

# **MSCI Global Investable Market Indices Methodology**

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

**June 2009**

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## Outline of the Methodology Book

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This methodology book outlines MSCI Barra'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 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 2009.

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

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For over 35 years, MSCI Barra 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 Barra'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 Barra 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 Barra 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®).
- 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.

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

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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

The Equity Universe initially looks at securities listed in any of the countries in the MSCI Global Index Series. Currently, there are 48 countries in the Equity Universe – 23 classified as Developed Markets (DM), and 25 as Emerging Markets (EM).

All listed equity securities, or listed securities that exhibit characteristics of equity securities, except mutual funds, ETFs, equity derivatives, limited partnerships, and most investment trusts are eligible for inclusion in the Equity Universe. Real Estate Investment Trusts (REITs) in some countries and certain income trusts in Canada are also eligible for inclusion.

#### 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.

#### 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>	

As of April 10, 2008, the Equity Universe Minimum Size Requirement is USD 135 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 Depository Receipt if it is trading in the same geographical region. Depository 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.

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 – 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 the number of months for which this data is available – and annualizing it by multiplying it by 12.

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. The calculation excludes the days when the trading of the security was suspended.

#### 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 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.

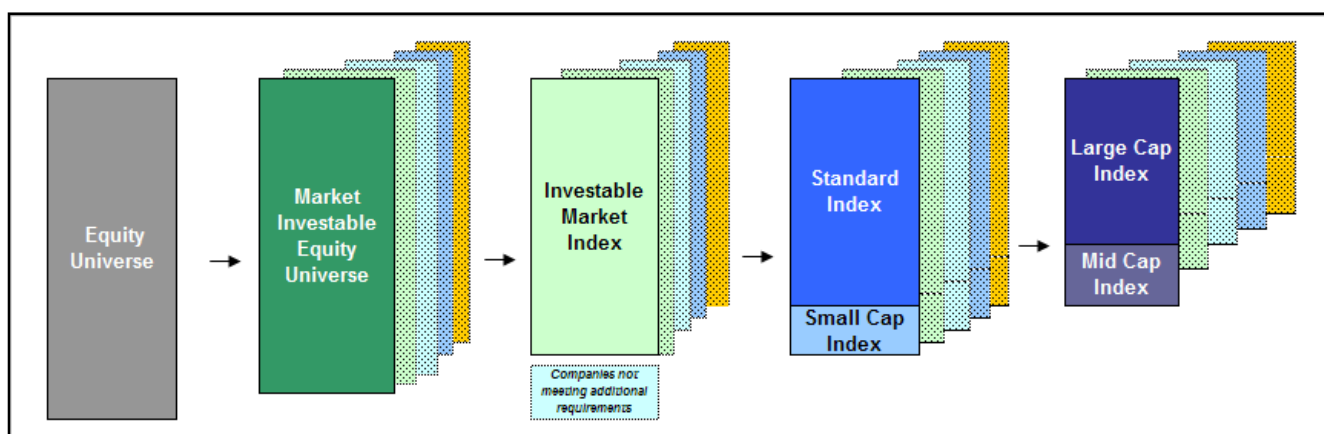
Large IPOs are not subject to the Minimum Length of Trading Requirement and may be included in a Market Investable Equity Universe and the Standard Index outside of a Quarterly or Semi-Annual Index Review. Please refer to [Sub-section 3.3.4.1: IPOs and Other Early Inclusions](#) for details.

## 2.3 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.

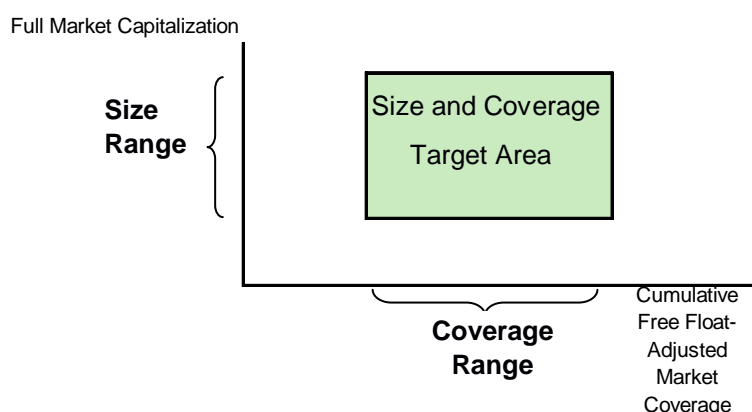
In order to create size segments that can be meaningfully aggregated into composites, the individual Market Size Segments need to balance the following two objectives:

- *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%  $\pm$  5%.
- Standard Index: 85%  $\pm$  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.

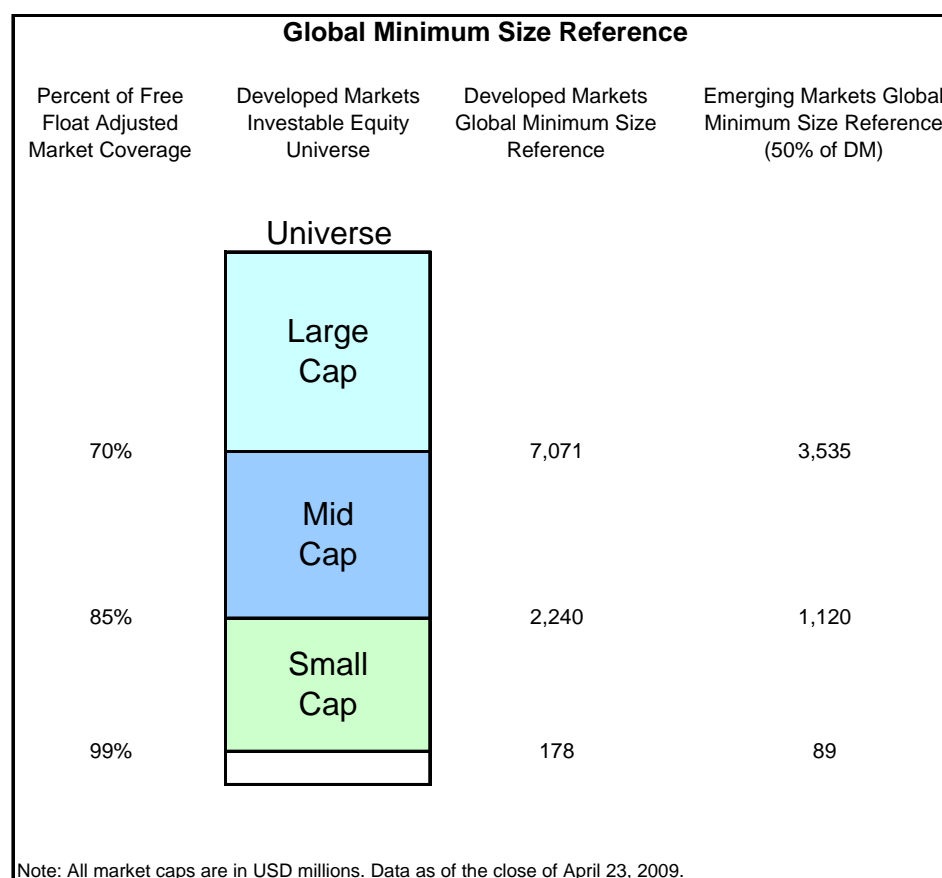
#### 2.3.2.1 Defining the Global Minimum Size Reference

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 2009 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 2.24 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 1.19 billion to USD 2.58 billion for the DM Standard Indices. The EM range for the Standard Indices, therefore, is USD 0.60 billion to USD 1.29 billion.



### 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 Barra 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**

For a security to be included in the Investable Market Index, its free float-adjusted market capitalization must be at least 50% of the Market Size-Segment Cutoff for the Investable Market Index.

For a security to be included in the Standard Index, its free float-adjusted market capitalization must be at least 50% of the Market Size-Segment Cutoff 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.

**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 periodically updated and published in this methodology book.

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%. 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%. 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% will be 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.

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 the Standard Indices

For a security that is subject to a Foreign Ownership Limit (FOI) to be included in the Standard 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%. Any security excluded from the Standard Index based on this rule is also excluded from the Investable Market Index

## 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/methodology/meth\\_docs/MSCI\\_May07\\_GIMIVGMethod.pdf](http://www.msci.com/methodology/meth_docs/MSCI_May07_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 Barra 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.

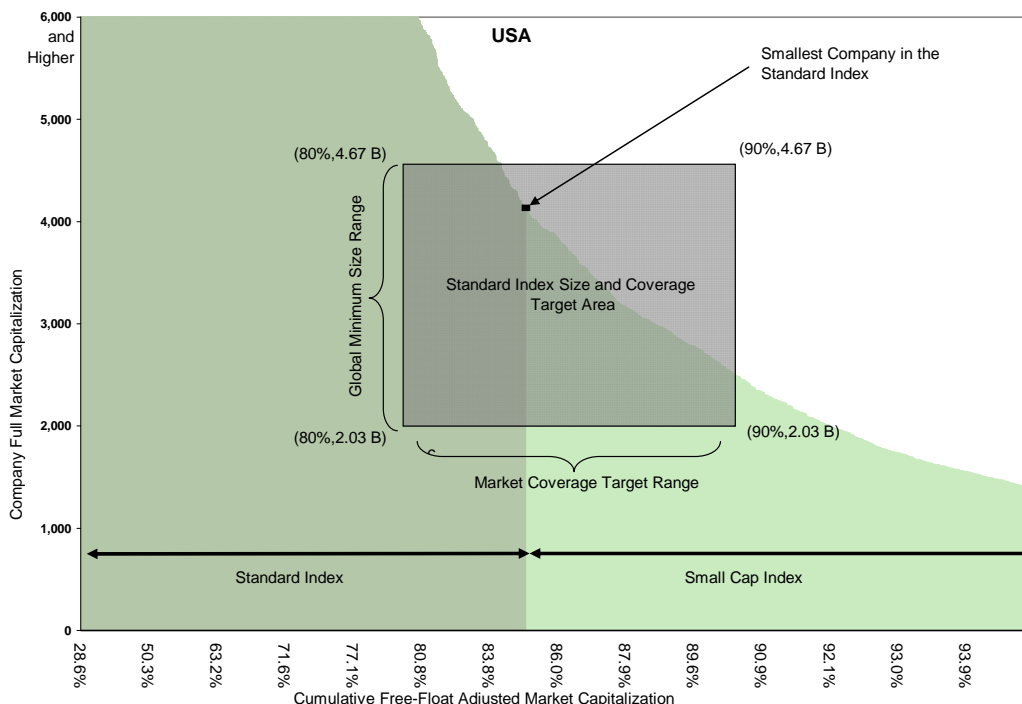
For further details on the GICS see [Appendix V: Global Industry Classification Standard \(GICS\)](#).

## 2.7 Creating Size Segment Indices: Examples

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

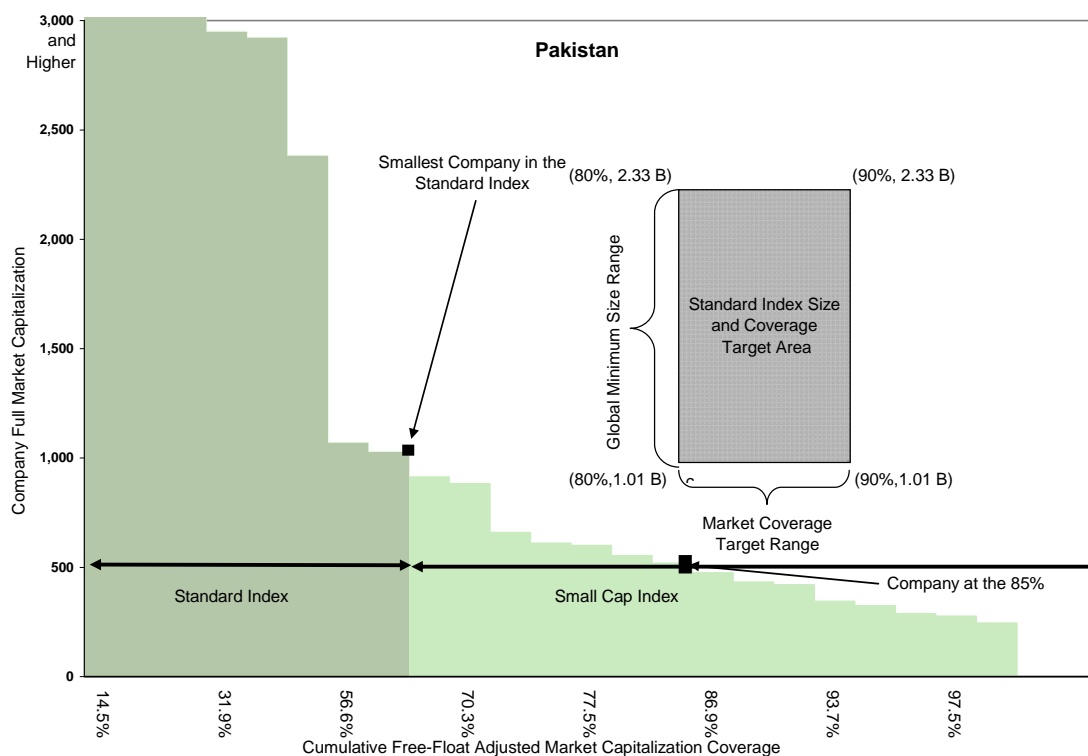
**Example:**

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.



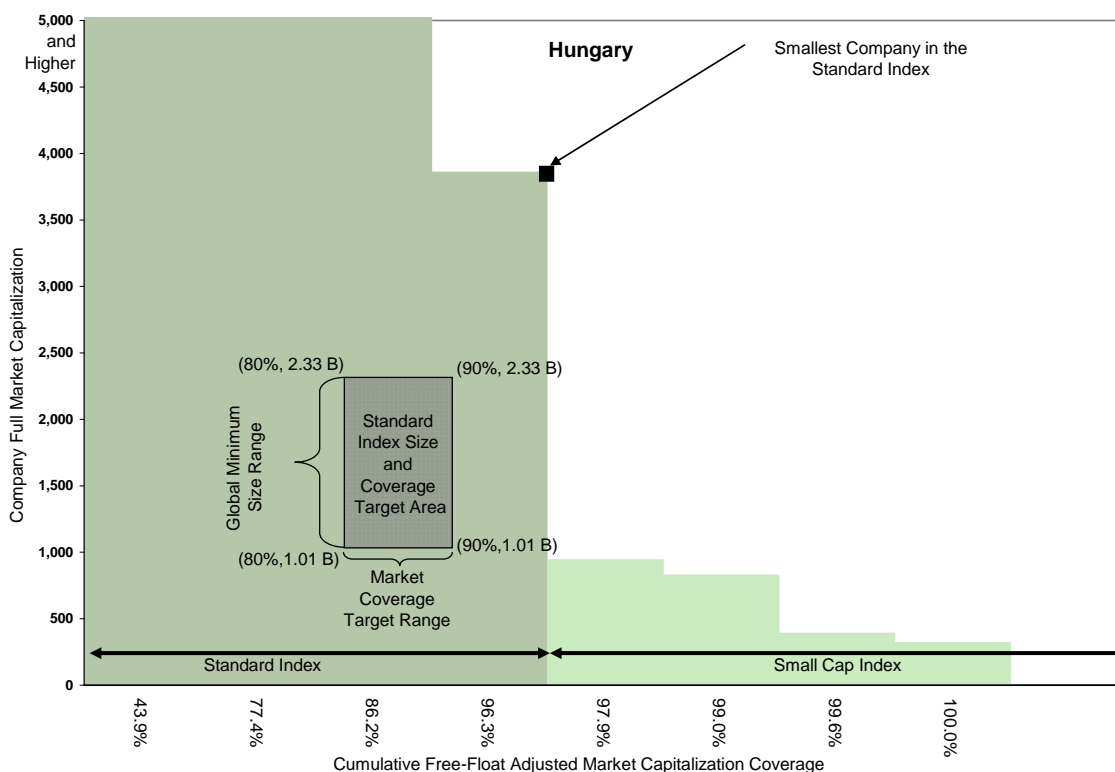
**Example:**

For the Pakistan 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 Pakistan Market Investable Equity Universe. In this example, the full market capitalization of the last company counted is below the lower bound of the Global Minimum Size Range. Therefore, companies are subtracted until the smallest company has a full market capitalization at or above the lower bound of the Global Minimum Size Range for the Standard segment. In this case, the cumulative free float-adjusted market capitalization coverage is below 80%, the lower bound of the Market Coverage Target Range. The rank of the smallest company defines the Segment Number of Companies (8) and its full market capitalization of USD 1.0 billion defines the Market Size-Segment Cutoff between the Standard and the Small Cap segment in Pakistan.



**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

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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.
- 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 remain in the Global Investable Equity Universe

### 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 remain in the Global Investable Equity Universe.

### 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 2/3<sup>rd</sup> 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 alternative listings such as Depository Receipts that do meet such requirements can be considered for inclusion. Depository Receipts can only be considered if they are listed in the same geographical region as the local listing of the underlying security.

### 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 remain in the Global Investable Equity Universe.

### 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>1</sup> is equal or above the lower bound of the Global Minimum Size Reference, 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 Equity Universe 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

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<sup>1</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.

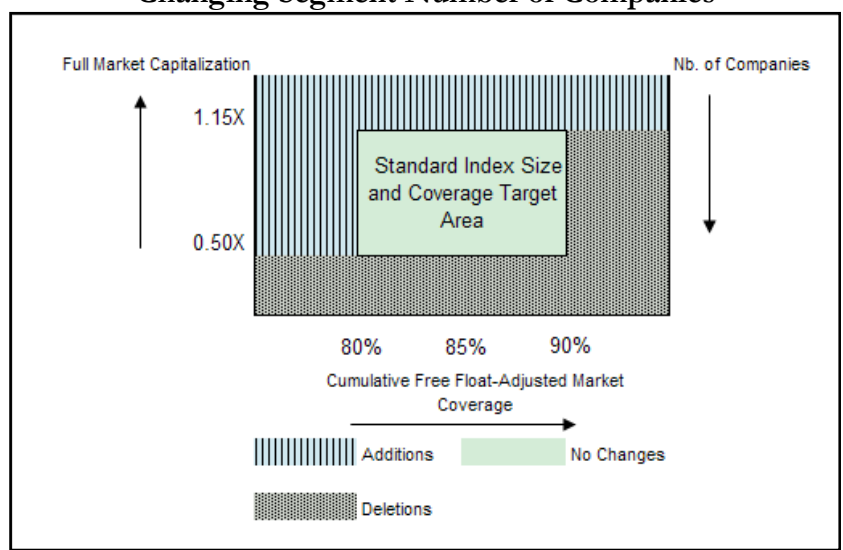
float-adjusted market capitalization coverage at this company rank are used to verify that the Initial Segment Number of Companies falls within the Size and Coverage Target Area for the Size Segment Index. If it does, the Segment Number of Companies post SAIR becomes equal to this Initial Segment Number 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.

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, or 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.

**Changing Segment Number of Companies**



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 lower boundary of the Global Minimum Size Range, 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.
  - 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 a SAIR, companies are assigned with the following priority to the Size Segments until the Segment Number of Companies is achieved:

- Current constituents greater than the Market Size-Segment Cutoff.
- Newly eligible companies with a full market capitalization greater than the Market Size-Segment Cutoff.
- Companies in the lower Size Segment Index that are above the upper buffer threshold of the

lower size segment. At the SAIR, this threshold is set at 50% above the Market Size-Segment Cutoff. (Buffer zones for size segments are explained in more detail below).

- Companies in the lower buffer of the index in descending capitalization order, until the threshold of the buffer is reached. At the SAIR this threshold is set at 33% below the Market Size-Segment Cutoff.
- 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.

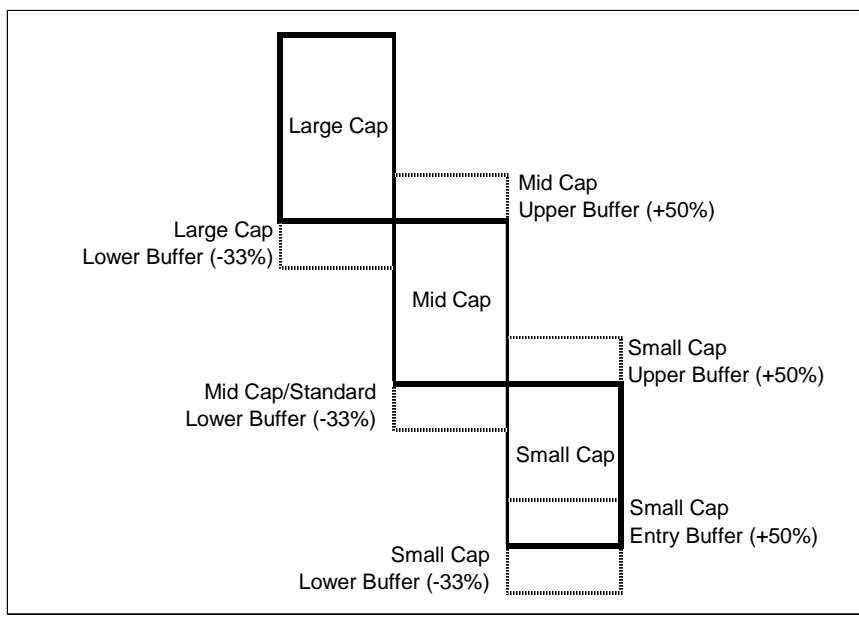
### 3.1.5.1 Using Buffer Zones to Manage the Migration of Companies between Size Segment Indices

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, 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](#).

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. In addition, existing Standard Index constituents may remain in the size-segment if:

- The 3-month ATVR and Frequency of Trading is at least 10% and 80% respectively for Developed Markets
- The 3-month ATVR and Frequency of Trading is 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 alternative listings such as Depository Receipts that do meet

such requirements may be considered for inclusion. Depository 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 index within the family.

Current constituent securities for which there is less than 25% foreign room may remain in the Standard Index. Current constituent securities for which there is no foreign room left may remain in the Standard Index, but their weight may be reduced by the application of a Limited Investability Factor (LIF).

### 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. 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. This annual review is then implemented at one of the SAIRs, according to a published schedule.
- Changes in FIFs that result from events that occurred in the course of the past quarter. These are identical to those typically implemented during Quarterly Index Reviews, as outlined in [Sub-section: 3.2.2. Quarterly Index Review Changes in FIFs](#).

### 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 3.2.3: Quarterly Index Review of Changes in Number of Shares](#).

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

In general, data as of the end of February and end of August, incorporating all changes subsequent to the February and August QIRs is used for updating the Equity Universe. The cutoff date for market capitalization and prices is generally any one of the last 10 business days of April and October for the May and the November SAIRs respectively.

Please refer to [Appendix VII: Policy Regarding Market Closures During Index Reviews](#) for details on MSCI Barra'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 the Size Segment Indices

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 greater than the Market Size-Segment Cutoff.
- Companies in the lower Size Segment Index that are above the upper buffer threshold of the lower size segment.
- Companies in the lower buffer of the index in descending full market capitalization order, until the threshold of this buffer is reached.
- The largest companies from the upper buffer of the 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 is at least 10% and 80% respectively for Developed Markets
- The 3-month ATVR and Frequency of Trading is 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 is at least 5% and 80% respectively for Developed Markets
- The 3-month ATVR and Frequency of Trading is at least 5% and 70% respectively for Emerging Markets

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 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/AIR or 3 days after, will be made effective to coincide with the QIR/AIR. 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.

### 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>1</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

<sup>1</sup> These changes will be implemented during a QIR provided they satisfy one of the following conditions:

- 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.

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 Depository 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.

### 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. 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.

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.

## 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/methodology/meth\\_docs/MSCI\\_Mar07\\_CorporateEventsMethodology.pdf](http://www.msci.com/methodology/meth_docs/MSCI_Mar07_CorporateEventsMethodology.pdf).

### 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 Barra 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 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. 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. Any company not added to the Standard or Small Cap Index based on its free float-adjusted market capitalization is also excluded from the Investable Market Index.

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 Index or moves from the Small Cap Index to the Standard Index, the style characteristics of the affected securities are reviewed. 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.

The guidelines regarding significant market capitalization changes described above apply in most corporate events cases. For corporate events not described above or combinations of different types of corporate events and other exceptional cases, MSCI Barra 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](#).

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, securities spun-off from existing constituents will be considered for early inclusion at the time of the event.

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: 3.3.1.2](#), 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.

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. Any company not added to the Standard or Small Cap Index based on its free float-adjusted market capitalization is also excluded from the Investable Market Index. 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. 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. 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. In addition, when a constituent company acquires or merges with a non-constituent company or spins-off another company, the securities of the constituent company may be removed from the indices, if, for example, these securities no longer have the required size as a result of the event.

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

In addition, when a constituent company is involved in a corporate event, the securities of the constituent company are removed from the indices if due to the event they no longer pass the investability screens described in [Sub-section 2.2](#). Conversions of a constituent's share class into another share class resulting in the deletion of one or more share classes in the indices are also handled in the same manner.

### 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 significant in size and meet all the MSCI Barra

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.

Securities may also be considered for early inclusion in other significant cases, including but not limited to those resulting from removal or relaxation of FOLs, a large additional offering of an already listed security, consolidation or restructuring in the industry giving rise to a large new company. Such cases will be treated in the same way as IPOs of significant size.

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](#) and 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 trading day.

### 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

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

The changes are typically announced at least ten business days prior to the changes becoming effective in the indices as an "expected" announcement, or as an "undetermined" announcement, when the effective dates are not known yet or when aspects of the event are uncertain. MSCI Barra 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. The full list of all new and pending changes is delivered to clients on a daily basis, at 5:30 PM US Eastern Time (ET) 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 Barra during market hours are usually linked to late company disclosure of corporate events or unexpected changes to previously announced corporate events.

In the case of secondary offerings representing more than 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 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.

If warranted, MSCI Barra may make additional announcements for events that are complex in nature and for which additional clarification could be beneficial.

#### **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 Barra 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 Barra 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 Frontier Markets Indices

### 4.1 Frontier Markets Definition

MSCI Barra 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>1</sup>
- do not belong to countries undergoing a period of extreme economic and political instability

MSCI Barra then applies the following materiality requirement:

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

#### 4.1.1 Updating MSCI Frontier Markets Index Coverage

MSCI Barra 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.

### 4.2 Change in Classification between Frontier Market and Emerging Market

Changes in the classification of markets between frontier and emerging are determined solely on the basis of market accessibility and securities' investability characteristics, unlike in the case of Emerging Market-Developed Market reclassifications where sustainable economic development also plays a significant role.

MSCI Barra considers both qualitative and quantitative investability requirements when determining the potential reclassification of a Frontier Market as an Emerging Market for inclusion in the MSCI Emerging Markets Index.

Qualitative requirements include, among others, the degree of openness of the market to the international investment community (i.e., the absence of drastic foreign investment restrictions), and a relatively established and well-tested operational framework.

In order to meet the quantitative requirements Frontier Markets must additionally fulfill the minimum size and liquidity requirements as defined for Emerging Markets.

MSCI Barra monitors on an ongoing basis the current Frontier Markets for potential reclassification as an Emerging Market for inclusion in the MSCI Emerging Markets Index, as well as the current Emerging Markets for potential reclassification as a Frontier Market for inclusion in the MSCI Frontier Markets Index. Before taking any decision of inclusion or deletion of a country in or from the Emerging Markets eligible universe, a public consultation will be conducted with market participants. Any changes would be

<sup>1</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.

announced to the public and to clients at the same time with sufficient lead time ahead of implementation.

### 4.3 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 MSCI Global Investable Market Indices Methodology. The main difference in the index family structure for the MSCI Frontier Markets Indices is that only the Standard Indices are constructed. Size segmentation into Large Cap and Mid Cap of the Standard Index is not offered. Given the limited number of investable companies in these countries, a Small Cap Index is not created and hence an Investable Market Index is also not available.

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 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.

Other differences in terms of minimum size and liquidity requirements are described below.

#### 4.3.1 Determining the Market Investable Equity Universes

##### 4.3.1.1 Equity Universe Minimum Size Requirement

This investability screen is applied at the company level.

The Equity Universe Minimum Sizes applied to the MSCI Frontier Markets Indices are derived from the ones used for the MSCI Global Investable Market Indices.

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 corresponding Equity Universe Minimum Size Requirement levels are set at:

- Larger Frontier Markets: Equal to the Global Investable Market Indices Equity Universe Minimum Size Requirement (refer to section 2.2.1, § 2)
- Smaller Frontier Markets: 0.5 times the Global Investable Market Indices Equity Universe Minimum Size Requirement

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

### 4.3.1.2 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.

Example:

If, using the definition in section 2.2.1, the Equity Universe Minimum Size Requirement is set at USD 172 million, then a security in a larger market must have a free float-adjusted market capitalization equal to or higher than USD 86 million to be eligible for inclusion in a Market Investable Equity Universe, and USD 43 million in a smaller market.

### 4.3.1.3 Minimum Liquidity Requirement

This investability screen is applied at the individual security level.

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% Annualized Traded Value Ratio (ATVR). This rule is referred to as the Frontier Markets Liquidity Requirement.

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 liquidity categorization. MSCI Barra considers several variables for the liquidity categorization of each Frontier Market:

- The free float-adjusted market capitalization coverage of the Investable Equity Universe by the Standard Index resulting from the application of the three minimum liquidity requirements
- The differences in the Standard Index free float-adjusted market capitalization coverage when applying different liquidity requirement levels.
- Recent economic and stock market development.
- Future economic and stock market development expectations.

### 4.3.1.4 Minimum Foreign Inclusion Factor Requirement

In general, a security must have a Foreign Inclusion Factor (FIF) equal to or larger than 0.15 to be eligible for inclusion in a Market Investable Equity Universe of a Frontier Market.

Exceptions to this general rule are made in cases where the exclusion of securities of a relatively large company would compromise the indices' ability to fully and fairly represent the characteristics of the

underlying market. For a security with a FIF lower than 0.15 to be included in the indices, its free float-adjusted market capitalization must be at least 1.8 times the minimum free float-adjusted market capitalization required for the Equity Universe Minimum Size.

### 4.3.1.5 Minimum Foreign Room Requirement

For a security that is subject to a FOL to be included at its entire free float adjusted market capitalization in the MSCI Frontier Markets Indices, the proportion of shares still available to foreign investors relative to the maximum allowed (referred to as “foreign room”) must be at least 25%. In the case that a security’s “foreign room” is less than 25%, MSCI Barra will use an “adjustment factor” reflecting the actual level of “foreign room” to adjust the securities final FIF.

The “adjustment factor” for new index constituents is determined as follows:

- If the “foreign room” is equal or higher than 25% the “adjustment factor” equals 1.
- If the “foreign room” is less than 25% and equal or higher than 18.75% the “adjustment factor” equals 0.75.
- If the “foreign room” is less than 18.75% and equal or higher than 12.5% the “adjustment factor” equals 0.5.
- If the “foreign room” is less than 12.5% and equal or higher than 6.25% the “adjustment factor” equals 0.25.
- If the “foreign room” is less than 6.25% the “adjustment factor” equals 0.

“Adjustment factors” are reviewed on a quarterly basis at every Index Review. “Foreign room” decreases resulting in difficulties to trade a stock may result in reassessment of the “adjustment factor” between the Index Reviews. Decreases in “foreign room” are reflected as follows:

- If the “foreign room” remains above 18.75% the “adjustment factor” remains unchanged.
- If the “foreign room” decreases below 18.75% and remains equal or higher than 12.5% the “adjustment factor” equals 0.75.
- If the “foreign room” decreases below 12.5% and remains equal or higher than 6.25% the “adjustment factor” equals 0.5.
- If the “foreign room” decreases below 6.25% and remains higher to 0% the “adjustment factor” equals 0.25.
- If the “foreign room” equals 0% the “adjustment factor” equals 0.

The “adjustment factor” will be applied to the security’s FOL and the resulting adjusted FOL will be compared to the actual foreign free float. If the adjusted FOL is smaller than the actual foreign free float, the final FIF will be based on the adjusted FOL. Otherwise, the final FIF will be based on the actual foreign free float.

Example 1:

- FOL: 49%
- Adjustment Factor: 0.75
- Foreign Float: 44%

$FOL * Adjustment\ Factor = 49\% * 0.75 = 36.75\%$

As the FOL \* Adjustment Factor is less than the Foreign Float, the FIF will be reduced from 0.45 (=Foreign Float rounded up to nearest 5%) to 0.37 (=FOL \* Adjustment Factor rounded to the nearest 1%).

Example 2:

- FOL: 49%
- Adjustment Factor: 0.75
- Foreign Float: 23%

$FOL * Adjustment\ Factor = 49\% * 0.75 = 36.75\%$

As the FOL \* Adjustment Factor is greater than the Foreign Float, the FIF will be maintained at 0.25 (=Foreign Float rounded up to nearest 5%).

#### 4.3.2 Defining Market Capitalization Size Segments for Each Market

Once a Market Investable Equity Universe is defined, it is used as the underlying universe for the creation of a Standard Index.

##### 4.3.2.1 Defining the Global Minimum Size Reference for the Standard

The Global Minimum Size References applied to the MSCI Frontier Markets Indices are linked to the Global Minimum Size Reference of the Emerging Markets under the MSCI Global Investable Market Indices Methodology.

The Global Minimum Size Reference for Larger Frontier Markets is set :

- Equal to the Emerging Markets Global Minimum Size Reference (refer to section 2.3.2.1)

The Global Minimum Size Reference for Smaller Frontier Markets is set at:

- 0.5 times the Emerging Markets Global Minimum Size Reference

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

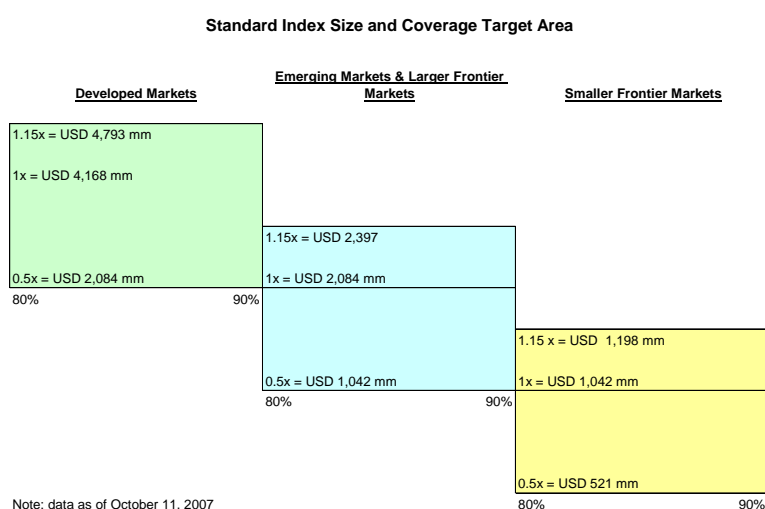
Each country is analyzed independently to determine the most suitable size categorization. MSCI Barra considers several factors for the minimum size categorization of each Frontier Market:

- The number of Standard Index constituents.
- The free float-adjusted market capitalization coverage of the Investable Equity Universe by the Standard Index 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 final Global Minimum Size Reference is applied to all securities belonging to a specific Frontier Market.

### 4.3.2.2 Determining the Global Minimum Size Range for the Standard Index

The Global Minimum Size Range for the Standard is determined by a range of 0.5 times to 1.15 times the Global Minimum Size Reference for the Standard Index.



### 4.3.2.3 Determining the Standard Segment Number of Companies and Associated Standard Segment Cutoff

The Standard Segment Cutoff is derived by identifying a size cutoff which falls within, or as close as possible to, the Size and Coverage Target Area for that Standard Index. 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 Barra notes the respective full market capitalization of the companies that provide an 85% free float-adjusted market capitalization coverage.
- If the full market capitalization of the relevant company lies within the Global Minimum Size Range, then:
  - The full market capitalization of the relevant company defines Standard Segment Cutoff at that point in time.
  - The number of companies with full market capitalization greater than or equal to the relevant company provides the Standard 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 is equal or higher than the lower bound of the Global Minimum Size Range for the Standard 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 Standard segment.
  - The full market capitalization of the last company defines the Standard Segment Cutoff and the Standard 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.

#### 4.3.2.4 Final Standard Segment Investability Requirements

The MSCI Frontier Markets Indices Methodology does not apply any Final Standard Segment Investability Requirements. As a result, Standard Index constituents will fulfill the same minimum float-adjusted market capitalization and liquidity requirements as defined for the Investable Equity Universe.

#### 4.3.2.5 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 1.5 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.

### 4.3.3 Semi-Annual Index Reviews in May and November

#### 4.3.3.1 Assigning Companies to the Standard Index at Semi-Annual Index Reviews

During a Semi-Annual Index Review, companies are assigned with the following priority to the Standard Index until the Standard Number of Companies is achieved:

- Current constituents greater than the Standard Index Cutoff.
- Non-constituents exhibiting a full market capitalization greater than 1.5 times the Standard Index Cutoff
- Current constituents in the lower buffer of the Standard Index in descending capitalization order, until the threshold of the buffer is reached. At the Semi Annual Index Review this threshold is set at 33% below the Standard Index Cutoff.
- Non-constituents with a full market capitalization greater than the Standard Index Cutoff.

### 4.3.4 Quarterly Index Reviews in February and August

#### 4.3.4.1 Assigning Companies to the Standard Index at Quarterly Index Reviews

During a Quarterly Index Review, companies are assigned with the following priority to the Standard Index until the Standard Number of Companies is achieved:

- Current constituents greater than the Standard Cutoff.
- Non-constituents exhibiting a full market capitalization greater than 1.8 times the Standard Cutoff and a float-adjusted market capitalization greater than 1.8 times the respective Equity Universe Minimum Size Requirement (refer to section 5.3.1.1, § 4)
- Current constituents in the lower buffer of the Standard Index in descending capitalization order, until the threshold of the buffer is reached. At the Quarterly Index Review this threshold is set at 50% below the Standard Cutoff.

### 4.3.5 Ongoing Event-Related Changes

#### 4.3.5.1 Determining the Interim Standard 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 Standard Index an Interim Standard 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 Standard Index are updated daily.
- On a daily basis, the Standard Segment Cutoff is set to be the full market capitalization of the smallest Standard Index constituent.

- The Interim Standard Segment Cutoff is set to:
  - The lower bound of the Global Minimum Size Range, if the Standard Segment Cutoff is below the lower bound.
  - The upper bound of the Global Minimum Size Range, if the Standard Segment Cutoff is above the upper bound.
  - The Standard Segment Cutoff, if it is within the Global Minimum Size Range.

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

#### 4.3.5.2 IPOs and Other Early Inclusions

In order for an IPO and other newly eligible securities to qualify for early inclusion to the Standard Index, a security must meet the index constituent eligibility rules and guidelines described in Sub-section 5.3.1 and have a company full market capitalization of at least 1.8 times the Interim Market Size-Segment Cutoff and a free float-adjusted market capitalization of at least 1.8 times the respective Equity Universe Minimum Size Requirement (refer to section 5.3.1.1, § 4) as of the close of its first trading day.

## 4.4 Specific Features of the MSCI GCC Countries Indices Methodology

The enhanced MSCI GCC Countries Indices share a methodology similar to that of the MSCI Frontier Markets Indices, with the exception of the index family structure. While for the other Frontier Markets, only the Standard Indices are created, for the MSCI GCC Countries Indices all size segment indices defined in the MSCI Global Investable Market Indices Methodology are constructed and maintained. The size segment indices created are:

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

The MSCI GCC Countries Indices Methodology allows for the use of the Frontier Markets?:

- Minimum Liquidity Requirements
- Minimum Size Requirements
- Final Standard Segment Investability Requirements

All other features of the MSCI GCC Countries Indices Methodology are identical to the MSCI Global Investable Market Indices Methodology.

# Appendices

## Appendix I: Equity Markets and Universe

The tables below provide a list of Stock Exchanges, Market Segments and Eligible Security Classes that MSCI Barra 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 Stock 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	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)
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 AktieTarget	
SWITZERLAND	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
ISRAEL (1)	Tel Aviv Stock Exchange	
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)	MICEX Stock Exchange	
SOUTH AFRICA	Johannesburg Stock Exchange	Main Board AltX
TAIWAN	Taiwan Stock Exchange GreTai Securities Market	
THAILAND	Stock Exchange of Thailand Market for Alternative Investment	
TURKEY	Istanbul Stock Exchange	National Market Second National Market New Economy Market

<sup>1</sup> For a more detailed description of the MSCI universe, please refer to Appendix III

## Eligible Markets (Frontier Markets)

Country Name	Stock Exchange	Market Segment
ARGENTINA	Buenos Aires Stock Exchange	
BAHRAIN	Bahrain Stock Exchange	
BOTSWANA (1)	Botswana Stock Exchange	BSE Domestic Equity Market Venture Capital Market
BULGARIA	Bulgarian Stock Exchange	Official Market
CROATIA	Varazdin Stock Exchange	First Quotation Second Quotation JDD Quotation
	Zagreb Stock Exchange	Official Market Regular Market Public Companies Market
ESTONIA	Tallinn Stock Exchange	Main List Secondary List
GHANA (1)	Ghana Stock Exchange	First Official List Second Official List Third Official List
JAMAICA (1)	Jamaica Stock Exchange	
JORDAN	Amman Stock Exchange	First Market
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	
QATAR	Doha Securities Market	
ROMANIA	Bucharest Stock Exchange	Tier 1 Tier 2 Tier 3
SAUDI ARABIA (2)	Tadawul	
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	Trinidad and Tobago Stock Exchange	First Tier Second Tier
TUNISIA	Bourse de Tunis	Primary Market
UKRAINE	PFTS Stock Exchange	
UNITED ARAB EMIRATES	Abu Dhabi Stock Exchange Dubai Financial Market Dubai International Financial Exchange	
VIETNAM	Hanoi Stock Exchange Ho Chi Minh Stock Exchange	

<sup>1</sup> Added as stand-alone countries at the November 2008 Semi-Annual Index Review

<sup>2</sup> Saudi Arabia is not included in the MSCI Frontier Markets Indices but in the MSCI GCC Countries Domestic Indices

**Eligible Classes of securities (Developed Markets)**

<b>Country Name</b>	<b>Classes of Securities*</b>
AUSTRALIA	Ordinary shares Preferred shares (1)
AUSTRIA	Ordinary shares Preferred shares (1) Participation certificates
BELGIUM	Ordinary shares Preferred shares (1)
CANADA	Ordinary shares Units of Income Trusts
DENMARK	"A" shares "B" shares
FINLAND	"A" shares "B" shares "K" 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	"A" shares "B" shares
IRELAND	Ordinary shares Units
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	"A" shares "B" shares Primary Capital Certificates
PORTUGAL	Ordinary shares
SINGAPORE	Ordinary shares
SPAIN	Ordinary shares Preferred shares (1)
SWEDEN	"A" shares "B" shares "C" shares Swedish Depositary Receipts
SWITZERLAND	Registered shares Bearer shares Participation certificates Dividend-right certificates
UNITED KINGDOM	Ordinary shares Units
USA	Common shares Tracking Stock

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

\*GDRs can also be considered in case of low liquidity of the local listing

**Eligible Classes of securities (Emerging Markets)**

<b>Eligible Classes of Securities</b>	
<b>Country Name</b>	<b>Classes of Securities</b>
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
ISRAEL (1)	Common shares Preferred shares (2) ADR (3)
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 US listings are eligible for Russia and Israel despite being in a different time-zone.*

## Eligible Classes of securities (Frontier Markets)

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

<sup>1</sup> Added as stand-alone countries at the November 2008 Semi-Annual Index Review

<sup>2</sup> Preferred shares that exhibit characteristics of equity securities are generally eligible

<sup>3</sup> Saudi Arabia is not included in the MSCI Frontier Markets Indices but in the MSCI GCC Countries Domestic Indices

### 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, 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 (Società di investimento immobiliare quotata)
- Japan: J-REIT (Japanese Real Estate Investment Trust)
- Malaysia, Thailand: REIT (Real Estate Investment Trust/Property Trust Funds)
- 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 Yatırım Ortaklığı

MSCI Barra 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 Barra 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 280 mm USD 14.5 mm 2.5% ATVR	3 USD 560 mm USD 280 mm 15% ATVR	5 USD 1120 mm USD 560 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 2007: GNI per capita of USD 11,456 (World Bank, Atlas method)  
 \*\* Minimum in use for the May 2009 Semi-Annual Index Reviews, 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. Emerging Markets country indices with fewer than three companies meeting the Emerging Markets size and liquidity requirements for four consecutive Semi-Annual Index Reviews will be reclassified as Frontier Markets.

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 Barra 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. Every June, MSCI Barra 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
<b>Openness to foreign ownership</b>	
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.
<b>Ease of capital inflows / outflows</b>	
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.
<b>Efficiency of the operational framework</b>	
<b>Market entry</b>	
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.
<b>Market organization</b>	
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.
<b>Market infrastructure</b>	
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 a clear and formal separation between the broker trading account and the investor's custody account,
Registry / Depository	Well functioning central registry and 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.
<b>Stability of institutional framework</b>	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

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This appendix outlines the guidelines MSCI Barra 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 Barra 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.

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

**Israel:** The MSCI Israel universe includes companies incorporated in Israel with a listing on either the Tel-Aviv Stock Exchange or a US stock exchange.

**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 a listing in Russia.

**China<sup>1</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\$).

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.

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<sup>1</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.

### 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.

When MSCI Barra 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.

### Appendix IV: Free Float Definition and Estimation Guidelines

MSCI Barra 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 Barra'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 Barra'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 Barra 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 Barra 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 Barra 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>1</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.
<b>STRATEGIC SHAREHOLDER TYPES (NON-FREE FLOAT)</b>	
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>2</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 Barra 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 1/6<sup>th</sup>), 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 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.
- 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 Barra 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 Barra

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.

	<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>	= $((0.40 * 1,000) - 100) / 500$		
	= <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 depository receipts may continue to be available to foreign investors. In such cases, the depository 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 Barra 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.

$$\text{Free Float-Adjusted for Limited Investability} = \text{Free Float for Foreign Investors times the LIF}$$

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 Barra will additionally take into consideration the proportion of shares still available to foreign investors relative to the maximum allowed (referred to as "foreign room"). Securities with less than 25% foreign room are typically not eligible for index inclusion. However, current constituent securities for which there is less than 25% foreign room may remain in the index. Current constituent securities for which there is no foreign room left may remain in the index, but their weight may be reduced by the application of a Limited Investability Factor (LIF).

### 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.

$$\text{Free Float-Adjusted Market Capitalization} = \text{FIF times the Security's Full Market Capitalization}$$

The following examples illustrate the calculation of the free float-adjusted market capitalization of securities with and without FOLs.

**Example:**

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

**Securities Not Subject to FOLs**

	<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 Depository Receipts in Thailand

As part of the Capital Market Development Plan, the Securities and Exchange Commission of Thailand set up Non-Voting Depository Receipts (NVDRs) to improve the investability of the Thai capital market. NVDRs are depository 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 Barra 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 per cent of the existing constituent's total outstanding company number of shares and must represent at least the minimum size for addition in Thailand as defined in [Appendix IX: Minimum Market-Relative Liquidity Requirements for the Standard Index](#).

MSCI Barra 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 Barra 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 Barra 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:**  
**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:**

	<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 Barra 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.

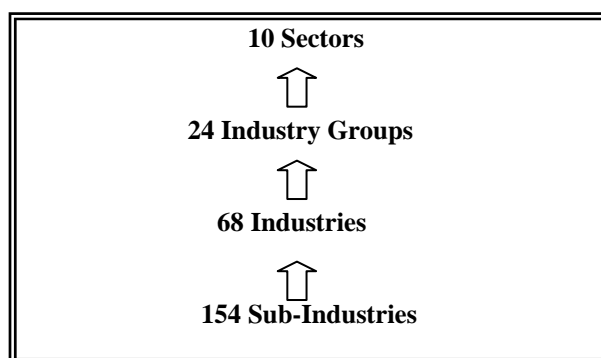
### Key Features of the GICS

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.

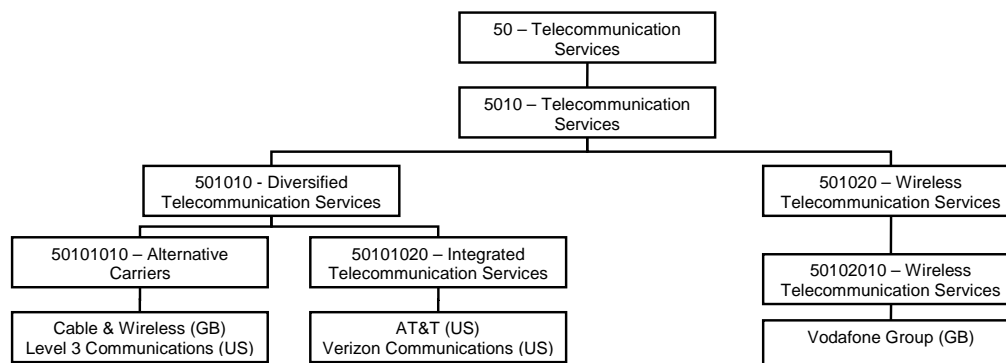
## The GICS: Market Demand-Oriented

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
<b>Revenues</b>	60%	19%	3%	18%
<b>Earnings</b>	75%	24%	0%	15%

Classified as:

<b>GICS Level</b>	<b>GICS Code</b>	<b>Code Description</b>
<b>Sector</b>	45	Information Technology
<b>Industry Group</b>	4520	Technology Hardware & Equipment
<b>Industry</b>	452010	Communications Equipment
<b>Sub-Industry</b>	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)**

<b>2006 Results</b>	<b>Infrastructure</b>	<b>Industrial</b>	<b>Healthcare</b>	<b>NBC Universal</b>	<b>Commercial Finance</b>	<b>Consumer Finance</b>
<b>Revenues</b>	30%	21%	10%	10%	15%	14%
<b>Earnings</b>	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	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	15105010 Forest Products				
	15105020 Paper Products				
20 Industrials	2010 Capital Goods			201010 Aerospace & Defense	20101010 Aerospace & Defense
		201020 Building Products	20102010 Building Products		
		201030 Construction & Engineering	20103010 Construction & Engineering		
		201040 Electrical Equipment	20104010 Electrical Components & Equipment		
			20104020 Heavy Electrical Equipment		
		201050 Industrial Conglomerates	20105010 Industrial Conglomerates		
		201060 Machinery	20106010 Construction & Farm Machinery & Heavy Trucks		
			20106020 Industrial Machinery		
		201070 Trading Companies & Distributors	20107010 Trading Companies & Distributors		
			20107010 Commercial Printing		
		2020 Commercial & Professional Services	2020 Commercial & Professional Services	202010 Commercial Services & Supplies	20201050 Environmental & Facilities Services
					20201060 Office Services & Supplies
					20201070 Diversified Support Services
					20201080 Security & Alarm Services
					20201080 Human Resource & Employment Services
	202020 Professional Services			20202010 Research & Consulting Services	
				20202020 Air Freight & Logistics	
				20202020 Airlines	
				20202020 Marine	
				20202020 Railroads	
	2030 Transportation	2030 Transportation	203010 Air Freight & Logistics	20301010 Air Freight & Logistics	
				20301020 Airlines	
				20301030 Marine	
				20301040 Railroads	
				20301040 Trucking	
203050 Transportation Infrastructure			20305010 Airport Services		
			20305020 Highways & Railroads		
			20305030 Marine Ports & Services		
			20305030		
			20305030		
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	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
				25203030 Textiles	
	2530 Consumer Services	2530 Consumer Services	253010 Hotels, Restaurants & Leisure	25301010 Casinos & Gaming	
				25301020 Hotels, Resorts & Cruise Lines	
				25301030 Leisure Facilities	
				25301040 Restaurants	
				25301040 Education Services	
			253020 Diversified Consumer Services	25302010 Specialized Consumer Services	
				25302020 Advertising	
				25302020 Broadcasting	
				25302025 Cable & Satellite	
				25302030 Movies & Entertainment	
	2540 Media	2540 Media	254010 Media	25401010 Publishing	
25401010 Distributors					
25401010 Catalog Retail					
25401020 Internet Retail					
25401020 Department Stores					
254020 Retail			25402010 General Merchandise Stores		
			25402010 Apparel Retail		
			25402020 Computer & Electronics Retail		
			25402030 Home Improvement Retail		
			25402040 Specialty Stores		
2550 Retail	2550 Retail	255010 Distributors	25501010 Department Stores		
			25501020 General Merchandise Stores		
		255030 Multiline Retail	25503010 Apparel Retail		
			25503020 Computer & Electronics Retail		
			25503030 Home Improvement Retail		
255040 Specialty Retail	25504010 Specialty Stores				
	25504020 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	
						30101040	Hypermarkets & Super Centers	
			3020	Food, Beverage & Tobacco	302010	Beverages	30201010	Brewers
							30201020	Distillers & Vintners
					30201030	Soft Drinks		
					302020	Food Products	30202010	Agricultural Products
							30202030	Packaged Foods & Meats
			3030	Household & Personal Products	303010	Tobacco	30203010	Tobacco
		Household Products				30301010	Household Products	
		Personal Products				30302010	Personal Products	
35	Health Care	3510	Health Care Equipment & Services	351010	Health Care Equipment & Supplies	35101010	Health Care Equipment	
							35101020	Health Care Supplies
							35102010	Health Care Distributors
							35102015	Health Care Services
					35102020	Health Care Facilities		
					35102030	Managed Health Care		
			3520	Pharmaceuticals, Biotechnology & Life Sciences	352010	Health Care Technology	35103010	Health Care Technology
							Biotechnology	35201010
					352020	Pharmaceuticals	35202010	Pharmaceuticals
					352030	Life Sciences Tools & Services	35203010	Life Sciences Tools & Services
40	Financials	4010	Banks	401010	Commercial Banks	40101010	Diversified Banks	
							40101015	Regional Banks
							40102010	Thrifts & Mortgage Finance
							40201020	Other Diversified Financial Services
			4020	Diversified Financials	402010	Diversified Financial Services	40201030	Multi-Sector Holdings
							40201040	Specialized Finance
							40202010	Consumer Finance
							40203010	Asset Management & Custody Banks
					40203020	Investment Banking & Brokerage		
					40203030	Diversified Capital Markets		
			4030	Insurance	403010	Insurance	40301010	Insurance Brokers
							40301020	Life & Health Insurance
							40301030	Multi-line Insurance
							40301040	Property & Casualty Insurance
					40301050	Reinsurance		
			4040	Real Estate	404020	Real Estate Investment Trusts (REITs)	40402010	Diversified REITs
							40402020	Industrial REITs
							40402030	Mortgage REITs
							40402040	Office REITs
							40402050	Residential REITs
		40402060				Retail REITs		
		40402070				Specialized REITs		
		40403010				Diversified Real Estate Activities		
			40403020	Real Estate Operating Companies				
			40403030	Real Estate Development				
			40403040	Real Estate Services				
45	Information Technology	4510	Software & Services	451010	Internet Software & Services	45101010	Internet Software & Services	
							45102010	IT Consulting & Other Services
							45102020	Data Processing & Outsourced Services
							45103010	Application Software
					45103020	Systems Software		
			4520	Technology Hardware & Equipment	452010	Communications Equipment	45103030	Home Entertainment Software
							45201020	Communications Equipment
							45202010	Computer Hardware
							45202020	Computer Storage & Peripherals
					452030	Electronic Equipment, Instruments & Components	45203010	Electronic Equipment & Instruments
					45203015	Electronic Components		
					45203020	Electronic Manufacturing Services		
					45203030	Technology Distributors		
					45204010	Office Electronics		
	4530	Semiconductors & Semiconductor Equipment	453010	Semiconductors & Semiconductor Equipment	45301010	Semiconductor Equipment		
					45301020	Semiconductors		
50	Telecommunication Services	5010	Telecommunication Services	501010	Diversified Telecommunication Services	50101010	Alternative Carriers	
							50101020	Integrated Telecommunication Services
							50102010	Wireless Telecommunication Services
55	Utilities	5510	Utilities	551010	Electric Utilities	55101010	Electric Utilities	
							55102010	Gas Utilities
							55103010	Multi-Utilities
							55104010	Water Utilities
							55105010	Independent Power Producers & Energy Traders

## GICS Structure Review Frequency

MSCI Barra 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.

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### Appendix VI: Price Source for Securities

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For a full updated list of prices used in MSCI Barra's end of day index calculations by country, please refer to the MSCI Index Calculation Methodology that can be found at [www.msclubarra.com/products/indices/stdindex/methodology.html](http://www.msclubarra.com/products/indices/stdindex/methodology.html).

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 Barra 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.

#### Israel and Russia

A number of factors are analyzed in order to determine the most appropriate price source for the MSCI Israel and Russia index constituents. The eligible universe includes securities listed on more than one stock exchange, as well as depositary receipts. The factors considered include the trading frequency, traded volumes and traded value on each exchange, amongst others. The price source will be determined independently for each security. This may result in different price sources for the securities of the same company.

#### MSCI Russia ADR/GDR Index & MSCI Russia Alternative Listing Index

In order to reflect the performance of the Russian market on certain alternative listings to those used in the construction of the MSCI Russia Index, MSCI Barra has designed two additional indices that use alternative price sources to the MSCI Russia Index.

The first index is the MSCI Russia ADR/GDR Index, which is constructed by substituting the constituents of the MSCI Russia Index with the most liquid American Depository Receipt (ADR) or Global Depository Receipt (GDR) for each constituent. Constituents of the MSCI Russia Index without ADR or GDR listings are excluded from the MSCI Russia ADR/GDR Index.

The second index is the MSCI Russia Alternative Listing Index, which is designed to track the Ruble-denominated securities trading on MICEX, as well as ADRs and GDRs of the constituents of the MSCI Russia Index. All constituents of the MSCI Russia Index for which RTS listings are used are substituted with the relevant MICEX listings. If for a given RTS security, no MICEX listing is available, then the most liquid ADR or GDR is included. If neither a MICEX nor an ADR or GDR listing is available, then the RTS listing is kept in the MSCI Alternative Listing Index.

Changes in the constituents of the MSCI Russia ADR/GDR Index and the MSCI Russia Alternative Listing Index may result from Quarterly or Semi-Annual Index Reviews of the MSCI Russia Index, from

corporate event implementation or from a Quarterly Listing Review.

All the deletions from the MSCI Russia Index resulting from either Quarterly Index Reviews or Semi-Annual Index Reviews will be simultaneously deleted from the MSCI Russia ADR/GDR Index and the MSCI Alternative Listing Index. Additions to the MSCI Russia Index will be added to the MSCI Russia ADR/GDR Index only if a liquid ADR or GDR exists. ADRs and GDRs are deemed liquid if their ATVR is 15% or above. If more than one depository receipts exists, the most liquid listing is included in the MSCI Russia ADR/GDR Index. All the additions to the MSCI Russia Index will be simultaneously added to the MSCI Alternative Listing Index. The sequence of the listing selection is conducted as described above.

The implementation of corporate events in the MSCI Russia ADR/GDR Index and the MSCI Russia Alternative Listing Index mirrors the implementation of these events in the MSCI Russia Index. Despite the full replication of the event maintenance, the impact of a given event on the MSCI Russia Index, the MSCI Russia ADR/GDR Index and the MSCI Alternative Listing Index may be different as a result of potential price discrepancies between respective listings at the time of the implementation of the event.

There is also a Quarterly Listing Review, which coincides with the regular Index Reviews for the MSCI Russia Index. At the time of this review, all listings for all constituents of the MSCI Russia Index are examined. If a new liquid ADR or GDR for a current constituent of the MSCI Russia Index, which is not a constituent of the MSCI Russia ADR/GDR Index is identified, it is added to the MSCI Russia ADR/GDR Index as part of this Index Review. Similarly, if a new liquid MICEX or ADR/GDR listing is identified for a constituent of the MSCI Russia Index for which RTS listing is used, then the RTS listing is substituted by the MICEX listing or the ADR/GDR if the MICEX listing is not available.

### 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.

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## **Appendix VII: Policy Regarding Trading Suspensions During Index Reviews**

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

MSCI Barra will postpone the implementation of index review changes for the Standard Index 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.

#### 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 Barra 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 Barra 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 Barra will evaluate the situation and may apply a different policy.

For smaller countries, however, in the event of unexpected market closures, MSCI Barra 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 Barra will determine its pricing policy for the relevant country on a case-by-case basis. In making its decision, MSCI Barra 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 Barra 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).

In exceptional cases, when stock market holidays in many countries coincide with the scheduled implementation date, MSCI Barra may decide to move the scheduled implementation date to a more appropriate date. In such cases, MSCI Barra would announce such a change in advance.

## 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 98<sup>th</sup> 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 2009 Semi-Annual Index Review are shown below.

**Minimum Market-Relative Liquidity Requirements for the Standard Index**

**Developed Markets**

Country	Minimum ATVR
AUSTRALIA	50%
CANADA	45%
EUROPE	34%
HONG KONG	23%
JAPAN	48%
NEW ZEALAND	20%
SINGAPORE	48%
USA	29%

**Emerging Markets**

Country	Minimum ATVR
BRAZIL	50%
CHILE	15%
CHINA	50%
COLOMBIA	15%
CZECH REPUBLIC	50%
EGYPT	15%
HUNGARY	50%
INDIA	37%
INDONESIA	15%
ISRAEL	50%
KOREA	34%
MALAYSIA	15%
MEXICO	17%
MOROCCO	15%
PAKISTAN	25%
PERU	50%
PHILIPPINES	26%
POLAND	19%
RUSSIA	50%
SOUTH AFRICA	32%
TAIWAN	43%
THAILAND	24%
TURKEY	39%

**Appendix X: MSCI Frontier Markets Indices Country Classification**

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

	ATVR 2.5%		ATVR 5%		ATVR 15%	
<b>Larger Countries</b>						Kuwait
						Nigeria
						Qatar
						United Arab Emirates
<b>Smaller Countries</b>	Botswana	Serbia	Bahrain	Argentina	Romania	
	Ghana	Sri Lanka	Bulgaria	Croatia	Vietnam	
	Jamaica	Trinidad & Tobago	Kazakhstan	Estonia	Vietnam	
	Lebanon	Tunisia	Kenya	Jordan		
	Lithuania	Ukraine	Slovenia	Oman		
	Mauritius			Pakistan		

The categorization is reviewed semi-annually during the May and November Semi-Annual Index Reviews. Argentina and Pakistan have been added to the smaller countries segments during the May 2009 Semi-Annual Index Review. Kazakhstan has moved from the 15% ATVR bracket to the 5% ATVR category.

## Appendix XI: Transition

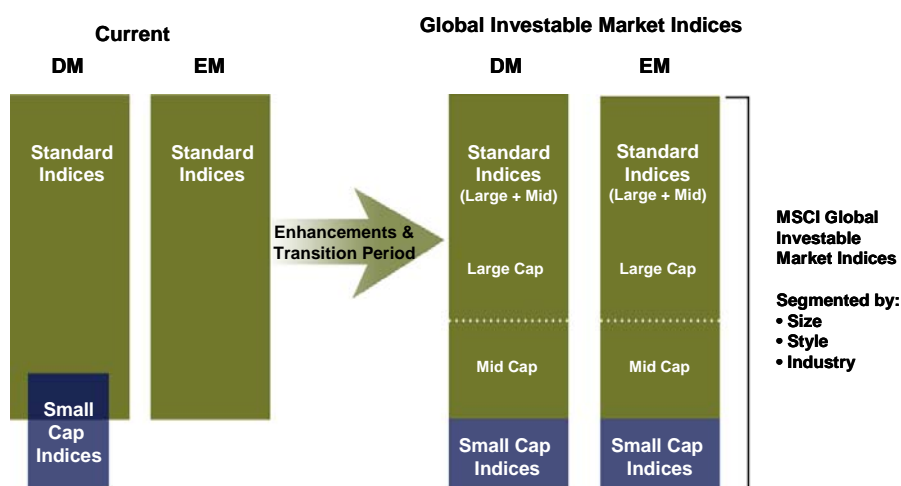
MSCI Barra transitioned the current Standard Index, the Small Cap Index and all indices derived from the Standard Index to the Global Investable Market Indices methodology described in this book at the end of May 2008.

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 Barra 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 Barra'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%  $\pm$  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 were 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 Barra 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 Barra 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

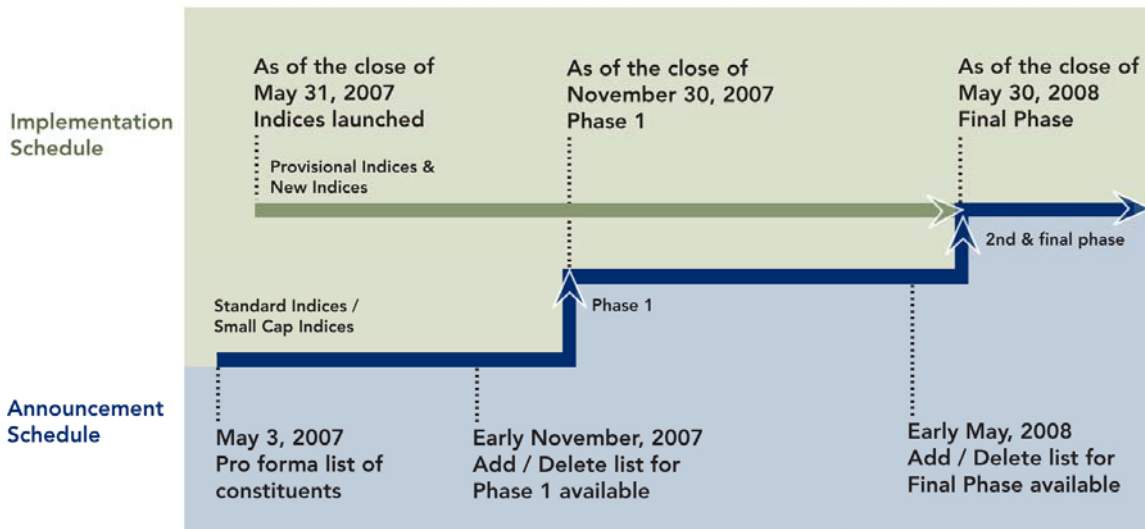
MSCI Barra transitioned the current MSCI GCC Countries Indices to the enhanced MSCI GCC Countries Indices Methodology.

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 Barra 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**

<b>Date</b>	<b>Provisional/New</b>	<b>Standard &amp; Small Cap</b>
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

		<p>Standard Index at their full weight.</p> <p>Migrations between the Provisional Standard and Provisional Small Cap Indices were also reflected in the Standard and Small Cap Indices.</p>
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.	<p>QIR of the current Standard and Small Cap Indices reflecting changes in NOS, FIF etc.</p> <p>Addition of IPOs and newly eligible companies to the Provisional Standard Index Series were reflected in the Standard Index at their full weight.</p> <p>Migrations between the Provisional Standard and Provisional Small Cap Indices were also reflected in the Standard and Small Cap Indices.</p>
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.

The following section has been modified since May 2009:

**Appendix II: Market Classification Framework**

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