDOM	Ordinary shares Units CDIs
USA	Common shares Tracking Stock

(1) Preferred shares that exhibit characteristics of equity securities are generally eligible

\* Depositary Receipts trading in the same time-zone can be eligible in all markets in case of low liquidity of a respective local listing

## Eligible Classes of Securities (Emerging Markets)

Country Name	Classes of Securities
BRAZIL	Ordinary shares Preferred shares (2) Units
CHILE	Common shares Preferred shares (2)
CHINA (1)	"B" shares "H" shares
COLOMBIA	Ordinary shares Preferred shares (2)
CZECH REPUBLIC	Common shares
EGYPT	Ordinary shares
HUNGARY	Common shares
INDIA	Ordinary shares
INDONESIA	Ordinary shares
KOREA	Common shares Preferred shares (2)
MALAYSIA	Common shares
MEXICO	Ordinary shares Certificates of Participation Units
MOROCCO	Ordinary shares
PERU	Common shares Preferred shares (2) Investment shares
PHILIPPINES	Common shares Philippine Depositary Receipts
POLAND	Common shares
RUSSIA (1)	Common shares Preferred shares (2) ADRs (3)
SOUTH AFRICA	Common shares Preferred shares (2) Units
TAIWAN	Ordinary shares Preferred shares (2)
THAILAND	Common shares Preferred shares (2)
TURKEY	Common shares

(1) For a more detailed description of the MSCI universe, please refer to Appendix III

(2) Preferred shares that exhibit characteristics of equity securities are generally eligible

(3) Depositary Receipts trading in the same time-zone can be eligible in all markets in case of low liquidity of a respective local listing. Exceptionally U.S. listings are eligible for Russia despite being in a different time-zone.

## Eligible Classes of Securities (Frontier Markets)

Country Name	Classes of Securities
ARGENTINA	ADRs
BAHRAIN	Ordinary shares
BANGLADESH	Ordinary shares
BOSNIA-HERZEGOVINA (1)	Ordinary shares
BOTSWANA (2)	Common shares
BULGARIA	Common shares ADRs GDRs
CROATIA	Common shares Preferred shares (3) ADRs GDRs
ESTONIA	Common shares ADRs GDRs
GHANA (2)	Common shares Preferred shares (3)
JAMAICA (2)	Common shares Preferred shares (3)
JORDAN	Common shares
KAZAKHSTAN	ADRs GDRs
KENYA	Common shares Preferred shares (3) ADRs GDRs
KUWAIT	Ordinary shares
LEBANON	Common shares Preferred shares (3) ADRs GDRs
LITHUANIA	Common shares ADRs GDRs
MAURITIUS	Common shares Preferred shares (3) ADRs GDRs
NIGERIA	Common shares ADRs GDRs
OMAN	Ordinary shares
PAKISTAN	Ordinary shares
PALESTINE (4)	Common shares
QATAR	Ordinary shares
ROMANIA	Common shares ADRs GDRs
SERBIA	Common shares ADRs GDRs
SLOVENIA	Common shares Preferred shares (3) ADRs GDRs
SRI LANKA	Ordinary shares ADRs GDRs
TUNISIA	Common shares ADRs GDRs
TRINIDAD AND TOBAGO (5)	Common shares
UKRAINE	Common shares Preferred shares (3) ADRs GDRs
UNITED ARAB EMIRATES	Ordinary shares
VIETNAM	Common shares ADRs GDRs
ZIMBABWE (6)	Common shares

(1) Added as stand-alone country at the May 2010 Semi-Annual Index Review

(2) Added as stand-alone countries at the November 2008 Semi-Annual Index Review

(3) Preferred shares that exhibit characteristics of equity securities are generally eligible

(4) Added as stand-alone country at the May 2013 Semi-Annual Index Review

(5) Reclassified from Frontier Markets to stand-alone country at the May 2011 Semi-Annual Index Review

(6) Added as stand-alone countries at the November 2010 Semi-Annual Index Review

## REITs

Companies that have adopted the following REITs or REIT equivalent structures in the countries mentioned below will qualify to be classified in the GICS Industry - Real Estate Investment Trusts (REITs):

- Australia: LPT (Australian Listed Property Trust), A-REIT
- Belgium: SICAFI (Société d'Investissement à Capital Fixe Immobilière)
- Bulgaria, Canada, Germany, Hong Kong, China, Korea, Taiwan, the UK and the U.S.: REIT (Real Estate Investment Trust)
- France: SIIC (Sociétés d'Investissements Immobiliers Cotées)
- Greece: REIC (Real Estate Investment Company)
- Italy: SIIQ (Societa di investimento immobiliare quotata)
- Japan: J-REIT (Japanese Real Estate Investment Trust)
- Malaysia, Thailand: REIT (Real Estate Investment Trust/Property Trust Funds)
- Mexico: FIBRAS (Fideicomiso de Infraestructura y Bienes Raíces)
- Netherlands: FBI (Fiscal investment institution/Fiscale Beleggingsinstelling)
- New Zealand: Property Trusts
- Singapore: S-REIT (Singapore Real Estate Investment Trust)
- South Africa: Property Trusts
- Turkey: Gayrimenkul Yatirim Ortakligi

MSCI closely monitors the potential emergence of REIT equivalent structures in other countries and announces when appropriate their consideration as REITs in the Global Industry Classification Standard (GICS).

## Canadian Income Trusts

Income trusts in Canada formed under the laws of provinces which have passed limited liability legislation and are not designed to invest in a diversified portfolio of income trusts, securities, and/or funds, will be included in the MSCI Canada Equity Universe and will be subject to the same index eligibility rules applicable to other equity (and equity-like) securities.

## Appendix II: Market Classification Framework

The classification of markets is a key input in the process of index construction as it drives the composition of the investment opportunity sets to be represented. The approach used by MSCI aims to reflect the views and practices of the international investment community by striking a balance between a country’s economic development and the accessibility of its market while preserving index stability.

The MSCI Market Classification Framework consists of following three criteria: economic development, size and liquidity as well as market accessibility.

In order to be classified in a given investment universe, a country must meet the requirements of all three criteria as described in the table below.

Criteria	Frontier	Emerging	Developed
<b>A Economic Development</b>  A.1 Sustainability of economic development	No requirement	No requirement	Country GNI per capita 25% above the World Bank high income threshold* for 3 consecutive years
<b>B Size and Liquidity Requirements</b>  B.1 Number of companies meeting the following Standard Index criteria Company size (full market cap) ** Security size (float market cap) ** Security liquidity	2 USD 516 mm USD 37 mm 2.5% ATVR	3 USD 1033 mm USD 516 mm 15% ATVR	5 USD 2065 mm USD 1033 mm 20% ATVR
<b>C Market Accessibility Criteria</b>  C.1 Openness to foreign ownership C.2 Ease of capital inflows / outflows C.3 Efficiency of the operational framework C.4 Stability of the institutional framework	At least some At least partial Modest Modest	Significant Significant Good and tested Modest	Very high Very high Very high Very high

\* High income threshold for 2011: GNI per capita of USD 12,476 (World Bank, Atlas method)

\*\* Minimum in use for the May 2013 Semi-Annual Index Review, updated on a semi-annual basis

The economic development criterion is only used in determining the classification of Developed Markets while that distinction is not relevant between Emerging and Frontier Markets given the very wide variety of development levels within each of these two universes.

The size and liquidity requirements are based on the minimum investability requirements for the MSCI Global Standard Indices.

Market accessibility aims to reflect international investors’ experience in investing in a given market and as a result, this criterion includes several sub-criteria. These criteria are generally based on qualitative measures that are reviewed for all markets at least once a year during the MSCI Global Market Accessibility Review.

MSCI regularly reviews the market classification of all countries included in the MSCI Indices to ensure that they remain reflective of the evolution of the different markets. In particular, changes in the assessments under the classification framework serve as the basis for determining the markets that will be reviewed for potential market reclassification as part of the Annual Market Classification Review. MSCI will only consider these markets for reclassification for which a change in classification status can be viewed as irreversible. Every June, MSCI will communicate its conclusions from the discussions with the investment community on the list of countries under review and announce the new list of countries, if any, under review for potential market reclassification in the upcoming cycle.

	Definition
Openness to foreign ownership	
Investor qualification requirement	Existence of qualifying conditions for international investors. Existence of a level playing field for all international investors.
Foreign ownership limit (FOL) level	Proportion of the market being accessible to non-domestic investors.
Foreign room level	Proportion of shares still available for non-domestic investors. Existence of a foreign board where non-domestic investors could trade with each other.
Equal rights to foreign investors	Equal economic and voting rights as well as availability of information in English. Equal rights for minority shareholders.
Ease of capital inflows / outflows	
Capital flow restriction level	Existence of restriction on inflows and outflows of foreign capital to/from the local stock market (excluding foreign currency exchange restrictions).
Foreign exchange market liberalization level	Existence of a developed onshore and offshore foreign exchange market.
Efficiency of the operational framework	
Market entry	
Investor registration & account set up	Existence/level of complexity of registration requirements for international investors such as Tax IDs as well as ease/complexity for setting up local accounts (e.g., documents to be provided, approvals required). The time to complete the process includes the preparation of the documents.
Market organization	
Market regulations	Level of advancement of the legal and regulatory framework governing the financial market, the stock exchange and the various other entities involved in the financial markets, an important weight is assigned to: ease of access (including in English), lack of ambiguity and prompt enforcement of laws and regulations, as well as consistency over time.
Competitive landscape	Existence of anti-competitive clauses restricting investors' access to derived stock exchange information, data and investment products, including, for example the provision of independently calculated indices or the creation of baskets of securities used in the creation of financial products.
Information flow	Timely disclosure of complete stock market information items (e.g., stock exchange alerts, corporate news, float information, dividend information) in English and under reasonable commercial terms, as well as the robustness and enforcement of accounting standards.
Market infrastructure	
Clearing and Settlement	Well functioning clearing and settlement system based on international standards including delivery versus payment (DVP), the absence of pre-funding requirements/practices and the possibility to use overdrafts. Availability of real omnibus structures.
Custody	Level of competition amongst local custodian banks as well as the presence of global custodian banks. Existence of an efficient mechanism that prevents brokers to have unlimited access to the investor's accounts and guarantees the safekeeping of its assets.
Registry / Depository	A well functioning central registry or independent registrars and a central depository.
Trading	Level of competition amongst brokers ensuring high quality services (e.g., cost efficient trading, ability to execute grouped trades at the same price for the various accounts of a fund manager).
Transferability	Possibility of off-exchange transactions and "in-kind" transfers.
Stock lending	Existence of a regulatory framework as well as an efficient mechanism allowing extensive use of stock lending.
Short selling	Existence of a regulatory and practical framework allowing short selling.
Stability of institutional framework	Basic institutional principles such as the rule of law and its enforcement as well as the stability of the "free-market" economic system. Track record of government intervention with regards to foreign investors.



## Appendix III: Country Classification of Securities

This appendix outlines the guidelines MSCI uses to determine the country classification of equity securities.

### General framework

Each of the securities followed in the MSCI index universe is classified in one and only one country.

The country classification of a security is generally determined by the country of incorporation of the issuing company and the primary listing of the security. This approach determines the country classification of the vast majority of securities.

In the few cases where a company is incorporated in one country while its securities have a primary listing in a different country, additional factors need to be considered to determine the country classification.

Companies may choose to incorporate in a different country than the country of primary listing to benefit from tax, legal, and/or regulatory advantages. These companies often incorporate in countries with limited, if any, public domestic equity markets, such as the Bahamas, Bermuda, British Virgin Islands, Cayman Islands, Channel Islands, Luxembourg, Marshall Islands, Netherlands Antilles, and Panama. In some other cases, companies may seek to benefit from tax, legal and/or regulatory advantages by incorporating in a different country than their country of primary listing where such country of incorporation is one of the countries in the MSCI All Country World Index (ACWI). In both of these cases of special benefit incorporations, MSCI will generally classify the company in the country of the primary listing of its securities.

Companies incorporated outside of the US which have their securities' primary listing in the US may be included in the USA index universe, provided that they file a Form 10-K/10-Q and that in four of the following five variables they do not point to another single country: operations, revenues, headquarters, management and shareholder base.

Companies incorporated in a European DM country (including Luxembourg) which have their securities' primary listing in a different European DM country are generally classified in the country of primary listing.

## Other cases

In the few remaining cases where the general framework proves to be insufficient, an additional analysis may be performed to determine the company's country classification. In such circumstances, MSCI uses a set of rules, the most important of which are:

- The company's primary listing, secondary listings, if any, and the geographic distribution of its shareholder base;
- The geographic distribution of its operations (in terms of assets and production);
- The location of its headquarters; and
- The country in which investors consider the company to be most appropriately classified.

The outcome of that analysis may lead to some companies not being eligible for any MSCI country index if the country of classification resulting from the analysis remains different from the country of listing. This may happen in particular, but not exclusively, for companies incorporated in an EM country and having their only listing in a DM country.

## Country specific cases

China and Russia have a number of large companies incorporated within them but with securities listed only outside of them. MSCI considers such companies for inclusion in the index universe of the country of incorporation subject to the following:

**Russia:** The MSCI Russia universe includes companies incorporated in Russia with a listing in either Russia, London or New York. Companies with incorporation in a special benefit country, as described above, may also be included in the Russia universe if they have an eligible listing in Russia. Russian Depository Receipts are currently not considered as eligible listings.

**China<sup>15</sup>:** The MSCI China universe includes companies incorporated in the People's Republic of China (PRC) and listed in the form of B shares on the Shanghai Stock Exchange (in US\$) or Shenzhen Stock Exchange (in HK\$), or H shares on the Hong Kong Stock Exchange (in HK\$). B shares with a "ST" or "\*ST" status are excluded from the MSCI China Universe. In general, MSCI will delete such securities from the MSCI China Index as of the close of the last business day of each month with at least two full business days notice.

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<sup>15</sup>The amended guidelines for the classification of securities in the MSCI China universe will be effective as follows:

- for existing constituents, as of the close of May 30, 2008 to coincide with the May 2008 Semi-Annual Index Review.
- for potential index additions following a corporate event, with immediate effect.

On an ongoing basis, country classification reviews for securities in Hong Kong and China are conducted annually and changes, if any, are implemented at November SAIRs.

In addition, the MSCI China universe also includes companies not incorporated in the PRC but listed on the Hong Kong Stock Exchange provided that they meet the following definitions

**Red-Chip:** the company is (directly or indirectly) controlled by organizations or enterprises that are owned by the state, provinces, or municipalities of the PRC.

**P-Chip:** the company satisfies the majority of the following conditions:

- The company is controlled by PRC individuals
- The company derives more than 80% of its revenue from PRC China
- The company allocates more than 60% of its assets in PRC China

The MSCI China universe excludes companies which satisfy the above conditions but derive more than 80% of their revenues and profits from the Hong Kong Special Administrative Region. Those companies will be included in the MSCI Hong Kong universe.

**Frontier Markets:** The MSCI Frontier Markets ex GCC universe includes companies incorporated in a Frontier Market with a listing in either the local market, London or New York. Companies with incorporation in a special benefit country, as described above, may also be included in the Frontier Markets ex GCC universe if they have a listing in a Frontier Market.

## Change of Incorporation

In the event that a company that is already classified in one of the countries in the MSCI All Country World Index (ACWI) changes its incorporation to another country, it generally will remain in the initial country of classification. However, it may be re-classified if the company's geographical profile fundamentally differs following the reincorporation.

A change in the country classification of a company generally is implemented at a SAIR, except if the change is the result of a corporate event. In that case the company may be reclassified simultaneously with the change in country of incorporation or at a QIR following the corporate event.

If a decision is made to re-classify the company after the change in country of classification an announcement will be sent out as per the MSCI announcement policy. No announcement will be sent if the company will not be re-classified.

When MSCI changes a company's country classification, the company's equity securities are not automatically included in the index of the new country-classification even if the company was a constituent of its original country's index. The company and its securities would have to be eligible in all respects in the index of the new country.

## Review and Maintenance

MSCI periodically reviews the country classification of companies not classified into their country of incorporation.

## Country of Coverage of Companies not Eligible for Inclusion in the MSCI Global Investable Market Indices

MSCI defines the country of coverage of companies not eligible for the MSCI Global Investable Market Indices (GIMI), as per the general framework of the country classification of securities (Appendix III of the GIMI Methodology book), by applying four rules:

**Rule 1:** Country of incorporation is driven by tax, legal and/or regulatory advantages; the company has strong linkage to its country of primary listing.

Country of coverage = Country of primary listing

**Rule 2:** Country of incorporation is driven by tax, legal and/or regulatory advantages; the company has no strong linkage to its country of primary listing; The company's history, operations and investor perception lead to a country covered by MSCI.

Country of coverage = Country covered by MSCI

**Rule 3:** Country of incorporation is a country not covered by MSCI and is not driven by tax, legal and/or regulatory advantages.

Country of coverage = Country of primary listing

**Rule 4:** Country of incorporation is a country covered by MSCI; the company has no strong linkage to its country of primary listing.

Country of coverage = Country covered by MSCI

The following table provides the list of the securities not eligible for the MSCI GIMI with their respective country of coverage.

## MSCI Ineligible Securities

Security Name	Bloomberg Ticker	Sedol	Country of Primary Listing	MSCI Country of Coverage	Rule
AMDOCS	DOX UN Equity	2256908	US	United States	3
CHECK POINT SOFTWARE	CHKP UW Equity	2181334	US	Israel	4
CHINA YUCHAI INT'L N(USD)	CYD UN Equity	2186191	US	China	4
DAIRY FARM INT'L (USD)	DFI SP Equity	6180274	SG	Hong Kong	2
EURASIA DRILLING	EDCL LI Equity	B289L09	GB	Russia	2
GLOBAL SOURCES	GSOL UW Equity	2576521	US	China	2
HONGKONG LAND (USD)	HKL SP Equity	6434915	SG	Hong Kong	2
JARDINE MATHESON (USD)	JM SP Equity	6472119	SG	Hong Kong	2
JARDINE STRATEGIC (USD)	JS SP Equity	6472960	SG	Hong Kong	2
L'OCCITANE INTERNATIONAL	973 HK Equity	B3PG229	HK	France	2
MAIL.RU GDR	MAIL LI Equity	B53NQB3	GB	Russia	2
MANDARIN ORIENTAL (USD)	MAND SP Equity	6560713	SG	Hong Kong	2
NATUZZI ADR	NTZ UN Equity	2459075	US	Italy	4
OIL SEARCH	OSH AU Equity	6657604	AU	Australia	3
POLYMETAL INTERNATIONAL	POLY LN Equity	B6T5S47	GB	Russia	2
POLYUS GOLD	POLG LI Equity	B6S4JG4	GB	Russia	2
PRADA SPA	1913 HK Equity	B4PFFW4	HK	Italy	4
SAMSONITE INTL SA	1910 HK Equity	B4Q1532	HK	United States	2
SEASPAN CORP N	SSW UN Equity	B0GNP30	US	China	4
TOTAL GABON	EC FP Equity	4309781	FR	France	3
UNITED COMPANY RUSAL	486 HK Equity	B5BCW81	HK	Russia	2
VIMPELCOM ADR	VIP US Equity	B62HR76	US	Russia	2
X5 RETAIL GROUP GDR(USD)	FIVE LI Equity	B07T3T9	GB	Russia	2
CNH GLOBAL N.V.	CNH US Equity	2534778	US	United States	1
SINA CORP	SINA US Equity	2579230	US	China	2
MONGOLIAN MINING CORP	975 HK Equity	B4N0VG7	HK	Hong Kong	3
YANDEX N.V.	YNDX US Equity	B5BSZB3	US	Russia	2
THAI BEVERAGE PCL	THBEV SP Equity	B15F664	SG	Thailand	4
GENPACT LIMITED	G US Equity	B23DBK6	US	India	2

Data as of May 2012

# Appendix IV: Free Float Definition and Estimation Guidelines

MSCI calculates the free float-adjusted market capitalization of each security in the equity index universe. The process of free float-adjusting market capitalization involves:

- Defining and estimating the free float available to foreign investors for each security, using MSCI's definition of free float.
- Assigning a free float-adjustment factor to each security (Foreign Inclusion Factor or FIF).
- Calculating the free float-adjusted market capitalization of each security.

The free float-adjusted market capitalization is used to calculate the weights of the securities in the indices.

## Defining and Estimating Free Float

MSCI's estimation of free float is based solely on publicly available shareholder information. For each security, all available shareholdings are considered where public data is available, regardless of the size of the shareholding. MSCI may consult with analysts, other industry experts and official company contacts, particularly where disclosure standards or data quality make the estimation of free float difficult.

MSCI defines the free float of a security as the proportion of shares outstanding that is deemed to be available for purchase in the public equity markets by international investors. In practice, limitations on the investment opportunities available to international institutional investors include:

- **Strategic and other non-free float shareholdings:** Stakes held by private or public shareholders whose investment objectives or other characteristics suggest that those holdings are not likely to be available in the market. In practice, disclosure requirements generally do not permit a clear determination of these investment objectives. Therefore, MSCI primarily classifies shareholdings as free float or non-free float based on a categorization of investor types into non-strategic and strategic respectively.
- **Limits on share ownership for foreign investors:** Limits on the proportion of a security's share capital that is authorized for purchase by non-domestic investors. Where they exist, these foreign share-ownership limits are set by law, government regulations, company by-laws and other authoritative statements.
- **Other foreign investment restrictions:** Investment restrictions, other than those described above, which materially limit the ability of international investors to freely invest in a particular equity market, sector or security. There is typically no simple way to account for these limitations in a benchmark, as these restrictions tend to be more subtle and complex, and may affect different market participants in different ways.

## Classification of Shareholder Types

<b>STRATEGIC SHAREHOLDER TYPES (NON-FREE FLOAT)</b>	
Governments	Shareholdings owned by governments and affiliated entities are generally classified as non-free float.
Companies	Shares owned by companies. This includes treasury shares owned by the company itself. <sup>16</sup>
Banks	Shareholdings by banks are considered as strategic, excluding shareholdings held in trust on behalf of third parties that are deemed to be non-strategic. (Shareholding by trust banks in Japan are considered non-strategic).
Principal officers and board members	Shares owned by the company's principal officers or members of the company's board of directors, including shares owned by individuals or families that are related to or closely affiliated with the company's principal officers, members of the company's board of directors, or founding members deemed to be insiders.
Employees	Shares of the employing companies, held by both officers and non-officers, which are held in a variety of ways including plans sponsored by the employer for the purpose of retirement and savings plans, incentive compensation programs and other deferred and employee pension funds.

<sup>12</sup> For most countries, treasury shares are included in the determination of the total shares outstanding which is used in the calculation of the indices, and therefore MSCI takes them into account in its calculation of free float. In other countries where treasury shares are excluded from the determination of the total shares outstanding, they are accordingly not taken into consideration for the free float calculation.

<b>NON-STRATEGIC SHAREHOLDER TYPES (FREE FLOAT)</b>	
Individuals	Shares owned by individuals, excluding shares owned by individuals or families that are related to or closely affiliated with the company's principal officers or members of the company's board of directors or founding members deemed to be insiders, and, also excluding those shareholdings held by individuals, the significant size of which suggests that they are strategic in nature.
Investment funds, mutual funds and unit trusts	Shares owned in investment funds, mutual funds and unit trusts, including shares owned in passively-managed funds.
Security brokers	Non-strategic interests held by broker-dealers (e.g., trades in the process of settlement, holdings in the process of being transferred, as part of underwriting activity, etc.), unless held within the same group or the nature of holding is deemed strategic.
Pension funds	Shares owned in employee pension funds, excluding shares of the employing company, its subsidiaries or affiliates.
Insurance companies	In principle, all stakes held by insurance companies are part of free float. For exceptions to this general principle, please refer to the additional discussion on insurance companies presented below.
Social security funds	Shares owned in social security funds, unless the fund's management is deemed to exert influence over the management of the company.

In the event that the above categories do not appropriately capture the nature of a specific shareholding, its classification as free float or non-free float will be determined based on a more extensive analysis.

## Special Cases

The following guidelines will be applied in analyzing the special cases set forth below:

- **Nominees or trustees:** Shareholdings registered in the name of a nominee or trustee are classified as strategic or non-strategic based on an analysis of who the ultimate beneficial owner of the shares is, according to the shareholder types described above.



- **Government agencies and government-related investment funds:** Shareholdings of government agencies and government-related investment funds are classified based on an analysis of the objective of the investment and the extent of government involvement in managing the companies.
- **Insurance companies:** Shareholdings by insurance companies are considered as non-free float, when analysis shows that these holdings are unlikely to be made available as free float in the market. This analysis typically looks at the nature of the insurance business in each country, a company's business practices with its group-related or other companies, and the regulatory environment in the country, including fiscal incentives. These factors, individually or combined, could restrict the insurance company's shareholdings from being made freely available in the stock market. Therefore, the treatment of stakes held by insurance companies may differ from country to country. Because of the structure of equity ownership and the importance of financial alliances for the control of companies in some countries, insurance companies' stakes in other companies may be treated as strategic. This is the case in France, Germany, Italy and Japan, where stakes above 2% (France, Germany, and Italy) and above 5% (Japan) are treated as strategic.
- **Depository Receipts:** Shares that are deposited to back the issuance of Depository receipts such as ADRs and GDRs are classified as non-strategic, unless it is established that a specific stake held in Depository receipts is strategic in nature.
- **Shares with "loyalty" incentives:** In a public offering, special incentives are sometimes provided to retail investors and are subject to a minimum holding period. These shares will not be considered as part of the free float during the minimum holding period if the incentives are deemed to be material. In general, a conditional share bonus in a ratio of 1 to 5 (or an equivalent price discount of 1/6th), or more, will be considered as material.
- **Lock-up periods:** Any shares that are subject to lock-up periods will be considered as non-free float during the lock-up period. At the end of the lock-up period, these shares will be classified as strategic or non-strategic based on the nature of the shareholder.

## Foreign Ownership Limits (FOLs)

For the determination of the FOLs, the following guidelines are used:

- For companies that impose ownership restrictions for non-European Union investors, such restrictions are fully taken into account in the calculation of the FOL.
- Regulatory requirements governing the ownership of shares by foreign investors in the country where the security is included.
- In countries where companies are allowed to issue Depository Receipts (DRs) such as ADRs or GDRs as an exception to the outstanding foreign ownership restrictions, the FOL calculation includes the percentage represented by the depository receipts. MSCI defines the percentage represented by DRs as the number of shares represented by DRs issued at the time of initial offering of the DRs adjusted for subsequent corporate events divided by the total number of shares outstanding.
- Similarly, if a company exceptionally permits certain foreign shareholders to own shares in excess of the maximum stated in the company's by-laws and the exception is publicly disclosed, this is taken into account in the calculation of the FOL.
- When a company's foreign ownership restriction is defined as a proportion of the company's total share capital and the company has multiple-listed share classes with no specific limit set for any one class, MSCI applies the company's FOL equally to each of the company's listed share classes.
- When a company's foreign ownership restriction is defined as a proportion of the company's total share capital and the company has multiple share classes but only one is listed, MSCI calculates the

FOL by applying the total shares available to foreign investors (after taking into consideration foreign non-free float shareholdings of non-listed shares, if any) on the listed shares only.

**Example:**

**Calculating Foreign Ownership Limit (FOLs)**

	<u>Listed</u>	<u>Non-Listed</u>	<u>Total</u>
Number of shares outstanding	500	500	1,000
Foreign non-free float shareholdings		100	100
Foreign ownership limit applied to the company		= 40%	
<b>Foreign Ownership Limit (FOL) applied to listed shares</b>		<b>= ((0.40*1,000) – 100)/500</b>	
		<b>= 0.60</b>	

## Calculation of Free Float

### Securities Not Subject to Foreign Ownership Limits (FOLs)

For securities not subject to FOLs, the free float of a security is estimated as its total number of shares outstanding less shareholdings classified as non-free float.

Non-Free Float Shareholdings (%) =	Number of Shares Classified as Non-Free Float divided by the Total Number of Shares
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Free Float (%) =	100% minus Non-Free Float Shareholdings (%)
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### Securities Subject to FOLs

For securities subject to FOLs, the estimated free float available to foreign investors is equal to the lesser of:

- Estimate of free float, as defined above.
- FOL adjusted for non-free float stakes held by foreign investors.

Free Float for Foreign Investors (%) =	Lower of:
	<ul style="list-style-type: none"> <li>• 100% minus Non-Free Float Shareholdings, including Domestic and Foreign Shareholdings</li> <li>• FOL minus Foreign Non-Free Float Shareholdings</li> </ul>

## Assigning a Free Float-Adjustment Factor

MSCI free float-adjusts the market capitalization of each security using an adjustment factor referred to as the Foreign Inclusion Factor (FIF).

### **Securities with Free Float Greater Than 15% and Not Subject to FOLs**

For securities with free float greater than 15%, the FIF is equal to the estimated free float, rounded up to the closest 5%.

### **Securities with Free Float Less than 15% and Not Subject to FOLs**

For securities with free float less than 15%, the FIF is equal to the estimated free float, rounded to the closest 1%.

### **Securities Subject to FOLs**

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%.

### **Securities Affected by Other Foreign Investment Restrictions**

In the case where other foreign investment restrictions exist, which materially limit the ability of international investors to freely invest in a particular equity market, sector or security, a Limited Investability Factor (LIF) may be applied to insure that the investability objectives of the MSCI Indices can be achieved.

There is typically no simple way to account for these types of investability limitations in a benchmark, as they tend to be subtle and complex, and may affect different market participants in different ways.

For example, such restrictions may involve a complex process of investor validation and qualification, restrictions on funds transfer, individual investment quota limits and various complex administrative requirements. While instituted at a country level these restrictions may have different consequences depending on the characteristics of the investor, including legal status, size of assets under management or date of application.

In the case of individual companies with Foreign Ownership Limits, it may happen that the maximum ownership by non-national investors is reached while depositary receipts may continue to be available to foreign investors. In such cases, the depositary receipts typically trade at a persistent premium relative to the domestic shares, highlighting the difficulties for international investors to replicate the security's weight in the index.

Therefore, where deemed necessary, a LIF will be determined and applied based on an extensive, case-by-case analysis. The application of this LIF permits a more accurate comparison of constituent markets and securities that have more complex and subtle restrictions on the investment process to markets and securities where investment limitations can be appropriately reflected in their standard FIFs.

In cases where MSCI applies a LIF, the free float adjusted for limited investability is defined as the product of the available free float for foreign investors and the LIF.

Free Float-Adjusted for Limited Investability	=	Free Float for Foreign Investors times the LIF
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Therefore, for securities subject to other foreign investment restrictions, the Foreign Inclusion Factor is equal to the lesser of:

- Estimated free float-adjusted for limited investability,
  - Rounded up to the closest 5%, if the free float-adjusted for limited investability is greater than 15%.
  - Rounded to the closest 1%, if the free float-adjusted for limited investability is less than 15%.
- FOL rounded to the closest 1%.

### Foreign Room

For a security that is subject to a Foreign Ownership Limit (FOL), in determining eligibility for index inclusion and in determining an affected constituent's weight in an index, MSCI will additionally take into consideration the proportion of shares still available to foreign investors relative to the maximum allowed (referred to as "foreign room"). In general, securities with low foreign room may be in some instances not eligible for index inclusion or subject to a weight reduction through the application of an adjustment factor. For more details, please refer to Sub-sections 2.3.5.1, 2.3.5.2, 3.1.6. and 3.2.1.4.

The table below provides a list of countries for which MSCI monitors foreign room on a quarterly basis.

Eligible Markets	Country Name
Developed Markets (DM)	AUSTRALIA
	JAPAN
Emerging Markets (EM)	INDIA
	INDONESIA
	KOREA
	PHILIPPINES
	TAIWAN
Frontier Markets (FM)	KENYA
	OMAN
	QATAR
	TUNISIA
	UNITED ARAB EMIRATES
	VIETNAM
	ZIMBABWE

Other than countries mentioned above, MSCI also monitors foreign room for telecommunication companies in Canada, airlines companies in Europe and USA for which the foreign room information is available on public sources.

## Calculating the Free Float-Adjusted Market Capitalization

The free float-adjusted market capitalization of a security is calculated as the product of the FIF and the security's full market capitalization.

Free Float-Adjusted Market Capitalization	=	FIF times the Security's Full Market Capitalization
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The following examples illustrate the calculation of the free float-adjusted market capitalization of securities with and without FOLs.

**Example:**

<b>Calculating Free Float-Adjusted Market Capitalization:</b>		
<b>Securities Not Subject to FOLs</b>		
	<i>Company A</i>	<i>Company B</i>
Total number of shares outstanding	10,000,000	10,000,000

Number of shares classified as non-free float	4,300,000	8,760,000
Non-free float shareholding (%)	43.0%	87.6%
Free float (%)	57.0%	12.4%
<b>Foreign Inclusion Factor (FIF)</b>	<b>0.60</b>	<b>0.12</b>
Market price (\$)	500	500
Full market capitalization (\$ mm)	5,000	5,000
<b>Free float-adjusted market capitalization (\$ mm)</b>	<b>3,000</b>	<b>600</b>

**Example:**

**Calculating Free Float-Adjusted Market Capitalization:**

**Securities Subject to FOLs**

	<i>Company C</i>	<i>Company D</i>	<i>Company E</i>
Total number of shares outstanding	10,000,000	10,000,000	10,000,000
All shares classified as non-free float	8,760,000	4,000,000	4,000,000
- those held by foreign investors as strategic	1,000,000	1,000,000	-
Total non-free float shareholdings (%)	87.6	40.0	40.0
<b>Free float (%)</b>	<b>12.4</b>	<b>60.0</b>	<b>60.0</b>
Foreign ownership limit (%)	33.3	33.3	33.3
Foreign strategic shareholding (%)	10.0	10.0	0.0
<b>Foreign ownership limit less the foreign strategic shareholding (%)</b>	<b>23.3</b>	<b>23.3</b>	<b>33.3</b>
<b>Foreign Inclusion Factor (FIF)</b>	<b>0.12</b>	<b>0.25</b>	<b>0.33</b>
Market price (\$)	500	500	500
Full market capitalization (\$ mm)	5,000	5,000	5,000
<b>Free float-adjusted market capitalization (\$ mm)</b>	<b>600</b>	<b>1,250</b>	<b>1,650</b>

## Treatment of Non-Voting Depositary Receipts in Thailand

As part of the Capital Market Development Plan, the Securities and Exchange Commission of Thailand set up Non-Voting Depositary Receipts (NVDRs) to improve the investability of the Thai capital market. NVDRs are depositary receipts issued by the Thai NVDR Company Limited, a subsidiary of the Stock Exchange of Thailand (SET) and backed by shares listed on the SET. NVDRs entitle their holders to all financial benefits of the underlying shares, except voting rights.

Foreign ownership limits that apply to common shares do not apply to NVDRs, and therefore the NVDR scheme may allow foreign investors to own a greater percentage of shares than the foreign ownership limit of certain companies. NVDRs are traded as local shares and as such, investors can buy and sell them through the local price counter.

MSCI will consider increasing the weight of companies that are existing constituents of the MSCI Thailand Index, that also have sizeable NVDRs. Sizeable NVDRs are defined as those representing at least 5 percent of the existing constituent's total outstanding company number of shares and must represent at least the minimum size for addition in Thailand. Specifically, the float-adjusted market capitalization of the NVDR proportion must meet one-time the minimum free float-adjusted market capitalization required for the MSCI Thailand Index.

In the event that NVDRs of existing constituents of the MSCI Thailand Index decrease below 5 percent of the total outstanding company number of shares or the float-adjusted market capitalization of the NVDR proportion does not meet the  $\frac{2}{3}$  times the minimum free float-adjusted market capitalization required for the MSCI Thailand Index, MSCI will consider removing the proportion of NDVRs represented in the index.

MSCI will recognize NVDRs as securities based on the local price. The calculation of Foreign Ownership Limit (FOL) and Foreign Inclusion Factor (FIF) will differ in the following scenarios:

#### **Existing Constituent Included with the Local Price**

When an existing constituent of the MSCI Standard Thailand Index is included with the local price, MSCI includes the portion of NVDRs issued at the time of the review in the calculation of the Foreign Ownership Limit (FOL), for the existing constituents.

The Foreign Inclusion Factor (FIF) is equal to the lesser of:

- Estimated free float available to foreign investors, where the FOL used in the calculation follows the same definition described above:
- 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%, where the FOL is calculated as the sum of the foreign ownership limits as defined in the company's bylaws or regulations rounded to the closest 1% and NVDRs in issue as a proportion of total outstanding company number of shares rounded to the closest 1%.

#### **Existing Constituent Included with the Foreign Price**

When an existing constituent of the MSCI Standard Thailand Index is included with the foreign price, MSCI will account for the NVDRs in the Index separately as securities based on the local price while maintaining the existing constituent with the foreign price. The Foreign Inclusion Factor (FIF) of the local price security is equal to the portion of NVDRs issued at the time of the review rounded to the closest 1%.

As FIF changes related to NVDR reviews are applied in the indices on a semi-annual basis, the review of inclusions or removals of NVDRs occurs on a semi-annual basis to coincide with the May and November SAIRs.

Example:

<b>Calculating Foreign Inclusion Factor (FIF) and Foreign Ownership Limit (FOL) for an Existing Constituent included with the Local Price in the MSCI Thailand Index Series with Sizeable NVDRs:</b>			
	<i>Company A</i>	<i>Company B</i>	<i>Company C</i>
Total number of shares outstanding	10,000,000	10,000,000	10,000,000
All shares classified as non-free float	4,000,000	4,000,000	4,000,000
- those held by foreign investors as strategic	1,000,000	-	100,000
Total non-free float shareholdings (%)	40.0	40.0	40.0
<b>Free float (%)</b>	<b>60.0</b>	<b>60.0</b>	<b>60.0</b>
Foreign ownership limit as defined			
by the company (%)	33.3	33.3	33.3
Percentage of NVDRs issued	20.0	20.0	20.0
<b>Foreign Ownership Limit (%)</b>	<b>53.3</b>	<b>53.3</b>	<b>53.3</b>
Foreign strategic shareholding (%)	10.0	-	1.0
<b>Foreign Ownership Limit less the foreign strategic shareholding (%)</b>	<b>43.3</b>	<b>53.3</b>	<b>52.3</b>
<b>Foreign Inclusion Factor (FIF)</b>	<b>0.45</b>	<b>0.53</b>	<b>0.52</b>
Market price (\$)	500	500	500
Full market capitalization (\$mm)	5,000	5,000	5,000
Free-float adjusted market capitalization (\$mm)	2,250	2,650	2,650



# Appendix V: Global Industry Classification Standard (GICS)

## Introduction

The Global Industry Classification Standard (GICS) was developed by MSCI in collaboration with Standard & Poor's (S&P) to provide an efficient, detailed and flexible tool for use in the investment process. It is designed to respond to the global financial community's need for a global, accurate, complete and widely accepted approach to defining industries and classifying securities by industry. Its universal approach to industry classification aims to improve transparency and efficiency in the investment process.

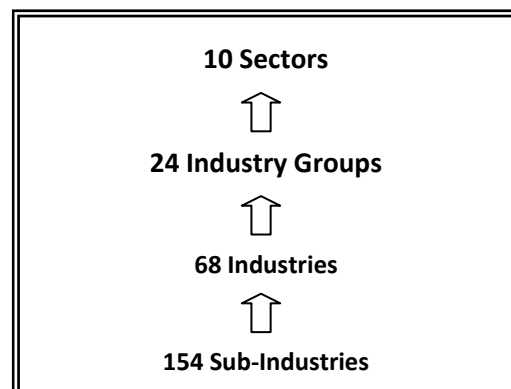
### Key Features of the GICS

The key features of the GICS are that it is:

- **Universal:** the classification applies to companies globally.
- **Accurate:** the structure precisely reflects the state of industries in the equity investment universe.
- **Flexible:** the classification consists of four levels of analysis, ranging from the most general to the most specialized sub-industry.
- **Evolutionary:** annual reviews are conducted to ensure that the classification remains fully representative of the universe.

To provide the level of precision critical in the investment process, the GICS is designed with four levels of classifications:

### The Global Industry Classification Standard (GICS)



The GICS has 10 sector classifications:

- Energy
- Materials
- Industrials
- Consumer Discretionary
- Consumer Staples
- Health Care
- Financials
- Information Technology
- Telecommunication Services
- Utilities.

### **Philosophy and Objectives of the GICS**

The way in which securities are classified into asset classes forms the basis of many important investment decisions. The relative merits of each security are judged primarily within these asset classes, and investment decisions are taken within this framework.

### **Approaches to Industry Classification Schemes**

While grouping securities by country and regions is relatively straightforward, classifications by industries are more difficult. There are many approaches to developing industry classification schemes, some of which are discussed below.

At one extreme is the purely statistical approach, which is solely financial market-based and backward looking, using past returns. Aggregations are formed around correlation, often yielding non-intuitive groupings that are dissimilar across countries and regions. Another approach attempts to define a priori financial market-oriented groups or themes, such as cyclical, interest rate sensitive, etc. The difficulty, however, lies in finding widely accepted and relatively stable definitions for these themes.

Two other approaches begin with an economic perspective on companies. The first focuses on a production orientation while the other adopts a market or demand orientation in company analysis. The production-oriented approach was effective in the past in its analysis of the microstructure of industries from the producers' standpoint. For instance, it segregated goods and services on the premise that it was a different set of companies that provided each to consumers. As the structure of the global economy evolved, limitations of this approach became increasingly obvious. The ever-increasing share of discretionary income brought about by economic development, emergence of the service era, and the availability and accessibility of information with the advent of new communication technology has moved the emphasis from producers to consumers.

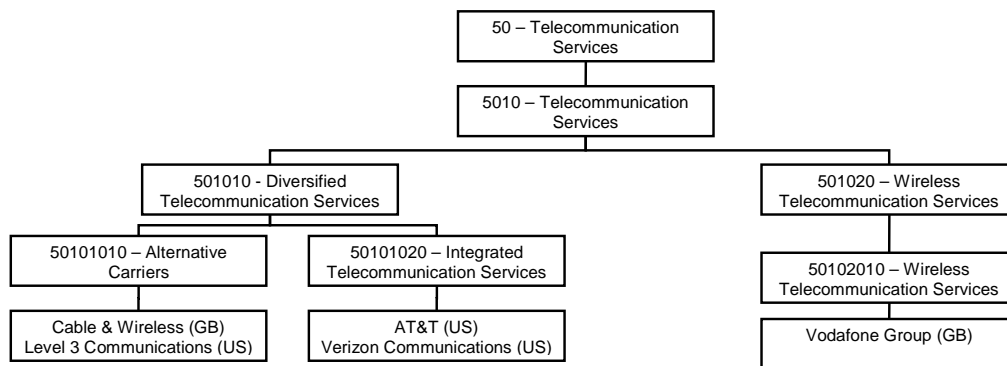
**The GICS: Market Demand-Oriented**

The Global Industry Classification Standard is designed to be market demand-oriented in its analysis and classification of companies. For example, drawing the line between goods and services is becoming increasingly arbitrary as they are now commonly sold together. This distinction between goods and services is replaced by adopting the more market-oriented sectors of “Consumer Discretionary” and “Consumer Staples”, which group goods and services sub-industries. In addition, the creation of large stand-alone sectors such as Health Care, Information Technology and Telecommunication Services accurately represents industries that provide significant value to the consumer in today’s global and integrated economy. This further contributes to a more uniform distribution of weights among the 10 sectors.

**GICS Company Classification**

The GICS is used to assign each company to a sub-industry according to its principal business activity. Since the GICS is strictly hierarchical, a company can only belong to one grouping at each of the four levels.

**An Illustration of the GICS – Telecommunication Services Sector:**



**Classification by Revenue**

In order to provide an accurate, complete and long-term view of the global investment universe, a company’s revenues often provide a more stable and precise reflection of its activities than earnings. Furthermore, industrial and geographical breakdowns of revenues are more commonly available than earnings broken down the same way for most companies. Nevertheless, company valuations are more closely related to earnings than revenues. Therefore, earnings remain an important secondary consideration in a company’s industry classification.

**General Guidelines for Classification**

The primary source of information used to classify securities is a company’s annual reports and accounts. Other sources include brokers’ reports and other published research literature. As a general rule, a company is classified in the sub-industry whose definition most closely describes the business activities that generate at least 60% of the company’s revenues.

**Example: Nokia (FI)**

2006 Results	Mobile Phones	Multimedia	Enterprise Solutions	Networks
Revenues	60%	19%	3%	18%
Earnings	75%	24%	0%	15%

Classified as:

GICS Level	GICS Code	Code Description
Sector	45	Information Technology
Industry Group	4520	Technology Hardware & Equipment
Industry	452010	Communications Equipment
Sub-Industry	45201020	Communications Equipment

However, a company engaged in two or more substantially different business activities, none of which contribute 60% or more of revenues, is classified in the sub-industry that provides the majority of both the company’s revenues and earnings. When no sub-industry provides the majority of both the company’s revenues and earnings, the classification will be determined based on further research and analysis. In addition, a company significantly diversified across three or more sectors, none of which contributes the majority of revenues or earnings, is classified either in the Industrial Conglomerates sub-industry (Industrial Sector) or in the Multi-Sector Holdings sub-industry (Financials Sector).

**Example: General Electric (US)**

2006 Results	Infrastructure	Industrial	Healthcare	NBC Universal	Commercial Finance	Consumer Finance
Revenues	30%	21%	10%	10%	15%	14%
Earnings	34%	10%	12%	11%	19%	13%

Classified as:

<b>GICS Level</b>	<b>GICS Code</b>	<b>Code Description</b>
<b>Sector</b>	20	Industrials
<b>Industry Group</b>	2010	Capital Goods
<b>Industry</b>	201050	Industrial Conglomerates
<b>Sub-Industry</b>	20105010	Industrial Conglomerates

In the case of a new issue, the classification will be determined based primarily on the description of the company's activities and pro forma results as given in the prospectus.

### **Review of Sub-Industry Classification**

A company's sub-industry classification will be reviewed either when a significant corporate restructuring occurs or when a new annual report is available. In order to provide a stable sub-industry classification, when reviewing a company's classification, changes will be minimized in the sub-industry classification to the extent possible by disregarding temporary fluctuations in the results of a company's different activities.

In the event that the above guidelines should not appropriately capture a particular company's business activity, its classification will be determined based on more extensive analysis.

**GICS (Global Industry Classification Standard)**  
 Effective after close of business (US, EST) Friday August 29, 2008

Sector	Industry Group	Industry	Sub-Industry			
10 Energy	1010 Energy	101010 Energy Equipment & Services	10101010 Oil & Gas Drilling			
			10101020 Oil & Gas Equipment & Services			
		101020 Oil, Gas & Consumable Fuels	10102010 Integrated Oil & Gas			
			10102020 Oil & Gas Exploration & Production			
			10102030 Oil & Gas Refining & Marketing			
			10102040 Oil & Gas Storage & Transportation			
			10102050 Coal & Consumable Fuels			
			15 Materials	1510 Materials	151010 Chemicals	15101010 Commodity Chemicals
						15101020 Diversified Chemicals
						15101030 Fertilizers & Agricultural Chemicals
15101040 Industrial Gases						
15101050 Specialty Chemicals						
151020 Construction Materials	15102010 Construction Materials					
	151030 Containers & Packaging					
151030 Containers & Packaging	15103010 Metal & Glass Containers					
	15103020 Paper Packaging					
151040 Metals & Mining	15104010 Aluminum					
	15104020 Diversified Metals & Mining					
	15104030 Gold					
	15104040 Precious Metals & Minerals					
151050 Paper & Forest Products	15104050 Steel					
	15105010 Forest Products					
15105020 Paper Products						
20 Industrials	2010 Capital Goods	201010 Aerospace & Defense	20101010 Aerospace & Defense			
			201020 Building Products			
			201030 Construction & Engineering			
			201040 Electrical Equipment			
			201050 Industrial Conglomerates	20105010 Industrial Conglomerates		
				201060 Machinery		
			201070 Trading Companies & Distributors	20107010 Trading Companies & Distributors		
				2020 Commercial & Professional Services		
			2020 Commercial & Professional Services	202010 Commercial Services & Supplies	20201010 Commercial Printing	
					20201050 Environmental & Facilities Services	
			20201060 Office Services & Supplies			
			20201070 Diversified Support Services			
			20201080 Security & Alarm Services			
			202020 Professional Services	20202010 Human Resource & Employment Services		
				20202020 Research & Consulting Services		
	2030 Transportation	203010 Air Freight & Logistics	20301010 Air Freight & Logistics			
			203020 Airlines			
			203030 Marine			
			203040 Road & Rail			
			203050 Transportation Infrastructure	20304020 Trucking		
				20305010 Airport Services		
			20305020 Highways & Railroads			
			20305030 Marine Ports & Services			
			25 Consumer Discretionary	2510 Automobiles & Components	251010 Auto Components	25101010 Auto Parts & Equipment
						25101020 Tires & Rubber
251020 Automobiles	25102010 Automobile Manufacturers					
	25102020 Motorcycle Manufacturers					
2520 Consumer Durables & Apparel	252010 Household Durables	25201010 Consumer Electronics				
		25201020 Home Furnishings				
		25201030 Homebuilding				
		25201040 Household Appliances				
		25201050 Housewares & Specialties				
252020 Leisure Equipment & Products	25202010 Leisure Products					
	25202020 Photographic Products					
252030 Textiles, Apparel & Luxury Goods	25203010 Apparel, Accessories & Luxury Goods					
	25203020 Footwear					
2530 Consumer Services	253010 Hotels, Restaurants & Leisure	25203030 Textiles				
		25301010 Casinos & Gaming				
		25301020 Hotels, Resorts & Cruise Lines				
		25301030 Leisure Facilities				
		25301040 Restaurants				
253020 Diversified Consumer Services	25302010 Education Services					
	25302020 Specialized Consumer Services					
2540 Media	254010 Media	25401010 Advertising				
		25401020 Broadcasting				
		25401025 Cable & Satellite				
		25401030 Movies & Entertainment				
		25401040 Publishing				
2550 Retailing	255010 Distributors	25501010 Distributors				
		255020 Internet & Catalog Retail				
		25502010 Catalog Retail				
		25502020 Internet Retail				
		25503010 Department Stores				
		25503020 General Merchandise Stores				
		25504010 Apparel Retail				
		25504020 Computer & Electronics Retail				
		25504030 Home Improvement Retail				
		25504040 Specialty Stores				
25504050 Automotive Retail						
25504060 Homefurnishing Retail						

30	Consumer Staples	3010	Food & Staples Retailing	301010	Food & Staples Retailing	30101010	Drug Retail				
						30101020	Food Distributors				
						30101030	Food Retail				
		3020	Food, Beverage & Tobacco	302010	Beverages	30201010	Hypermarkets & Super Centers				
						30201020	Brewers				
						30201030	Distillers & Vintners				
	3030	Household & Personal Products	303010	Household Products	30301010	Soft Drinks					
					30301020	Agricultural Products					
					30301030	Packaged Foods & Meats					
	35	Health Care	3510	Health Care Equipment & Services	351010	Health Care Equipment & Supplies	35101010	Tobacco			
							35101020	Household Products			
							35101030	Personal Products			
3520							Pharmaceuticals, Biotechnology & Life Sciences	352010	Biotechnology	35201010	Health Care Technology
										35201020	Health Care Equipment
										35201030	Health Care Supplies
3530			Pharmaceuticals	353010	Pharmaceuticals	35301010	Health Care Providers & Services				
						35301020	Health Care Distributors				
						35301030	Health Care Services				
						35301040	Health Care Facilities				
						35301050	Managed Health Care				
						35301060	Health Care Technology				
40	Financials	4010	Banks	401010	Commercial Banks	40101010	Biotechnology				
						40101015	Life Sciences Tools & Services				
						40101020	Pharmaceuticals				
						40101030	Life Sciences Tools & Services				
						40101040	Pharmaceuticals				
						40101050	Life Sciences Tools & Services				
		4020	Diversified Financials	402010	Diversified Financial Services	40201010	Diversified Banks				
						40201015	Regional Banks				
						40201020	Thriffs & Mortgage Finance				
						40201030	Other Diversified Financial Services				
						40201040	Multi-Sector Holdings				
						40201050	Specialized Finance				
4030	Insurance	403010	Insurance	40301010	Consumer Finance						
				40301020	Asset Management & Custody Banks						
				40301030	Investment Banking & Brokerage						
				40301040	Diversified Capital Markets						
				40301050	Insurance Brokers						
				40301060	Life & Health Insurance						
4040	Real Estate	404010	Real Estate Investment Trusts (REITs)	40401010	Multi-line Insurance						
				40401020	Property & Casualty Insurance						
				40401030	Reinsurance						
				40401040	Diversified REITs						
				40401050	Industrial REITs						
				40401060	Mortgage REITs						
45	Information Technology	4510	Software & Services	451010	Internet Software & Services	45101010	Office REITs				
						45101020	Residential REITs				
						45101030	Retail REITs				
						45101040	Specialized REITs				
						45101050	Diversified Real Estate Activities				
						45101060	Real Estate Operating Companies				
		4520	Technology Hardware & Equipment	452010	Communications Equipment	45201010	Real Estate Development				
						45201020	Real Estate Services				
						45201030	Real Estate Services				
						45201040	Real Estate Services				
						45201050	Real Estate Services				
						45201060	Real Estate Services				
4530	Semiconductors & Semiconductor Equipment	453010	Semiconductors & Semiconductor Equipment	45301010	Internet Software & Services						
				45301020	IT Consulting & Other Services						
				45301030	Data Processing & Outsourced Services						
				45301040	Application Software						
				45301050	Systems Software						
				45301060	Home Entertainment Software						
50	Telecommunication Services	5010	Telecommunication Services	501010	Diversified Telecommunication Services	50101010	Communications Equipment				
						50101020	Computer Hardware				
						50101030	Computer Storage & Peripherals				
						50101040	Electronic Equipment & Instruments				
						50101050	Electronic Components				
						50101060	Electronic Manufacturing Services				
		5020	Wireless Telecommunication Services	502010	Wireless Telecommunication Services	50201010	Technology Distributors				
						50201020	Office Electronics				
						50201030	Semiconductor Equipment				
						50201040	Semiconductors				
						50201050	Alternative Carriers				
						50201060	Integrated Telecommunication Services				
55	Utilities	5510	Utilities	551010	Electric Utilities	55101010	Wireless Telecommunication Services				
						55101020	Wireless Telecommunication Services				
						55101030	Wireless Telecommunication Services				
						55101040	Wireless Telecommunication Services				
						55101050	Wireless Telecommunication Services				
						55101060	Wireless Telecommunication Services				
55	Utilities	5510	Utilities	551010	Electric Utilities	55101010	Electric Utilities				
						55101020	Gas Utilities				
						55101030	Multi-Utilities				
						55101040	Water Utilities				
						55101050	Water Utilities				
						55101060	Independent Power Producers & Energy Traders				

## GICS Structure Review Frequency

MSCI and Standard & Poor's are committed to ensuring that the GICS structure remains relevant and up-to-date. This is accomplished through an annual review of the structure. This review includes a detailed internal analysis to develop a proposal for potential structural changes and public request for comments and in-depth client consultations with various market participants as a means of obtaining feedback on proposed structural changes.



## Appendix VI: Price Source for Securities

For a full updated list of prices used in MSCI's end of day index calculations by country, please refer to the MSCI Index Calculation Methodology that can be found at:

[http://www.msci.com/eqb/methodology/meth\\_docs/MSCI\\_May13\\_IndexCalcMethodology.pdf](http://www.msci.com/eqb/methodology/meth_docs/MSCI_May13_IndexCalcMethodology.pdf)

In certain countries significant foreign ownership limits exist for certain companies and/or industries. When the FOL is reached in these countries, foreign investors may trade with each other in an organized local market, frequently at a price higher than that available to domestic investors. As a result, there may be separate domestic and foreign board quotations.

MSCI regularly monitors the relative liquidity and foreign ownership availability of constituents with separate domestic and foreign board quotations to determine whether prices for these constituents should reflect the domestic or foreign board quotations. This review occurs on a quarterly basis to coincide with the Quarterly Index Review.

### Russia

Similarly to other markets, in order to determine the most appropriate price source for the MSCI Russia index constituents the frequency of trading, 12 month and 3 month ATVRs are considered as described in Sections 2.2.3 and 3.1.2.3. However, the eligible universes for Russia include alternative listings, trading in the US despite being in the different time-zone. For more details on the country classification of securities please refer to Appendix III.

### Markets open on Saturday and/or Sunday

In the event that a security is not traded on a Monday but was traded on the previous Saturday and/or Sunday, the security will have the latter price carried forward to the Monday.

# Appendix VII: Policy Regarding Trading Suspensions and Market Closures During Index Reviews

## Policy Regarding Trading Suspensions for Individual Securities During Index Reviews

MSCI will postpone the implementation of index review changes for the IMI constituents when the affected securities are suspended on the day prior to the effective implementation date of the Index Review. The postponed index review changes will be implemented two days after the securities resume trading.

## Policy Regarding Market Closures During Index Reviews

For both Quarterly Index Reviews and SAIRs, the following principles apply in case of market closures on the day of implementation. As a reminder, the effective implementation date for QIR is as of the close of the last business day of February and August. The effective implementation date for the SAIR is as of the close of the last business day of May and November.

### Market Closures Due to Scheduled Stock Market Holidays

When a given stock market is closed on the scheduled implementation date due to stock market holiday, the change will be effective on the next business day, using the price of the previous business day's close.

MSCI will change the implementation date for Index Reviews if markets cumulatively constituting more than 20% of the MSCI All Country World Index market capitalization are expected to be either closed or experience low liquidity on that day.

### Unexpected Full Trading Day Market Closures

In the event that the primary stock market in a country fails to open for trading and remains closed for the entire trading day on the implementation date of the review due to an unexpected market closure, MSCI will postpone the implementation of the additions to and deletions from the MSCI All Countries World Index (ACWI), as well as the changes in FIF and NOS with a combined impact on the country index of at least 50bp, resulting from the Semi-Annual or Quarterly Index Review of the MSCI Global Investable Market Indices for that specific country index. MSCI will implement the above changes as a result of the Semi-Annual or Quarterly Index Review for that country as of the close of the first business day (Monday to Friday) that the specific market reopens for trading and closing prices are available. In the event of unexpected closures of stock markets in more than one country, MSCI will evaluate the situation and may apply a different policy.

For smaller countries, however, in the event of unexpected market closures, MSCI reserves the right to implement the Semi-Annual or Quarterly Index Review using the closing price of the last day the market was open.

#### Unexpected Market Closures of Less Than Full Trading Day

The trading suspensions of less than one full trading day will not trigger any postponement of the implementation of the Semi-Annual or Quarterly Index Review of the MSCI Global Investable Market Indices.

#### Market Outage during the Trading Day

In the event that a market is affected by an outage during the trading day on the effective implementation date, MSCI will determine its pricing policy for the relevant country on a case-by-case basis. In making its decision, MSCI will take into consideration a number of factors, including the time and duration of the outage, information on the outage provided by the specific stock exchange, and other relevant market information.

MSCI will communicate all decisions taken with respect to market outages during the day through the regular client communication channels as well as via Reuters (Pages MSCIA and following) and Bloomberg (MSCN).

# Appendix VIII: Updating the Global Minimum Size References and Ranges

As markets evolve due to events and price performance, the Global Minimum Size Reference and ranges are calculated on a daily basis using the following general principles.

## General Principles for Updating the Global Minimum Size References and Ranges

- **The Investable Market Index Global Minimum Size Reference** for Developed Markets is the full company market capitalization of the company at the same rank that determined the Investable Market Index Global Minimum Size Reference at the previous SAIR as long as the cumulative free float-adjusted market capitalization coverage of the existing DM Investable Equity Universe at that rank is between 99% and 99.25%. If the coverage at that rank is not between 99% and 99.25%, the rank is reset to the first company that reaches a cumulative free float-adjusted representation of not less than 99% (if below) or not more than 99.25% (if above) and the Global Minimum Size Reference is recalculated.
- **The Standard Index Global Minimum Size Reference** for Developed Markets is the full company market capitalization of the company ranked at the same rank that determined the Standard Index Global Minimum Size Reference at the previous SAIR as long as the cumulative free float-adjusted market capitalization coverage of the existing DM Investable Equity Universe at that rank is between 85 and 87%. If the coverage at that rank is not between 85% and 87%, the rank is reset to that company that reaches a cumulative free float-adjusted representation of not less than 85% (if below) or not more than 87% (if above) and the Global Minimum Size Reference is calculated.
- **The Large Cap Index Global Minimum Size Reference** for Developed Markets is the full company market cap of the company ranked at the same rank that determined the Large Cap Index Global Minimum Size Reference at the previous SAIR as long as the cumulative free float-adjusted market capitalization coverage of the existing DM Investable Equity Universe at that rank is between 70 and 72%. If the coverage at that rank is not between 70% and 72%, the rank is reset to that company that reaches a cumulative free float-adjusted representation of not less than 70% (if below) or not more than 72% (if above) and the Global Minimum Size Reference is recalculated.
- **For Emerging Markets** the Global Minimum Size Reference for each size-segment is set at half of the USD Global Minimum Size Reference for Developed Markets.

Using the rank of the company that determined the Global Minimum Size Reference at the previous SAIR - within acceptable representation ranges - is aimed at providing more stable Global Minimum Size References, compared to an approach that focuses on a targeted percentile coverage.

The existing DM Equity Investable Universe is used to keep the Global Minimum Size Reference up to date on a daily basis and at Quarterly Index Reviews. For SAIRs, the fully updated DM Equity Investable Universe is used.

**Example:** At the previous SAIR of the Standard Indices, the Global Minimum Size Reference was determined to be USD 3.95 billion and reflected the market capitalization of the 1700<sup>th</sup> company in the DM Equity Investable Universe with a cumulative free float-adjusted market coverage of 85% at that rank. In the current SAIR, the market

capitalization of the 1700<sup>th</sup> company is chosen as the pro forma Global Minimum Size Reference. If the cumulative free float-adjusted market capitalization coverage of the 1700 companies is between 85 – 87% of the DM Equity Investable Universe, the full market capitalization of the 1700<sup>th</sup> company will be used as the new Global Minimum Size Reference. If, however, the cumulative free float-adjusted market capitalization of the DM Equity Investable Universe is 88%, then the rank of the company determining the Global Minimum Size Reference is reset. In this case, suppose the top 1600 companies cumulatively cover 87% of the free float-adjusted market capitalization, then the market capitalization of the 1600<sup>th</sup> company is the new Global Minimum Size Reference for the DM Standard Indices. At the next SAIR, the full market capitalization of the 1600<sup>th</sup> company will be the pro forma Global Minimum Size Reference.

# Appendix IX: Minimum Market-Relative Liquidity Requirements for the Standard Index

The Market-Relative Liquidity Requirement for inclusion in the Standard Index is derived as follows:

- Companies are first sorted in descending order by full market capitalization and the cumulative free float-adjusted market capitalization coverage is calculated.
- The universe of large and mid cap companies is defined when 85% of the free float-adjusted market capitalization coverage of the Market Investable Equity Universe is achieved.
- The securities within this universe are then sorted by descending order of 12-month ATVR.
- The 12-month ATVR at the 98th percentile of this sorted universe is noted.
- The Market-Relative Liquidity Requirement is then defined as 90% of that 12-month ATVR level, subject to:
  - A minimum of 20% 12-month ATVR in Developed Markets and 15% 12-month ATVR in Emerging Markets
  - A maximum of 50% 12-month ATVR in both Developed and Emerging Markets

This Market-Relative Liquidity Requirement is periodically updated and published at the time of the SAIR.

The 12-month ATVR thresholds for the May 2013 Semi-Annual Index Review are shown below.<sup>17</sup>

**Developed Markets**

Country	Minimum ATVR
AUSTRALIA	43%
CANADA	31%
EUROPE	23%
HONG KONG	26%
ISRAEL	22%
JAPAN	44%
NEW ZEALAND	20%
SINGAPORE	24%
USA	20%

**Stand-Alone Markets**

Country	Minimum ATVR
China A	50%

**Emerging Markets**

Country	Minimum ATVR
BRAZIL	35%
CHILE	18%
CHINA	42%
COLOMBIA	15%
CZECH REPUBLIC	50%
EGYPT	15%
HUNGARY	37%
INDIA	36%
INDONESIA	19%
KOREA	28%
MALAYSIA	21%
MEXICO	15%
MOROCCO	16%
PERU	23%
PHILIPPINES	15%
POLAND	15%
RUSSIA	50%
SOUTH AFRICA	39%
TAIWAN	25%
THAILAND	44%
TURKEY	21%

<sup>17</sup> The ATVR values used in the regular Index Reviews are not rounded.

# Appendix X: MSCI Frontier Markets Indices Country Classification

The table below provides the country classification in terms of minimum size and liquidity that MSCI uses as basis for the construction and maintenance of the MSCI Frontier Markets Indices.

	Very Low Liquidity (2.5% ATVR)	Low Liquidity (5% ATVR)	Average Liquidity (15% ATVR)
<b>Larger Frontier Market</b>			Kuwait
			Qatar
			Saudi Arabia*
			United Arab Emirates
<b>Smaller Frontier Market</b>	Bahrain	Argentina	Bangladesh
	Bosnia-Herzegovina	Estonia	Pakistan
	Botswana	Jordan	Vietnam
	Bulgaria	Kazakhstan	
	Croatia	Kenya	
	Ghana	Mauritius	
	Jamaica	Nigeria	
	Lebanon	Oman	
	Lithuania	Romania	
	Palestine	Slovenia	
	Serbia	Tunisia	
	Sri Lanka		
	Trinidad & Tobago		
	Ukraine		
	Zimbabwe		

\* Saudi Arabia is not included in the MSCI Frontier Markets Indices but in the MSCI GCC Countries Domestic Indices

The categorization is reviewed semi-annually during the May and November Semi-Annual Index Reviews. At the May 2013 Semi-Annual Index Review, Argentina and Oman were reclassified from the Average Liquidity to the Low Liquidity category, and Croatia was reclassified from the Low Liquidity to the Very Low Liquidity category.

# Appendix XI: Transition

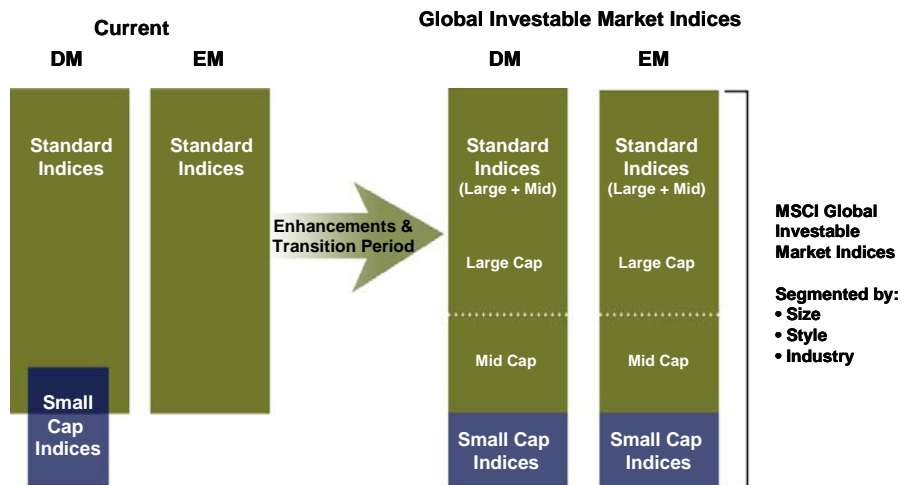
MSCI transitioned the current Standard Index, the Small Cap Index and all indices derived from the Standard Index to the Global Investable Market Indices methodology described in this book at the end of May 2008.

All indices that are constructed with the Standard Indices as their basis, such as the GDP-weighted indices, 10/40 Indices and other custom indices, High Dividend Yield Indices, the MSCI Global Value and Growth Indices, etc., continued to be derived from the Standard Indices throughout the transition.

The transition of the MSCI Standard and the MSCI Small Cap Indices to the MSCI Global Investable Market Indices methodology occurred in two phases. The first phase occurred as of the close of November 30, 2007 and the second phase occurred as of the close of May 30, 2008.

All indices derived from the MSCI Standard Indices followed the two phase transition except the MSCI Euro and Pan Euro Indices which were transitioned in one phase in November 2007.

The transition was synchronized for all markets and composites.



During the transition period, MSCI was producing the MSCI Provisional Standard and Provisional Small Cap Indices to assist investors in understanding the changes that would have occurred if the Global Investable Market Indices methodology had been immediately implemented in the current MSCI Standard and Small Cap Indices. The Provisional Indices also provided increased flexibility to current



investors who wished to transition to the Global Investable Market Indices methodology on their own schedule.

The Provisional Standard and Provisional Small Cap Indices and the new Size-Segment and Style Indices that were created based on this methodology were official MSCI indices and, as such, could be used for a variety of purposes, including as the basis for new investment mandates and for investment vehicles such as passive mutual funds, exchange traded funds and listed and over-the-counter derivative contracts.

## Provisional Indices

Provisional Indices, together with the constituents, could be used by clients who wished to measure their performance against such indices, ahead of MSCI's official implementation schedule. The Provisional Indices and the new Size-Segment and Style Indices were maintained according to the index maintenance principles of the Global Investable Market Indices methodology.

### Deriving the Size-Segment Indices at Initial Construction of the Provisional Indices

In the initial construction of the Provisional Size-Segment Indices, the Segment Number of Companies in each size-segment and the Market Size-Segment Cutoffs was determined as described in section 2 of this methodology book. However, with a view to reducing transition turnover and ongoing turnover, the following additional rules were used at initial construction:

- The Standard Indices targeted market coverage and size integrity as described in [Sub-section 2.3.3: Determining the Market Size-Segment Cutoffs and Associated Segment Number of Companies](#) using the 85% ± 5% Market Segment Coverage Range, and specifically aiming at reaching 85%, when possible. However, a Global Minimum Size Range of 0.5 times to 1.05 times the Global Minimum Size Reference, rather than 0.5 times to 1.15, was used for initial construction to limit turnover during the transition, as long as market coverage did not exceed 90%.
- The buffer zones used in maintaining the MSCI Global Investable Market Indices at Semi-Annual Index Reviews were fully populated at initial construction with companies from the current Standard and Small Cap Indices, in order to minimize turnover during the transition. If a company was represented in both the Standard and the Small Cap Index, it was evaluated using the eligibility requirements of the Standard Index only. For details on the application of buffer zones in the assignment of companies to size-segments, please see [Sub-section 3.1.5.1: Using Buffer Zones to Manage the Migration of Companies between Size-Segment Indices](#).
- At initial construction the Market Size-Segment Cutoffs and associated Segment Number of Companies of the Investable Market Segment were derived by including all companies equal to or larger than the Global Minimum Size Reference for this segment.

### Publication of Provisional Indices

In preparation for the transition, as of the close of May 3, 2007, the list of pro forma index constituents under the Global Investable Market Indices methodology for the Provisional MSCI Standard and Small Cap Indices in each market and for all Provisional Indices derived from the Standard indices were made

available to clients. The Provisional Indices started with a base level of 1000 as of the close of May 31, 2007. All Global Investable Market Indices, including the Provisional Standard and Provisional Small Cap Indices, were calculated as of June 1, 2007 and published daily as of the close of June 5, 2007.

After the May 2008 SAIR, the Provisional Standard and Provisional Small Cap Indices were discontinued.

## Reflecting Constituent Changes in the Standard Indices at the Transition Points

In the first phase of the transition in November 2007:

- After the Provisional Standard Indices were rebalanced as per the SAIR, they were compared to the relevant Standard Indices.
- All companies that were in the Provisional Standard Index but not in the corresponding Standard Index were added to the Standard Index at half of their free float-adjusted market capitalization, and all companies that were not in the Provisional Standard Index but in the corresponding Standard Index were retained in the Standard Index but at only half of their free float-adjusted market capitalization.

In the second and final phase in May 2008:

- The Provisional Standard Indices were rebalanced.
- Any and all differences between the rebalanced Provisional Standard Index and the Standard Index were fully implemented in the Standard Indices.

The transition of the Small Cap Indices was synchronized with the transition of the Standard Indices, following the same timeline and approach.

Index Inclusion Factors were used to manage the indices throughout the transition.

The table below provides some examples of Index Inclusion Factors for companies through the phases of the transition. The index market capitalization of securities was determined as Index Inclusion Factor\*FIF\*Security Full Market Capitalization.

	Current Index Inclusion Flag	Phase I		Phase II	
		Provisional Proforma Index Inclusion Flag (November 30, 2007)	Standard Proforma Inclusion Factor (November 30, 2007)	Provisional Proforma Index Inclusion Flag (May 30, 2008)	Standard (final) Inclusion Factor (May 30, 2008)
<b>Existing Constituents</b>					
Company A	1	1	1	1	1
Company B	1	0	0.5	0	0
Company C	1	0	0.5	1	1
Company D	1	1	1	0	0
<b>New Constituents</b>					
Company E	0	1	0.5	1	1
Company F	0	1	0.5	0	0
Company G	0	0	0	1	1

For example, say companies A, B, C and D were current constituents of the Standard Index. Company A continued as a constituent of the Standard Index under the Global Investable Market Indices methodology. It had an Index Inclusion Factor of 1 throughout the transition. Company B was not eligible for inclusion in the Standard Index under the Global Investable Market Indices methodology. So, in the first phase, it was marked for removal from the Standard Index and an Index Inclusion Factor of 0.5 was applied to it. In the second phase the Index Inclusion Factor went to 0 indicating removal of the company from the Standard Index. Company C was also identified for removal from the Standard Index and had an Index Inclusion factor of 0.5 in the first phase. But when evaluated at phase 2, it became eligible for inclusion and the Index Inclusion Factor was changed to 1 for the second phase. Company D was retained in the Standard Index when evaluated in the first phase and carried an Index Inclusion Factor of 1 for that phase. But in phase 2, it was no longer eligible for inclusion in the Standard Index and, hence its Index Inclusion Factor was changed to 0.0.

Companies E, F, and G were new constituents that were eligible for inclusion under the Global Investable Market Indices methodology. Company E remained eligible for inclusion to the Standard Index throughout the transition and had an Index Inclusion Factor of 0.5 in the first phase and 1 in the second phase. Company F, was identified as an addition in the first phase, but at the second phase it was no longer eligible for inclusion. Its Index Inclusion Factor of 0.5 in the first phase was therefore changed to 0 in the second phase. Company G was not eligible for inclusion in the first phase and carried an Index Inclusion Factor of 0. But in the second phase, it became eligible for inclusion and its Index Inclusion Factor was reset to 1, indicating full inclusion in the Standard Index.

## Index Reviews and Treatment of On-Going Market Events During the Transition Period

During the transition period, from May 4, 2007 through May 30, 2008, MSCI was maintaining its schedule of regular index reviews for its Standard and Small Cap Index series. The Provisional Indices and Size-Segment Indices were maintained according to the index maintenance principles of the Global Investable Market Indices methodology.

To minimize changes not related to the transition, all changes in the Standard Indices were coordinated with the Provisional Indices. Only very significant changes in the equity markets and constituents were reflected during the Quarterly Index Reviews for the existing Standard and Small Cap Indices. All new additions of companies to the Provisional Standard Indices resulting from IPOs and the August 2007 and February 2008 QIRs were also included in the Standard Indices at their full free float-adjusted market capitalization.

### Ongoing Event Related Changes

Effective from March 29, 2007 and throughout the transition, the ongoing maintenance of the Standard and Small Cap Indices was made with a view to minimize potential reverse turnover in the indices.

Effective May 4, 2007 all and only securities newly added to the Provisional Standard and Small Cap Indices as a result of ongoing maintenance of corporate events could be added to the Standard and to the Small Cap Indices, respectively. Before May 31, 2007 these were additions to the list of pro-forma constituents of the Provisional Standard and Provisional Small Cap Indices.

### May 2007 Annual Full Country Index Review of the Standard Indices and Semi-Annual Index Review of the Small Cap Index

The changes resulting from the May 2007 Annual Full Country Index Review of the existing Standard Indices were announced on May 3, 2007, earlier than its normal announcement schedule, to coincide with the availability of the pro-forma list of constituents of the MSCI Global Investable Market Indices. Further, in order to minimize reverse turnover, the May 2007 Annual Full Country Index Review for the Standard Indices used the same Global Minimum Size Requirement and other investability requirements that were applied in the construction and maintenance of the Provisional Standard Indices. Only securities that were constituents of the Provisional Standard Indices were added to the Standard Indices to bring the Industry Group representation closer to 85%, if necessary. If an Industry Group was over represented, only companies not included in the Provisional Standard Indices were deleted.

The current Small Cap Indices continued to target securities of companies in the full market capitalization range of USD 200–1,500 million that defines the small cap universe under the current Small Cap Index methodology. The changes resulting from the May 2007 SAIR of the current Small Cap

Indices were made available on May 3, 2007, along with the final pro forma list of constituents of the MSCI Global Investable Market Indices. In order to minimize reverse turnover, the May 2007 SAIR for the Small Cap Indices used the same Global Minimum Size Requirement and other investability screens that were applied in the construction and maintenance of the Provisional Small Cap Indices. Only securities that were constituents of the Provisional Small Cap Indices were added to the Small Cap Indices to bring the Industry Group representation closer to 40%, if necessary. Potential deletion of a security from the Small Cap Indices due to excessive industry group representation was considered only if it was not a constituent of the Provisional Small Cap Indices.

### August 2007 Quarterly Index Review

In August 2007, the first QIR for the Provisional Standard and Provisional Small Cap Indices was conducted under the principles of the Global Investable Market Indices methodology. Newly eligible companies that were included in the Provisional Standard Indices as a result of the August 2007 QIR were also added to the existing Standard Indices as of the close of August 31, 2007. The migration of companies between the Provisional Standard and Provisional Small Cap Indices was also reflected in the Standard and Small Cap Indices.

### November 2007 Semi-Annual Index Review

The changes in the Standard and Small Cap Indices during the November 2007 Index Review were determined in two steps:

- Identification of the changes resulting from the regular Semi-Annual Index Review and;
- Identification of the additional changes resulting from the first phase of the transition to the Global Investable Market Indices Methodology.

In the first step, MSCI performed the regular Semi-Annual Index Review of the Standard and Small Cap Indices under the principles of the Global Investable Market Indices Methodology, meaning that all changes in the Standard and Small Cap Indices were coordinated with the Semi-Annual Index Review of the Provisional Standard and Provisional Small Cap Indices. Similar to the August 2007 Quarterly Index Review, the additions to and deletions from the Provisional Standard and Provisional Small Cap Indices resulting from the review were fully added to or deleted from the current Standard and Small Cap Indices.

In the second step, MSCI determined the difference in each constituent's free float-adjusted market capitalization between the indices resulting from the first step above and the corresponding Post Semi-Annual Index Review Provisional Standard and Provisional Small Cap Indices. Then, one-half of this difference was added to or deleted from the Standard and Small Cap Indices. This was implemented by applying the Index Inclusion Factor (IIF) of 0.5 to all additions and deletions resulting from the transition.

## February 2008 Quarterly Index Review

In February 2008, the second QIR for the Provisional Standard and Provisional Small Cap Indices was conducted under the principles of the Global Investable Market Indices methodology. Newly eligible companies that were included in the Provisional Standard Index as a result of the February 2008 QIR were also added to the Standard Index as of the close of February 29, 2008. The migrations of companies between the Provisional Standard and Provisional Small Cap Indices were also reflected in the Standard and Small Cap Indices.

## May 2008 Semi-Annual Index Review

In May 2008, the second SAIR for the Provisional Standard and Provisional Small Cap Indices was conducted under the principles of the Global Investable Market Indices methodology. The addition or deletion of the remaining difference of the free float-adjusted market capitalization for each constituent was implemented in the Standard and Small Cap Indices as of the close of May 30, 2008. After this, the Provisional Indices were discontinued as of the close of June 30, 2008.

## Transitioning Other Indices

### Global Value and Growth Indices

The Global Value and Growth Indices followed the timeline and implementation of the Standard Indices.

Starting with the first phase of the transition, the style classification of the Provisional MSCI Global Value and Growth Indices prevailed over that of the current Global Value and Growth Indices. Therefore, at the first phase of the transition, the constituents of the existing MSCI Global Value and Growth Indices acquired style inclusion factors derived from the Global Investable Market Indices. In those rare cases where an existing constituent of the current Global Value and Growth Indices were not included in the Global Investable Market Indices, those constituents retained their current style inclusion factors.

### Euro and Pan-Euro Indices

The MSCI Euro and MSCI Pan-Euro Indices are subsets of the Standard MSCI EMU and MSCI Europe Indices, respectively, and aimed to capture 90% of the market capitalization of the broader benchmarks.

The MSCI Euro Pan-Euro methodology evolved to the methodology for the Large Cap Index under the Global Investable Market Indices methodology. Consequently,

- The enhanced MSCI Pan Euro Index became identical to the MSCI Large Cap Europe Index under the MSCI Global Investable Market Indices methodology.

- The enhanced MSCI Euro Index became identical to the MSCI Large Cap EMU Index under the MSCI Global Investable Market Indices methodology.

The transition of the MSCI Euro and MSCI Pan-Euro Indices to the Global Investable Market Indices methodology took place in a single phase, as of the close of business on November 30, 2007.

### **Indices Based on the Standard Indices**

Indices constructed with the Standard Indices as their basis, such as the High Dividend Yield Indices, GDP-weighted indices, 10/40 Indices and other custom indices, continued to be derived from the Standard Indices throughout the transition.

### **GCC Countries Indices**

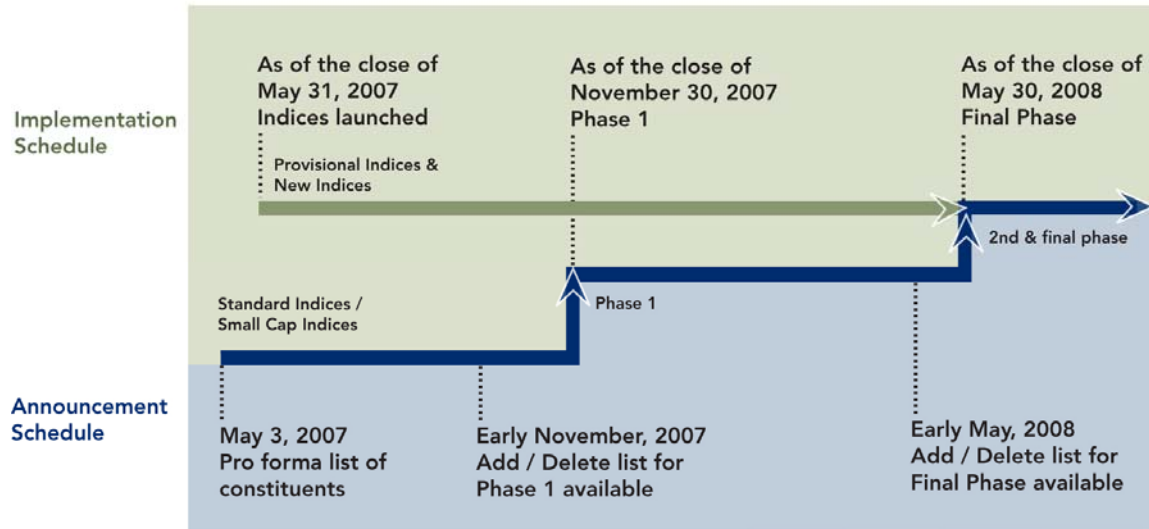
MSCI transitioned the current MSCI GCC Countries Indices to the enhanced MSCI GCC Countries Indices Methodology.

The transition of the MSCI GCC Countries Indices to the enhanced MSCI GCC Countries Indices Methodology occurred in one single phase. The transition was implemented as of the close of May 30, 2008.

In order to add transparency to the transition process and to assist clients in planning and implementing their individual transition strategies, MSCI provided Provisional Indices for the MSCI GCC Countries Indices constructed and maintained according to the enhanced MSCI GCC Countries Indices Methodology.

## Summary Transition Timeline

The transition time line for the Standard Index (and Small Cap Index) is as shown below.





Summary Transition Time Line

Date	Provisional/New	Standard & Small Cap
March 28, 2007	Final MSCI Global Investable Market Indices methodology was announced.	No impact.
May Annual Index Review	Initial construction based on data used in Standard and Small Cap Index Review, including population of the buffers.	Regular Annual Index Review of the Current Standard Index., taking into account new minimum size requirements.  Regular SAIR of the Current Small Cap Index.  Corporate events, IPOs and other new company additions treated in accordance with the current index methodology.
May 3, 2007	List of index constituents for Provisional Standard and Provisional Small Cap Indices, under the Global Investable Market Indices methodology for each of the MSCI Provisional Standard and Provisional Small Cap Indices, was made available.	Results of May Annual Index Review were announced.
May 31, 2007	Provisional Indices start with a base level of 1000 as of the close of May 31, 2007 and calculation began	Annual Index Review changes became effective.
June 5, 2007	Start of daily publication of the Provisional Standard and Provisional Small Cap Indices.  New Large Cap, Mid Cap, and Investable Market Indices also published.	No impact.
August 2007	QIR of the Provisional and new indices using buffers zones, updates of NOS, FIFs, IPO and newly eligible companies inclusions, etc.	QIR of the current Standard and Small Cap Indices reflecting changes in NOS, FIF, etc.  Addition of IPOs and newly eligible companies to the Provisional Standard Index Series were reflected in the Standard Index at their full weight.  Migrations between the Provisional Standard and Provisional Small Cap Indices were also reflected in the Standard and Small Cap Indices.
November 2007	SAIR for Provisional and Size-Segment Indices.	First phase of the transition included in QIR for Standard Indices and SAIR for Small Cap Indices.
November 30, 2007	Rebalanced Provisional Indices implemented.	Partially transitioned Standard and Small Cap Indices implemented.
February 2008	QIR of Provisional and new Size-Segment Indices using buffers, updates of NOS, IPO inclusions, etc.	QIR of the current Standard and Small Cap Indices reflecting changes in NOS, FIF etc.  Addition of IPOs and newly eligible companies to the Provisional Standard Index Series were reflected in the Standard Index at their full weight.  Migrations between the Provisional Standard and Provisional Small Cap Indices were also reflected in the Standard and Small Cap Indices.
May 2008 SAIR and Annual Review	SAIR for Provisional and Size-Segment Indices.	Second and final phase of the transition included in May Annual Index Review for Standard Indices and SAIR for Small Cap Indices.
May 30, 2008		Fully transitioned Standard and Small Cap Indices implemented.
After June 1, 2008	Provisional Indices discontinued.	All MSCI global equity indices operate under Global Investable Market Indices methodology.

## Appendix XII: Transition of MSCI China A Index

MSCI will transition the current MSCI China A Index to the MSCI Global Investable Market Indices (GIMI) methodology in two phases coinciding with the August 2009 Quarterly Index Review and the November 2009 Semi-Annual Index Review.

- First phase of the transition coinciding with the August 2009 Quarterly Index Review:
  - The enhanced MSCI China A Index would be rebalanced as per the GIMI Methodology and compared to the current MSCI China A Index.
  - All companies that would be in the enhanced MSCI China A Index but not in the current MSCI China A Index would be added to the current MSCI China A Index at half of their free float-adjusted market capitalization, and all companies that would not be in the enhanced MSCI China A Index but in the current MSCI China A Index would be retained in the current MSCI China A Index but at only half of their free float-adjusted market capitalization.
- Second phase of the transition coinciding with the November 2009 Semi-Annual Index Review:
  - The enhanced MSCI China A Index would be rebalanced.
  - All differences between the rebalanced enhanced MSCI China A Index and the current MSCI China A Index would be fully implemented in the current MSCI China A Index.

### Methodology Adaptations Specific to the MSCI China A Index

The MSCI China A Index shares a methodology similar to that of the MSCI Global Investable Market Indices, with the following methodology adaptations:

#### Equity Universe:

For the MSCI China A Index, the universe is defined as all China A shares listed on the Shanghai and Shenzhen Stock Exchanges. In general, all listed equity securities, or listed securities that exhibit characteristics of equity securities, except investment trusts, mutual funds and equity derivatives, are eligible for inclusion in the universe. Securities with a “ST” or “\*ST” status are excluded from the Equity Universe. In general, MSCI will delete such securities from the MSCI China A Index as of the close of the last business day of each month following the assignment of a “ST” or “\*ST” status, with at least two full business days notice.

#### Equity Universe Minimum Size:

The Equity Universe Minimum Size applied to the MSCI China A Index is based on the Global Minimum Size Reference of the Emerging Markets under the MSCI Global Investable Market Indices Methodology.

**Assigning a Free Float-Adjustment Factor:**

MSCI defines the free float of a China A security as the proportion of tradable shares outstanding that are deemed to be available for purchase in the public equity markets by domestic investors. In practice, limitations on free float available to domestic investors also include strategic and other shareholdings that are not considered part of available free float.

MSCI free float-adjusts the market capitalization of each security using an adjustment factor referred to as the Domestic Inclusion Factor (DIF).

**Index Inclusion Factor:**

Index Inclusion Factors will be used to manage the indices throughout the transition.

The table below provides some examples of Index Inclusion Factors for companies through the phases of the transition. The index market capitalization of securities will be determined as Index Inclusion Factor\*DIF\*Security Full Market Capitalization.

	Current Index Inclusion Flag	Phase I		Phase II	
		Proforma Index Inclusion Flag (August 31, 2009)	Standard Proforma Inclusion Factor (August 31, 2009)	Proforma Index Inclusion Flag (November 30, 2009)	Standard Proforma Inclusion Factor (November 30, 2009)
<b>Existing Constituents</b>					
Company A	1	1	1	1	1
Company B	1	0	0.5	0	0
Company C	1	0	0.5	1	1
Company D	1	1	1	0	0
<b>New Constituents</b>					
Company E	0	1	0.5	1	1
Company F	0	1	0.5	0	0
Company G	0	0	0	1	1

For example, say companies A, B, C and D are current constituents of the MSCI China A Index. Company A continues as a constituent of the MSCI China A Index under the MSCI GIMI methodology. It will have an Index Inclusion Factor of 1 throughout the transition. Whereas Company B is not eligible for inclusion in the MSCI China A Index under the GIMI methodology. It will be marked for removal from the MSCI China A Index and an Index Inclusion Factor of 0.5 will be applied to it during the first phase of transition. In the second phase the Index Inclusion Factor will be reduced to 0 indicating a complete removal of the company from the MSCI China A Index. In another case, company C is identified for removal from the MSCI China A Index under the MSCI GIMI

methodology but when it is evaluated at phase two and it becomes eligible for inclusion. In this case, the Index Inclusion Factor of company C for the first phase and second phase will be 0.5 and 1 respectively. Next, company D qualifies to remain in the MSCI China A Index in the first phase but fails to qualify for inclusion in the second phase, the Index Inclusion Factor will be 1 for the first phase and 0 for the second phase.

Moving on to company E, F and G which are not current constituents of the MSCI China A Index. Company E qualifies for inclusion to the MSCI China A Index throughout the transition. It will have an Index Inclusion Factor of 0.5 in the first phase and 1 in the second phase. Next, company F is identified as a new addition in the first phase, but fails to qualify to remain in the index in the second phase. Its Index Inclusion Factor of 0.5 in the first phase will be changed to 0 in the second phase. Lastly, company G is not eligible for inclusion in the first phase but subsequently becomes eligible for inclusion in the second phase, its Index Inclusion Factor will be 0 for the first phase and 1 in second phase.

#### **Treatment of Suspensions:**

Existing MSCI China A Investable Market Index constituents that are suspended from trading for more than 120 business days will be deleted during regular index reviews at the lowest prices (unit or fraction of the currency) at which a security can trade on a given exchange.

## Appendix XIII: MSCI DR Indices

### Constructing the MSCI DR Indices

The MSCI DR Indices are constructed by substituting the constituents of the corresponding MSCI Standard Indices (herein, "Parent Indices") with liquid Depositary Receipts (DR) for each constituent. Only level II and level III American Depositary Receipts (ADR) listed on the New York Stock Exchange or the NASDAQ, Global Depositary Receipts (GDR) as well as ADRs listed on the London Stock Exchange are eligible for inclusion in the MSCI DR Indices. DRs are deemed liquid if their ATVR is 15% or above. If more than one DR exists for a constituent, the most liquid listing will be included in the MSCI DR Index.

Constituents of the Parent Indices without DR listings are excluded from the MSCI DR Indices.

### Maintaining the MSCI DR Indices

#### Number of Shares (NOS) and Foreign Inclusion Factors (FIF) used for DRs in the MSCI DR Indices

The NOS of the DRs in the MSCI DR Indices is based on the maximum DRs that could be issued by dividing the number of shares of the Parent Index by the DR ratio (ratio between the common shares and the DRs). The purpose of this is to allow the DR to reflect accurately the full market capitalization of the company in the DR Indices.

The FIF is the same as the Parent Index constituent's FIF in order to reflect accurately the free-float adjusted market capitalization of the security.

#### Quarterly Listing Reviews

There is a Quarterly Listing Review, which coincides with the regular Quarterly and Semi-Annual Index Reviews of the Parent Indices. At each Quarterly Listing Review, all listings for all constituents of the Parent Index are examined. If a new liquid DR for a current constituent of the Parent Index, which is not a constituent of the MSCI DR Index, is identified, it is added to the MSCI DR Index as part of the Review. The DR must be listed and trading for at least three months before being added to the MSCI DR Index.

Constituents of the MSCI DR Indices with an ATVR below 10% will be excluded from the MSCI DR Indices as part of the Quarterly Listing Review.

All constituents deleted from the Parent Indices resulting from either Quarterly Index Reviews or Semi-Annual Index Reviews will be simultaneously deleted from the MSCI DR Indices, provided the asset

was included in the MSCI DR Indices. Additions to the Parent Indices will be added to the corresponding MSCI DR Indices only if they meet the liquidity and seasoning requirements.

#### Quarterly and Semi-Annual Index Review of Changes in NOS and in FIF

Updates in NOS and FIF to the Parent Indices will be applied simultaneously to the corresponding DRs adjusted by the respective DR ratio.

#### Ongoing Event Related Changes

The implementation in the MSCI DR Indices of changes in security level information, such as FIF and NOS, as a result of corporate events generally mirror the implementation of these events in the Parent Indices. This rule will normally apply to deletions, changes in the number of shares and FIFs, of securities due to mergers and acquisitions, conversion of shares, or share placements and offerings.

For rights issues opened only to local shareholders, MSCI will not apply a Price Adjustment Factor (PAF) to the market price of the DR, but will increase the number of shares of the DR simultaneously with the change for the Parent Indices, in order to keep the DR ratio constant.

Corporate actions such as splits, reverse splits, consolidations, stock dividends, and spin offs which affect the Parent Indices and its DRs may occur either at the same time or at different times due to, for example, differences in operational procedures in the stock exchanges of the DR and the underlying security. Therefore, MSCI will take the ex-date provided by the corresponding Stock Exchange of both the parent and the DR.

In the case of a stock split involving a change in the DR ratio, it might result only in a change in the number of shares and a PAF for the parent and not for the DR or vice versa.

Despite the full replication of the event maintenance, the impact of a given event on the Parent Index and on the DR Index may be different as a result of potential price discrepancies between respective listings at the time of the implementation of the event.

#### Additions and Deletions due to Corporate Events

For a constituent added to a Parent Index following a corporate event, the most liquid DR for such constituent will be eligible for inclusion in the respective MSCI DR Index at the next regularly scheduled Quarterly Index Review or Semi-Annual Index Review, provided it meets all index inclusion requirements.

A constituent deleted from a Parent Index following a corporate event will be simultaneously deleted from the corresponding MSCI DR Index, provided the corresponding DR listing was included in the MSCI DR Index.

### IPOs

DRs of IPOs which are significant in size and included early in the MSCI Global Standard Indices according to Sub-section 3.3.4.1, will be simultaneously included in the MSCI DR Indices.

### **Dividend Reinvestment for DRs Indices**

As per the MSCI Index Calculation Methodology, cash dividends paid to DR constituents are reinvested in the MSCI DR indices on the ex-date of the DR dividend.

### Withholding tax

MSCI uses companies' country of incorporation of the Parent Indices to determine the relevant dividend withholding tax rate applied to the DR in calculating the gross and net dividends. Consequently, for DR the withholding tax rates will be the same one used for the Parent Indices.

### Dividend Fees Payable by DR Holders

Normally a dividend fee is applied to dividends paid by DRs. This fee is an administrative cost associated with processing the dividend and it is a standard practice for depositary banks to charge it to the DR shareholders. MSCI does not take into account this dividend fee amount in the calculation of gross and net dividends.

**The following sections have been modified since November 2012:**

## 3.2.3. Quarterly Index Review of Changes in FIFs

- Update of the footnote on page 46

## 3.3.3.3 Early Inclusion of Non-Index Constituents

- Update of the last paragraph on page 52

## 3.3.4.1 IPOs and Other Early Inclusions

- Update on pages 54 and 55. The same update was applied to pages 38 and 46

## 3.3.5 Corporate Events Affecting the Index Review

- Update on page 55

## Appendix III: Country Classification of Securities

- Update of the last paragraph on page 80
- Update on Russia on page 80

**The following sections have been modified since February 2013:**

## 2.2.5 Minimum Length of Trading Requirements

- Update last paragraph of section

## 3.2.3 Quarterly index Review of Changes in FIFs

- New paragraph end of section

## 3.2.4 Quarterly index Review of Changes changes in the Number of Shares (NOS)

- New paragraph end of section

## 3.3.3.2 Changes in Size or Style Segment Classification as a Result of a Large Corporate Event

- Update on page 51

## 3.3.3.3 Early Inclusion of Non-Index Constituents

- Updates on page 52

## 3.3.4.1 IPOs and Other Early Inclusions

- Updates on page 55

## 5.1.1 Updating MSCI Frontier Markets Index Coverage

- New second paragraph

## 5.1.2 Standalone Country Indices

- New section

## 5.2.2 Categorization of Frontier Markets into very low, low or average liquidity markets

- Updates on page 68



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<sup>1</sup> As of June 30, 2011, based on eVsetment, Lipper and Bloomberg data.