

MSCI Global Investable Market Indexes Methodology

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

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Outline of the Methodology Book

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

Section 1 provides an introduction and background to the MSCI Global Investable Market Indexes including the objectives and design of the indexes.

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 indexes.

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

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

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

Section 6 details the principles and the methodology used for MSCI Standalone Market Indexes construction.

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

For more information on the terms used throughout this methodology document please refer to the MSCI Index Glossary on MSCI's website:

https://www.msci.com/eqb/methodology/meth_docs/MSCI_Index_Glossary_-_June_2014.pdf

This book was last updated in August 2019.

1 Introduction to the MSCI Global Investable Market Indexes

For over 40 years, MSCI has constructed the most widely used international equity indexes for institutional investors. The MSCI global equity indexes 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.

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

The MSCI Standard Indexes are composed of the MSCI Large Cap and Mid Cap Indexes. The MSCI Global Small Cap Index transitioned to the MSCI Small Cap Index resulting from the Global Investable Market Indexes methodology, and contains no overlap with constituents of the transitioned MSCI Standard Indexes. Together, the relevant MSCI Large Cap, Mid Cap and Small Cap Indexes make up the MSCI Investable Market Index for each country, composite, sector, and style index that MSCI offers.

Based on transparent and objective rules, the Global Investable Market Indexes 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 indexes 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 set of Size-Segment Indexes, with Standard, Large Cap, Mid Cap, Small Cap, and Investable Market Indexes.

In addition to the innovations listed above, the Global Investable Market Indexes methodology retained 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 indexes using the Global Industry Classification Standard (GICS®).
- 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 Indexes.
- Timely and consistent treatment of corporate events and synchronized rebalancings, globally.

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

2 Constructing the MSCI Global Investable Market Indexes

The MSCI Global Investable Markets Indexes are constructed and maintained at an individual Market¹ level.

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

- Defining the Equity Universe for each Market.
- 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.
- Classifying securities under the Global Industry Classification Standard (GICS®).
- Using a building block approach, Regional and Composite Indexes can be created from the individual Market Indexes for each size-segment. GICS-based, share type-based and other more granular indexes may also be derived from the Market, Regional and Composite Indexes.

Each of these steps is described in detail below.

2.1 Defining the Equity Universe

The Equity Universe is defined by:

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

2.1.1 Identifying Eligible Equity Securities

All listed equity securities, including Real Estate Investment Trusts (REITs)² and certain income trusts listed in Canada³ are eligible for inclusion in the Equity Universe. Limited partnerships, limited liability companies, and business trusts, which are listed in the USA and are not structured to be taxed as limited partnerships, are

¹ Developed Markets Europe and WAEMU are treated as single markets for the purpose of index construction.

² Please refer to Appendix I for the list of REITs and REIT equivalent structures across different countries tracked by MSCI.

³ Please refer to Appendix I for the eligibility criteria of Canada Income Trusts.

likewise eligible for inclusion in the Equity Universe. Conversely, mutual funds, ETFs, equity derivatives, and most investment trusts are not eligible for inclusion in the Equity Universe.⁴

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

Stapled securities are considered eligible if each of the underlying components exhibit characteristics of equity securities.

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:

- Identifying eligible listings for each security in the Equity Universe, and
- 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 indexes within the MSCI

⁴ In general, GICS® may be considered in determining eligibility of mutual funds/ investment trusts in the MSCI equity universe.

Europe Index are derived from the constituents of the MSCI Europe Index under the Global Investable Market Indexes 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.

2.2.1 Identifying Eligible Listings

A security may have a listing in the country where it is classified (i.e. “local listing”) and/or in a different country (i.e. “foreign listing”).

Securities may be represented by either a local listing or a foreign listing (including a Depositary Receipt) in the Global Investable Equity Universe. A security may be represented by a foreign listing only if the following conditions are met:

- The security is classified in a country that meets the Foreign Listing Materiality Requirement, and
- The security’s foreign listing is traded on an eligible stock exchange of:
 - A DM country if the security is classified in a DM country, or
 - A DM or an EM country if the security is classified in an EM country, or
 - A DM or an EM or a FM country if the security is classified in a FM country.

If a country does not meet the Foreign Listing Materiality Requirement, then securities in that country may not be represented by a foreign listing in the Global Investable Equity Universe.

Please refer to [Appendix I: Equity Markets and Universe](#) and [Appendix IV: Foreign Listing Materiality Requirement](#) for further details.

2.2.2 Applying Investability Screens

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

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

- Equity Universe Minimum Size Requirement.

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

2.2.3 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 capitalization⁵ 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.

⁵ Unless explicitly stated otherwise in this methodology book, the free float-adjusted market capitalization used by MSCI is post application of any relevant adjustment factors (e.g. adjustment factors applied due to low foreign room, Liquidity Adjustment Factors).

Example:

Using the steps mentioned above, in this example the full market capitalization of the 8008th 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
...
Total			31,000,000	100.00%	

At the time of the May 2019 SAIR, the Equity Universe Minimum Size Requirement was USD 243 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.

2.2.4 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.

2.2.5 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 at least one

eligible listing (as defined in section 2.2.1) that meets the Minimum Liquidity Requirement defined below, measured by:

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

The ATVR mitigates the impact of extreme daily trading volumes and takes into account the free float-adjusted market capitalization 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 addition to the ATVR and Frequency of Trading requirements, securities in the MSCI China Equity Universe will not be eligible for inclusion in the Market Investable Equity Universe if the securities:

- Are suspended on the Price Cutoff Date (as defined in section 3.1.9 and 3.2.6) of the Index Review
- Have been suspended for 50 consecutive days or more in the past 12 months⁶

Only one listing per security may be included in the Market Investable Equity Universe. In instances when a security has two or more eligible listings that meet the above liquidity requirements, then the following priority rules are used to determine which listing will be used for potential inclusion of the security in the Market Investable Equity Universe:

- Local listing⁷

⁶ As of each day from the effective date of the Index Review one year prior to the price cutoff date of the current Index Review (for example: a non-Index constituent suspended for 50 days as of any day from June 1, 2017, the effective date of the May 2017 SAIR, to April 23, 2018, the price cutoff date of the May 2018 SAIR, would not have been eligible for the Investable Market Universe of the May 2018 SAIR).

⁷ If the security has two or more local listings, then the listing with the highest 3-month ATVR would be used.

- Foreign listing in the same geographical region⁸
- Foreign listing in a different geographical region⁹.

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 Indexes. Consequently, current constituents of the MSCI Global Investable Market Indexes would remain in the index if the stock price passes the USD 10,000 threshold.

The ATVR¹⁰ 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 for each month, giving the monthly median traded value ratio.
- Finally, the 12-month ATVR is obtained by taking the average of the monthly median traded value ratios of the previous 12 months – or the number of months for which this data is available (previous 6 months, 3 months or 1 month) – and annualizing it by multiplying it by 12. The 3-month ATVR is obtained by taking the average of the monthly median traded value ratios of the previous 3 months – or

⁸ MSCI classifies markets into three main geographical regions: EMEA, Asia Pacific and Americas. If the security has two or more foreign listings in the same geographical region, then the listing with the highest 3-month ATVR would be used.

⁹ If the security has two or more foreign listings in a different geographical region, then the listing with the highest 3-month ATVR would be used.

¹⁰ Notes on ATVR calculation:

- MSCI uses consolidated trading values for securities listed in the USA and Canada and single exchange trading values for listings in all other markets.
- Days with no trading volume are excluded when taking the median of the daily traded values.
- Trading volume and price for liquidity computation will only be captured from eligible exchange.
- In general, MSCI uses free float-adjusted security market capitalization after the application of any relevant adjustment factors (e.g. adjustment factors applied due to low foreign room, Liquidity Adjustment Factors).
- ATVR values used in the regular Index Reviews as well as the relevant thresholds are not rounded.

1 month if 3 months of data are not 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 maximum possible number of trading days within this period. If 3 months of data are not available, 1 month of data is used for the calculation of 3-month Frequency of Trading.

In some circumstances, MSCI may apply relevant adjustments to the liquidity values obtained in the above algorithm. For example,

- At the time of the regular index reviews, in those cases where the ATVR and/or Frequency of Trading are the decisive elements that cause the non-addition or deletion of a security from the Market Investable Universe, the ATVR and Frequency of Trading of securities that have been suspended during the relevant period are reviewed to adjust for the suspension days:
 - In the case of ATVRs, the suspended days are added back to the number of days in the month the security traded to derive the monthly median traded value.
 - In the case of Frequency of Trading, the suspended days are excluded from the maximum possible number of trading days in the period.
 - When a security is suspended for the entire period of the relevant ATVR or Frequency of Trading calculations, the respective values for the suspended period are not calculated and are generally not taken into consideration for the Index Review. However, non-constituents of the Investable Market Index are not eligible for the Market Investable Equity Universe if the latest 3-month ATVR is not calculated due to suspensions.
- During a month when IPO occurred, in those cases where the ATVR is the decisive element that causes the non-addition of a security, MSCI may adjust the relevant monthly median value of the IPO month by considering the market trading days prior to the listing of the security. Generally, in the month of IPO, the first three days of trading are not included in calculating the median of the daily traded value. Furthermore, there must be at least five trading days, exclusive of the first three days of trading, for the monthly median value to be calculated in the month when IPO occurred¹¹.

¹¹ In the cases of initial public offering of China A shares, MSCI may use trading volumes after the limit up period.

- In the cases of large public offerings that significantly increase a security's free float-adjusted market capitalization and liquidity, MSCI may use trading volumes after the public offering.
- When determining the potential re-addition of a security that was deleted in the prior 12-months, MSCI may adjust ATVR values by excluding the trading volumes of the month during which the deletion of the security was announced and implemented.
- In the cases of securities traded on Saturdays and/or Sundays, MSCI may adjust ATVR values by including the trading volumes on those days¹².
- In case of an increase in a security's FIF from zero to non-zero effective at an upcoming regular Index Review or during the relevant ATVR calculation period (e.g. due to an increase in FOL or in any adjustment factor), MSCI may adjust ATVR values by applying the updated FOL or adjustment factor during the ATVR calculation period where the FIF was zero.
- In some cases of FIF changes due to significant FIF corrections, regulatory changes in Foreign Ownership Limits or methodology changes, MSCI may adjust ATVR values by applying the updated FIF during the relevant ATVR calculation period.

2.2.6 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

¹² Liquidity values published in the MSCI product files currently does not consider trading volumes on Saturdays and/or Sundays.

market. Please refer to [Sub-section 2.3.5: Applying Final Size-Segment Investability Requirements](#) for more details.

2.2.7 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 three months before the implementation of a Semi-Annual Index Review. This rule is referred to as the Minimum Length of Trading Requirement. This requirement is applicable to small new issues in all markets.

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

2.2.8 Minimum Foreign Room Requirement¹³

This investability screen is applied at the individual security level.

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

For more information on the adjustment applied to securities within the Market Investable Equity Universe that have foreign room less than 25%, please refer to Sub-section 2.3.5.2 for details.

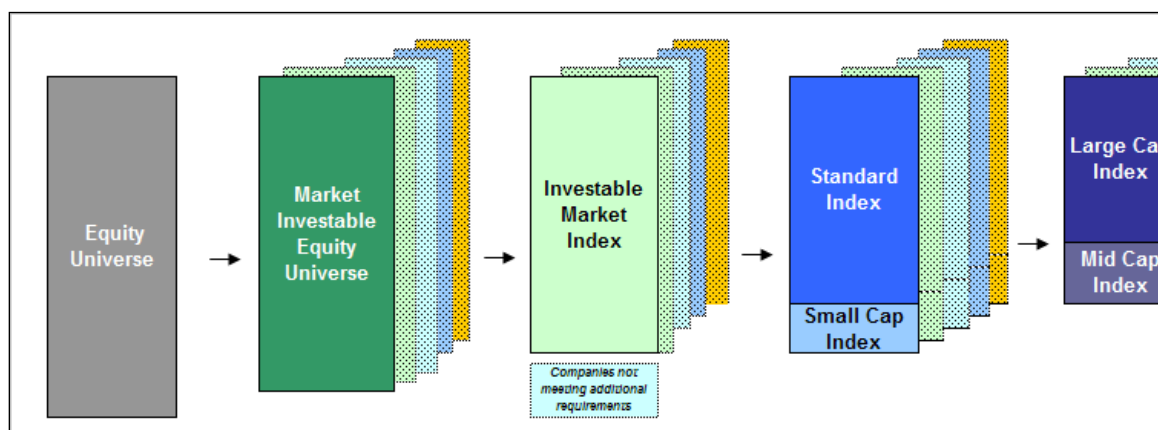
¹³ Indian securities included in the National Securities Depository Limited’s (NSDL) & Central Depository Services Limited’s (CDSL) official list of securities for which the Red flag or Breach limit has been reached would not be considered for the inclusion in Market Investable Equity Universe. More generally, based on information available from the country regulatory authority, for securities where further purchase are restricted due to foreign ownership restriction, the securities would not be considered for the inclusion in Market Investable Equity Universe.

2.3 Defining Market Capitalization Size-Segments for Each Market

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

- 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 Indexes 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

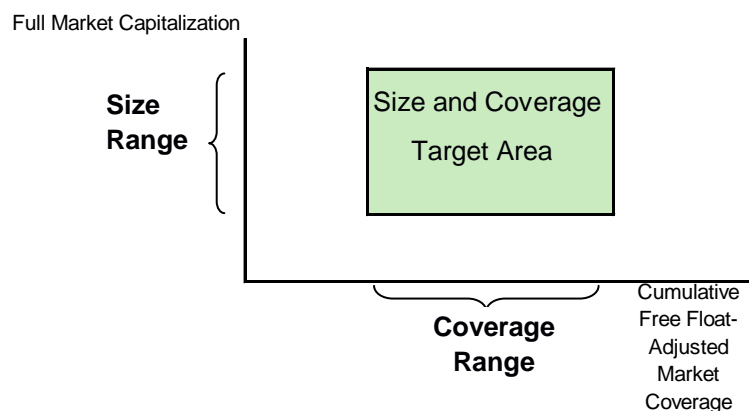
relative to a free float-adjusted market capitalization coverage target based on the Global Investable Equity Universe.

- *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 indexes, namely the Investable Market Index, the Standard Index, and the Large Cap Indexes.



Creating the Size-Segment Indexes 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 Indexes 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 capitalization 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 Indexes, 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 17, 2019 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 6.20 billion. This level, therefore, defines the Global Minimum Size Reference for DM Standard Indexes. 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 3.10 billion to USD 7.13 billion for the DM Standard Indexes. The EM range for the Standard Indexes, therefore, is USD 1.55 billion to USD 3.57 billion.

Global Minimum Size Reference			
Percent of Free Float Adjusted Market Coverage	Developed Markets Investable Equity Universe	Developed Markets Global Minimum Size Reference May-19	Emerging & Larger Frontier Markets Global Minimum Size Reference (50% of DM) May-19
Universe			
70%	Large Cap	17,274	8,637
85%	Mid Cap	6,203	3,102
99%	Small Cap	580	290

All market caps are in USD millions. Data as of the close of April 17, 2019

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

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

- The companies in the Market Investable Equity Universe are sorted in descending order of full market capitalization.
- The cumulative free float-adjusted capitalization coverage of the Market Investable Equity Universe is calculated at each company.
- MSCI notes the respective full market capitalization of the companies that provide the following free float-adjusted market capitalization coverage for the relevant size-segments:
 - Large Cap Index: 70%
 - Standard Index: 85%.
 - Investable Market Index: 99%.*
- If the full market capitalization of the relevant company lies within the Global Minimum Size Range for the size-segment, then:
 - The full market capitalization of the relevant company defines the Market Size-Segment Cutoff for that size-segment at that point in time.
 - The number of companies with full market capitalization greater than or equal to the relevant company provides the Segment Number of Companies, which will be used to maintain the indexes 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 Indexes. As of April 17, 2019, the Developed Markets Global Minimum Size Reference for the Investable Market indexes was USD 580 million.

Since Size-Segment Indexes 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

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

2.3.5.1 MINIMUM FREE FLOAT MARKET CAPITALIZATION REQUIREMENT

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

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

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

2.3.5.2 MINIMUM FOREIGN ROOM REQUIREMENT

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

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

2.4 Index Continuity Rules

Index continuity is a desirable feature of an index as it avoids the temporary inclusion or exclusion of market indexes in composite indexes 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 less than five securities in a Developed Market or three securities in an Emerging Market, then the largest securities by free float-adjusted market capitalization among the securities included in the Market Investable Equity Universe 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 after the application of the index maintenance methodology a Standard Index contains less than five securities in a Developed Market or three securities in an Emerging Market, then the remaining securities are selected for inclusion in the Standard Index using the following process:
 - The securities included in the updated Market Investable Equity Universe are identified

- These securities are ranked by descending free float-adjusted market capitalization, however in order to increase index stability the free float-adjusted market capitalization of the securities included in the Standard Index prior to the index review is multiplied by a factor of 1.5
- The securities are added to the Standard Index in order to reach five constituents for a Developed Market or three for an Emerging Market in the ranking order determined in the step above

Please note that the index continuity rules are applicable only to the Standard Market Indexes. Other indexes, such as Large, Mid or Small Market Indexes or indexes based on the GICS segmentation may have as little as one constituent. Also such indexes may be discontinued if there are no constituents left in accordance with the MSCI GIMI methodology. Similarly, MSCI may resume calculation of such indexes if over time some companies become eligible for inclusion.

2.5 Classifying Securities under the Global Industry Classification Standard

All securities in the Global Investable Equity Universe are assigned to the industry that best describes their business activities. To this end, MSCI has designed, in conjunction with S&P Global, the Global Industry Classification Standard (GICS). The GICS currently consists of 11 Sectors, 24 Industry Groups, 68 Industries and 157 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 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 to determine an appropriate classification.

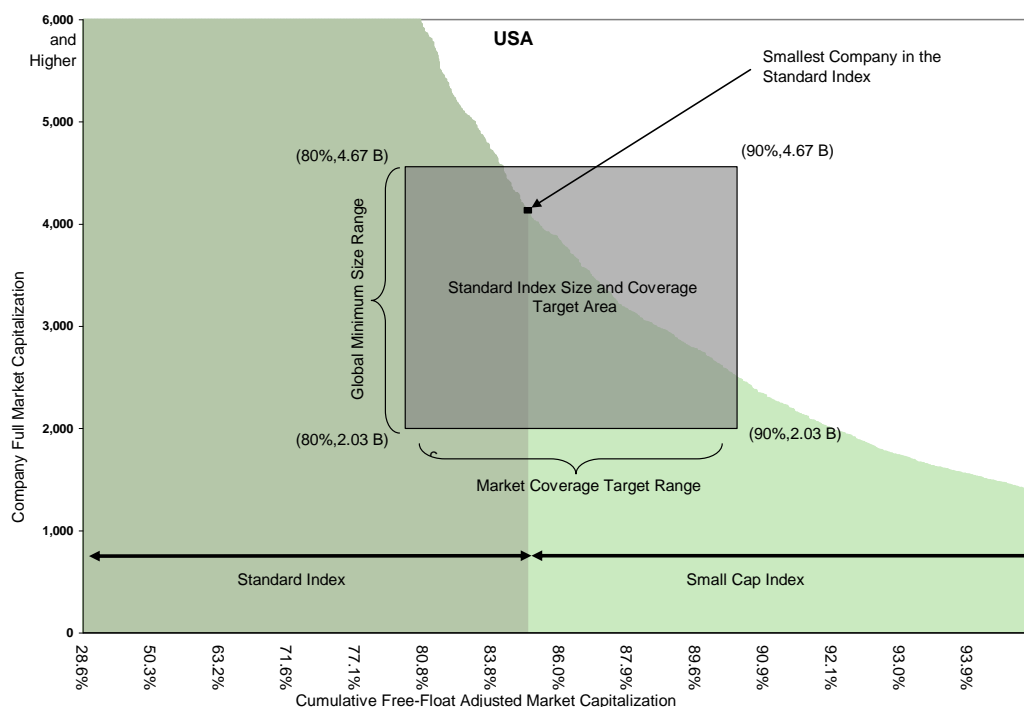
For further details on the GICS see [Appendix VI: Global Industry Classification Standard \(GICS\)](#).

2.6 Creating Size-Segment Indexes: Examples

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

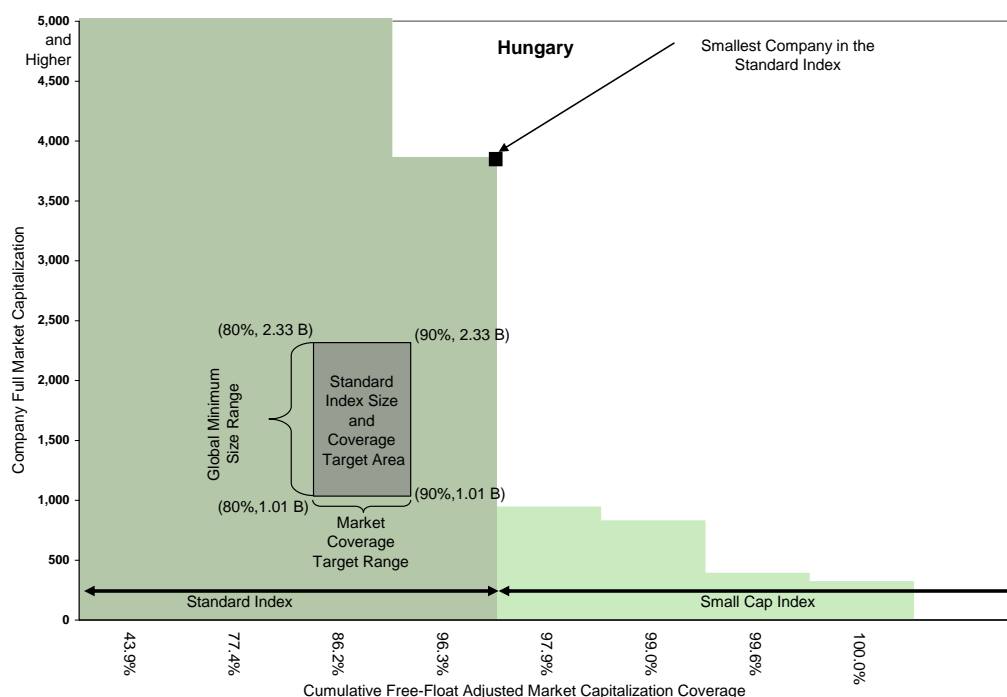
Example:

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



Example:

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



2.7 Constructing and Calculating the Individual MSCI Global Investable Markets Indexes

2.7.1 Market Size-Segment Indexes

After companies are allocated to their respective Size-Segments (section 2.3.4) and securities are reviewed for complying with the Final Size-Segment Requirements (section 2.3.5), the final list of constituents for each of the Market Size-Segment Indexes is determined.

The MSCI Investable Market Indexes are composed of the MSCI Standard Indexes and the MSCI Small Cap Indexes. The MSCI Standard Indexes are further subdivided into the MSCI Large Cap and the MSCI Mid Cap Indexes.

For example, the MSCI USA IMI, MSCI USA Index, MSCI USA Large Cap Index, MSCI USA Mid Cap Index, MSCI USA Small Cap Index.

2.7.2 Composite Indexes¹⁴

Two or more Market Indexes can be combined to form Composite Indexes.

Market Indexes can be grouped either on the basis of Market Classification¹⁵ definition, geographical regions, economic regions or other criteria. For example, by combining all Market Indexes from each Market Classification, i.e. Developed, Emerging and Frontier Markets, we obtain the MSCI World¹⁶, the MSCI Emerging Markets and the MSCI Frontier Markets Indexes respectively for each size-segment.

Examples of regional or other types of indexes grouping multiple markets are the MSCI Asia Pacific Index, the MSCI BRIC Index or the MSCI GCC Index. Market Classification grouping can also be overlaid with regional grouping. Some examples would be the MSCI EM Asia Index or the MSCI All Countries¹⁷ Americas Index. Some regional indexes may be formed by excluding specific markets, for instance, MSCI World ex USA Index or the MSCI Asia Pacific ex Japan Index. A list of standard defined Regions can be found in <https://www.msci.com/index-country-membership-tool>. MSCI may also create custom regions at client's request.

¹⁴ Composite Indexes covered in this section refer to market capitalization weighted indexes created by combining individual Market Indexes.

¹⁵ Please refer to Appendix II for the MSCI Market Classification Framework.

¹⁶ The MSCI World Index is made up of all the Markets Indexes classified as Developed Markets.

¹⁷ All Countries include both Developed Markets and Emerging Markets Indexes.

2.7.3 GICS-Based Indexes

Narrower Indexes may be derived from each MSCI Market, Regional or Composite Indexes based on the industry classification of each company as defined by the Global Industry Classification Standard (GICS). The indexes may contain securities belonging to specific sectors, industry groups, industries, sub-industries or a combination of these. For example, MSCI Japan Energy Index, MSCI Japan Media Index, MSCI Japan Financials Index. Please refer to Appendix VI for more information on the GICS classification. Also, indexes can be created by combining the country grouping described in Sub-section 2.7.2 above with GICS classification. As an illustration, the MSCI EM Asia Utilities Index is a GICS-based Index carved out of a broader Composite Regional Index.

2.7.4 Other Indexes

Indexes can also be segregated based on security attributes such as share type or exchange of listing, among others. Some examples of Share Type-based Indexes include the MSCI China B, the MSCI China Red-Chip, the MSCI China P-Chip Indexes as well as the MSCI DR Indexes (see Appendix XV). The China All Shares ex Shenzhen Listed Shares Index is an example of an index that is based on the exchange of listing.

2.7.5 Calculating the MSCI Global Investable Markets Indexes

Once the constituents for each MSCI Market, Regional, Composite and/or GICS-based Indexes are determined, the Index Levels may then be calculated. The MSCI Index Calculation Methodology book describes MSCI's general Index calculation methodology for the MSCI Equity Indexes. For more information, please refer to the MSCI Index Calculation Methodology document, available at: <https://www.msci.com/index-methodology>.

3 Maintaining the MSCI Global Investable Market Indexes

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

- Index continuity,
- Continuous investability of constituents and replicability of the indexes, 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 Indexes which include:
 - Updating the indexes 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 Indexes 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 Indexes, 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 indexes as they occur. Significantly large IPOs are included in the indexes after the close of the company's tenth day of trading.

Any index constructed on the basis of the GIMI methodology may be subject to potential concentration and other limitations resulting from changes in the underlying markets. Any such potential limitations of an existing methodology may be assessed as part of the SAIR/QIR process.

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 Indexes.

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

- Updating the Market Investable Equity Universe.
- Recalculating the Global Minimum Size References and Global Minimum Size Ranges
- Reassessing the Segment Number of Companies and the Market Size-Segment Cutoffs.
- Assigning companies to the size-segments taking into account buffer zones.
- Assessing conformity with Final Size-Segment Investability Requirements.

3.1.1 Updating the Equity Universe

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

Details on the determination of the Equity Universe are in Sub-section 2.1: [Defining the Equity Universe](#).

3.1.2 Updating the Market Investable Equity Universes

During each SAIR, the Market Investable Equity Universes are updated by:

- Reviewing the list of countries in which securities may be represented by foreign listings
- Evaluating each security that is not a constituent of the Investable Market Indexes for investability using the same investability screens described in Sub-section 2.2: Determining the Market Investable Equity Universes. Existing constituents of the Investable Market Indexes, on the other hand, are evaluated using buffers around these investability requirements as explained below.

3.1.2.1 ELIGIBILITY OF FOREIGN LISTINGS

Foreign listings may become eligible to represent securities only from the countries that met the Foreign Listing Materiality Requirement during the previous Semi-Annual Index Review. This requirement is applied to the countries that do not yet include securities represented by foreign listings.

Please refer to [Appendix IV: Foreign Listing Materiality Requirement](#) for further details.

3.1.2.2 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 8008th 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 8008th 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 8201st 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 8201st rank will be the initial reference for the next SAIR.

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

3.1.2.3 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.

Non constituents of the IMI are evaluated relative to this updated threshold, whereas all existing constituents will not be evaluated relative to this investability requirement.

3.1.2.4 MINIMUM LIQUIDITY REQUIREMENT FOR EXISTING CONSTITUENTS

Non constituents of the Investable Market Indexes are evaluated relative to the thresholds described in section 2.2.5.

An existing constituent of the Investable Market Indexes may remain in a Market Investable Equity Universe if its 12-month ATVR falls below the Minimum Liquidity Requirement as long as it is above 2/3rd of the minimum level requirement of 20% for Developed Markets and 15% for Emerging Markets, i.e., 13.3% and 10%, respectively. In addition, in order to remain in the Investable Market Indexes 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 the listing used for an existing constituent no longer meets the above liquidity requirements, other eligible listings that do meet such liquidity requirements will be used to represent the security in the Market Investable Equity Universe. If the security has two or more other eligible listings, the following priority rules would be used to determine which of such listings will be used to represent the security in the Market Investable Equity Universe:

- Local listing¹⁸
- Foreign listing in the same geographical region¹⁹
- Foreign listing in a different geographical region²⁰.

Changes in listing from a foreign listing to a local listing for existing constituents will be applied even if the foreign listing still meets the liquidity requirements, in cases where the local listing has a 12-month ATVR above two times the minimum level requirement of 20% for Developed Markets and 15% for Emerging Markets, i.e., 40% and 30%, respectively.

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

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

3.1.2.5 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 meets 1.8 times half of the Standard Index Interim Market Size-Segment Cutoff. Interim Market Size-Segment

¹⁸ If the security has two or more local listings, then the listing with the highest 3-month ATVR would be used.

¹⁹ MSCI classifies markets into three main geographical regions: EMEA, Asia Pacific and Americas. If the security has two or more foreign listings in the same geographical region, then the listing with the highest 3-month ATVR would be used.

²⁰ If the security has two or more foreign listings in a different geographical region, then the listing with the highest 3-month ATVR would be used.

Cutoffs are calculated daily in order to determine eligibility for early inclusion of securities. They are based on the current Market Investable Equity Universe (please refer to section 3.3.1: Determining the Interim Market Size-Segment Cutoffs for Daily Maintenance for more details).

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

3.1.2.6 MINIMUM FOREIGN ROOM REQUIREMENT

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

3.1.3 Recalculating the Global Minimum Size References and Global Minimum Size Ranges

The Global Minimum Size References and corresponding ranges are reset at the SAIRs using a process similar to the one used to update the Equity Universe Minimum Size Requirement. More details may be found in [Appendix IX: 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 Cutoff²¹ is equal to or above the lower bound of the Global Minimum Size Range, then the Initial Segment Number of Companies is equal to the number of companies in the updated Investable Equity Universe with the full company market capitalization equal to or above the Interim Market Size-

²¹ The Interim Market Size-Segment Cutoff during SAIR is calculated the same way as the Interim Market Size-Segment Cutoffs, which are reported daily, however the Number of Shares and Foreign Inclusion factor post SAIR are used in the calculations and the value is not limited by the Global Minimum Size Range. Furthermore, if the Interim Market Size-Segment Cutoff for the Investable Market Index is lower than the Equity Universe Minimum Size Requirement, then the Interim Market Size-Segment Cutoff is set to the Equity Universe Minimum Size Requirement.

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 corresponding Size-Segments prior to the SAIR with the full market capitalization below the Global Minimum Size Range, but equal to or above the Interim Market Size-Segment Cutoff.

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

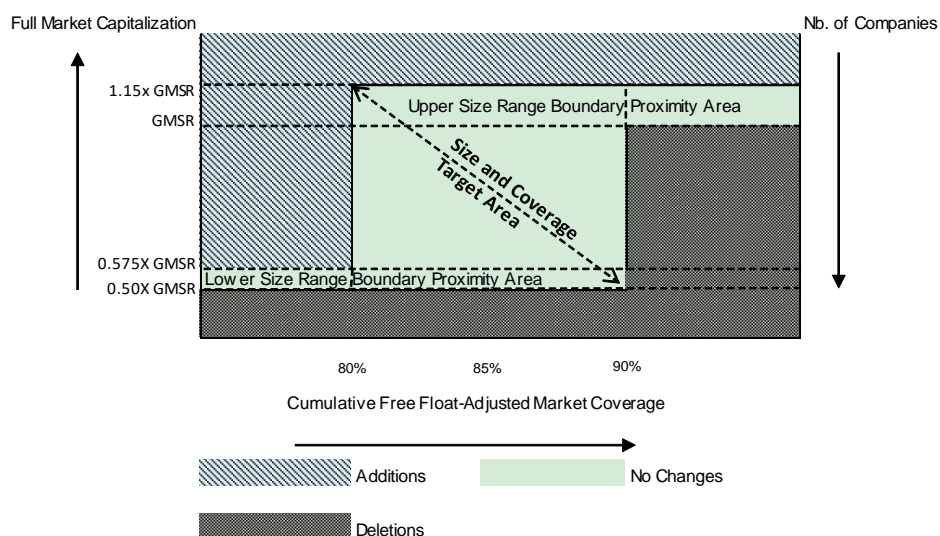
3.1.4.2 CHANGES IN THE SEGMENT NUMBER OF COMPANIES

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

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

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

Changing Segment Number of Companies



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

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

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

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

- If additions to the Segment Number of Companies are required:

- The number of companies is increased to include all companies with a full market capitalization higher than the upper boundary of the Global Minimum Size Range.
- The number of companies is increased to include all companies with a full market capitalization higher than the upper limit of the Lower Size Range Boundary Proximity Area, if any, that are required to reach the lower boundary of the Market Coverage Target Range.²²
- The additions are made in descending order of full market capitalization. The full market capitalization of the last added company then becomes the Market Size-Segment Cutoff. If the full market capitalization of the last added company is above the upper boundary of the Global Minimum Size Range then the Market Size-Segment Cutoff is set at this upper boundary of the Global Minimum Size Range.
- If a reduction of the Segment Number of Companies is required to reach the Size and Coverage Target Area, limits are placed on the decrease in the number of companies, to further enhance index stability. These limits are implemented in the following steps:
 - First, a reduction of no more than 5% of the Initial Segment Number of Companies is made to bring the Market Size-Segment Cutoff into compliance with the Size and Coverage Target Area. Only the companies with full company market capitalization lower than the lower limit of the Upper Size Range Boundary Proximity Area can be removed.²³
 - 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

²² This step is implemented even if it brings the Market Size-Segment Cutoff from below the lower boundary of the Market Coverage Target Range to above the upper boundary of the Market Coverage Target Range.

²³ A company with full market capitalization within the Global Minimum Size Range is not removed if the removal would bring the Market Size-Segment Cutoff from above the upper boundary of the Market Coverage Target Range to below the lower boundary of the Market Coverage Target Range.

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.²³
- When a limit is placed on the decrease in the number of companies, as explained above, the full market capitalization of the smallest company in the index will remain below the lower boundary of the Global Minimum Size Range. In this case, the Market Size-Segment Cutoff is set at this lower bound of 0.5 times the Global Minimum Size Reference instead of the size of the smallest company.

3.1.5 Assigning Companies to Appropriate Size-Segments

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

- Current constituents of a given Size-Segment Index, as well as companies assigned to this Size-Segment during last Index Review that failed the Final Size-Segment Investability Requirements, greater than or equal to the Market Size-Segment Cutoff.
- Newly investable companies with a full market capitalization greater than or equal to the Market Size-Segment Cutoff.
- Companies greater than the upper buffer threshold²⁴ of the lower Size-Segment that are:
 - Currently in the lower Size-Segment Index or
 - Assigned to this Size-Segment during last Index Review and failed the Final Size-Segment Investability Requirement or
 - Investable companies during last Index Review that were not assigned to any Size-Segment.
- Current constituents of a given Size-Segment Index, as well as companies assigned to this Size-Segment during the last Index Review that failed the Final Size-Segment Investability Requirements, in the lower buffer of the Size-Segment in descending capitalization order, until the threshold of the buffer is reached.
- The largest companies from the upper buffer of the next lower size-segment.

²⁴ Buffer zones for Size-Segments are explained in more detail in Section 3.1.5.1

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.

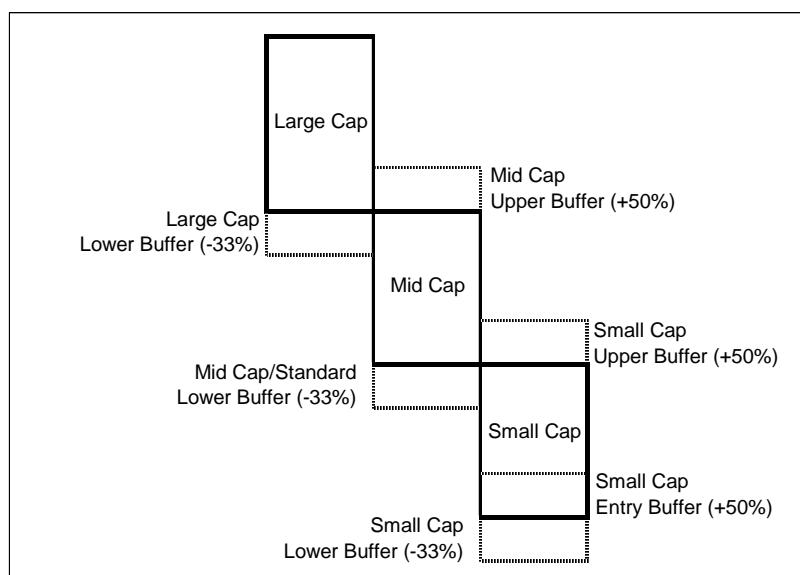
3.1.5.1 USING BUFFER ZONES TO MANAGE THE MIGRATION OF COMPANIES BETWEEN SIZE-SEGMENT INDEXES

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 Indexes.

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 of $\frac{2}{3}$ rd of and 1.5 times the Market Size-Segment Cutoff between two size-segments. At Quarterly Index Reviews, the buffer zones are set at one half of and 1.8 times the Market Size-Segment Cutoff between two size-segments.

In addition, a Small Cap Entry Buffer Zone is used for the entry in the Small Cap Indexes of non-current constituents. It is defined with a boundary of 1.5 times the Market Size-Segment Cutoff for the Investable Market Index. The inclusion in the Small Cap Indexes of all newly eligible companies above the Investable Market Size-Segment Cutoff could lead to an excessively large number of additions of small companies. Consequently, non-current constituents within the Small Cap Entry Buffer Zone which are assigned to the Small Cap Segment are included in the Small Cap Indexes 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 Indexes, 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.

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

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

3.1.6.2 FOR EXISTING CONSTITUENTS

Existing constituents may remain in the size-segment indexes if they would otherwise fail the additional investability requirements for Free Float Market Capitalization described in Section 2.3.5.1 but still meet 2/3rd of the threshold. Existing constituents of the Small Cap Index must have a FIF of equal to or larger than 0.15 to remain in the index. Existing constituents of the Standard Index with FIF of less than 0.15 must meet 2/3rd of the 1.8 times of the minimum free float-adjusted market capitalization required for the Standard Index.

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. However, if the company has other investable securities that meet the additional investability requirements of the Standard Index, the company is retained in the Standard Size-Segment and the securities failing the final size-segment investability requirements are not included in any of the indexes within the MSCI Global Investable Market Indexes.

Any other Standard Index constituent that fails these requirements is not included in any of the indexes within the MSCI Global Investable Market Indexes.

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

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

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

If the foreign room of an existing constituent decreases below 3.75%, then the adjustment factor equals 0.²⁵

In order to preserve index continuity, conformity with the minimum free float-adjusted market capitalization requirements for existing IMI Index constituents will be assessed using the free float-adjusted market capitalization before the application of the adjustment factor. That is, existing constituents of the IMI Index with FIF (before the application of the adjustment factor) of greater than or equal to 0.15 must meet 2/3rd of the minimum free float-adjusted market capitalization required for the Standard or Small Cap Index to remain in the Standard or Small Cap Index, respectively. Existing constituents of the Standard Index with FIF (before the application of the adjustment factor) of less than 0.15 must meet 2/3rd of the 1.8 times of the minimum free float-adjusted market capitalization required for the Standard Index to remain in the Standard Index.

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

Foreign room level will be reviewed on a quarterly basis coinciding with the regular MSCI Index Reviews. Generally, an upward movement of the adjustment factor for existing constituents following a previous reduction in foreign room or index re-inclusion of a security deleted as a result of having a foreign room lower than 3.75% will only be considered 12 months after the weight reduction or deletion; unless the upward movement of the adjustment factor is primarily driven by a change in FOL and provided that the increase in FOL²⁶ happened prior to the Price Cutoff Date of the previous Index Review described in Sections 3.1.9(ii) for Semi-Annual Index Reviews and 3.2.6(ii) for Quarterly Index Reviews.

For example, to be considered for the May SAIR, the potential increase in FOL must have happened before the Price Cutoff Date of the February QIR.

During a regular Index Review, for any existing IMI constituents whose weight is decreased as a result of a change in the adjustment factor due to low foreign room,

²⁵ Based on information available from the country regulatory authority, the adjustment factor equals 0 for securities where further purchases are restricted due to foreign ownership restriction. In case of India, MSCI monitors securities appearing on the National Securities Depository Limited's (NSDL) & Central Depository Services Limited's (CDSL) official list of securities for which the Red flag or Breach limit has been reached on a daily basis. MSCI deletes securities from the MSCI India Indexes that are (i) Appearing on the Breach list (ii) Appearing on the Red Flag/Caution list and have foreign room below 3.75% by giving 2 business days' notice.

²⁶ In the case of India, MSCI would consider potential increases in FOL based on data published by Central Depository Services Limited's (CDSL). For securities that are not covered by the list provided by the CDSL, FOL will be determined based on publicly available data.

MSCI will continue to monitor any potential increased foreign room due to an increase in FOL²⁵ until five business days before the effective date of that Index Review.

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

During a SAIR, changes in FIFs can result from:

- The implementation of the Annual Full Country Float Review at the May SAIR. Once a year a detailed review of the shareholder information used to estimate free float for constituent and non-constituent securities is carried out for each country. The review is comprehensive, covering all aspects of shareholder information²⁷.
- Changes in FIFs that result from events that occurred in the course of the past quarter following events that are identical to those typically implemented during Quarterly Index Reviews, as outlined in [Sub-section: 3.2.4. Quarterly Index Review of Changes in FIF](#), including the thresholds mentioned in the footnote for large market transactions
- FIF changes are reflected in the indexes provided the change in free float is more than 1%²⁸.

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 3.2.5: Quarterly Index Review of Changes in Number of Shares \(NOS\)](#).

3.1.9 Date of Data Used for Semi-Annual Index Review

The standard data cutoff dates for the May and November SAIRs are as follows:

- Equity Universe Cutoff Date: the last business day of February for the May SAIR and the last business day of August for the November SAIR, respectively. This is the relevant cutoff date for:

²⁷ Secondary offerings and block sales below implementation thresholds at the time of the event will be reflected at the subsequent May SAIR.

²⁸ The 1% threshold does not apply in cases of corrections.

- Data used to update the Equity Universe as per Sub-section 2.1: Defining the Equity Universe;
- Data used for calculating the updated Equity Universe Minimum Size Requirement as per Sub-section 3.1.2.2: Updating the Equity Universe Minimum Size Requirement;
- Data used to update FIFs during the Annual Float Review (May SAIR only) as per Sub-section 3.1.7: SAIR of Changes in FIFs;
- Data used to update NOS as per Sub-section 3.2.5: Quarterly Index Review of changes in Number of Shares (NOS).
- Liquidity Cutoff Date: the last business day of March for the May SAIR and the last business day of September for the November SAIR, respectively. This is the relevant cutoff date for data used for the liquidity calculations, such as ATVRs and frequency of trading.
- Price Cutoff Date: any one of the last 10 business days of April for the May SAIR and of October for the November SAIR, respectively. This is the relevant cutoff date for:
 - Prices used for calculating market capitalization;
 - Data used to update FIFs as per Sub-section 3.2.4: Quarterly Index Review of changes in FIFs;
 - Data used to incorporate all foreign room changes.
- In addition, the FIF and NOS are fully reviewed and updated as of the Price Cutoff Date for additions to the Standard/Small Cap Size-Segments, additions to the Micro Cap Index and deletions from the Standard Size-Segment as part of the Index Review.
- A business day is defined as a day from Monday to Friday where markets cumulatively constituting more than 80% of the MSCI All Countries World Index free float-adjusted market capitalization are expected to be open on the basis of a security's country of listing²⁹.

As a general rule, price movements after the Price Cutoff Date will not impact the results of the index review. However, in cases of extraordinary events or news related to a specific company identified as a migration between the size-segments or as an

²⁹ Currently, only Stock Connect eligible China A shares are included in the MSCI GIMI. Therefore, the China A share market will only be considered open if the Shanghai Stock Exchange, the Shenzhen Stock Exchange and the Stock Connect program are open,

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

MSCI monitors the full company market capitalization (issuer level) of companies in the Market Investable Equity Universes on a monthly basis as a part of its ongoing maintenance. As a reminder, the full company market capitalization is the aggregate security market capitalization of all listed and unlisted³⁰ securities of an issuer³¹. Additional securities of existing index constituents identified by the tenth business day of a given month will be introduced on the third business day of the following month. Please note that Number of Shares (NOS), Foreign Inclusion Factors (FIF) and weights in the MSCI indexes are not affected by the updates.

Please note that updates due to ongoing maintenance of securities' share classes, share types and alternate listings are implemented on the third business day of the month.

Please refer to

³⁰ Unlisted securities with no economic rights are not included in the computation of full company level market capitalization. Securities without economic rights mean holders are not entitled to receive dividends and receive distributions upon the dissolution, liquidation, or winding up of their holdings.

³¹ Full company market capitalization = $\sum (\text{Number of shares of listed security lines} \times \text{Price}) + \sum (\text{Number of shares of unlisted security lines} \times \text{Price of representative listed security line} \times \text{Conversion factor})$. Conversion factor is determined as a proportion of par value of the unlisted security and the representative listed security.



[Appendix VIII: Policy Regarding Trading Suspensions and Market Closures during Index Reviews](#) for details on MSCI's policy regarding market closures during index reviews.

3.2 Quarterly Index Reviews in February and August

QIRs are designed to ensure that the indexes 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
- Addition of significant new investable companies to the Standard Index
- Deletion of companies from the Investable Market Indexes due to low liquidity
- Changes in FIFs and in NOS.

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 Indexes.
- 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 IX: Updating the Global Minimum Size References and Ranges.

3.2.1.2 REASSESSING THE MARKET SIZE-SEGMENT CUTOFFS

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

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

3.2.1.3 ASSIGNING COMPANIES TO APPROPRIATE SIZE-SEGMENTS

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

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

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

Once companies have been assigned to the Standard, Large and Investable Market Indexes, companies are then assigned to the Mid and Small Cap Indexes. 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 Indexes, the securities that migrate from the Small Cap Indexes to the Standard Indexes 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.

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

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

Post-review adjustment factor					
	foreign room \geq 25%	15% \leq foreign room $<$ 25%	7.5% \leq foreign room $<$ 15%	3.75% \leq foreign room $<$ 7.5%	foreign room $<$ 3.75%
Current adjustment factor = 1	1	1	0.5	0.25	0
Current adjustment factor = 0.5	1	0.5	0.5	0.25	0
Current adjustment factor = 0.25	1	0.5	0.25	0.25	0

If the foreign room of an existing constituent decreases below 3.75%, then the adjustment factor equals 0.³²

Foreign room level will be reviewed on a quarterly basis coinciding with the regular MSCI Index Reviews. Generally, an upward movement of the adjustment factor for existing constituents following a previous reduction in foreign room or index re-inclusion of a security deleted as a result of having a foreign room lower than 3.75% will only be considered 12 months after the weight reduction or deletion; unless the upward movement of the adjustment factor is primarily driven by a change in FOL and provided that the increase in FOL³¹ happened prior to the Price Cutoff Date of the

³² Based on information available from the country regulatory authority, the adjustment factor equals 0 for securities where further purchases are restricted due to foreign ownership restriction. In case of India, MSCI monitors securities appearing on the National Securities Depository Limited's (NSDL) & Central Depository Services Limited's (CDSL) official list of securities for which the Red flag or Breach limit has been reached on a daily basis. MSCI deletes securities from the MSCI India Indexes that are (i) Appearing on the Breach list (ii) Appearing on the Red Flag/Caution list and have foreign room below 3.75% by giving 2 business days' notice.

previous Index Review described in Sections 3.1.9(ii) for Semi-Annual Index Reviews and 3.2.6(ii) for Quarterly Index Reviews.

For example, to be considered for the February QIR, the potential increase in FOL must have happened before the Price Cutoff Date of the November SAIR.

During a regular Index Review, for any existing IMI constituents whose weight is decreased as a result of a change in the adjustment factor due to low foreign room, MSCI will continue to monitor any potential increased foreign room due to an increase in FOL ³³ until five business days before the effective date of that Index Review.

Securities that are part of the Market Investable Equity Universe, but did not meet additional investability requirements at the previous SAIR are not added to the Investable Market Indexes as part of the QIR, unless they meet the criteria outlined in section 3.2.2.

3.2.2 Quarterly Index Review of Addition of Companies Currently not Constituents of the Investable Market Indexes

Securities that are currently not constituents of the Investable Market Indexes and that meet the investability screens described in Sub-section 2.2 (with the exception of the Minimum Length of Trading Requirement), 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 the Interim Market Size-Segment Cutoff for the Standard Size-Segment
- A free float-adjusted market capitalization that exceeds 1.8 times one-half the Interim Market Size-Segment Cutoff for the Standard Size-Segment

These companies are assigned to the Large Cap Index if their full market capitalization exceeds the Interim Market Size-Segment Cutoff for the Large Cap Size-Segment; they are assigned to the Mid Cap Index otherwise.

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

³³ In the case of India, MSCI would consider potential increases in FOL based on data published by Central Depository Services Limited's (CDSL). For securities that are not covered by the list provided by the CDSL, FOL will be determined based on publicly available data.

September 1), while the effective date of the QIR is September 1, the IPO will be added effective September 1.

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

3.2.3 Quarterly Index Review of Deletion of Companies Currently Constituents of the Investable Market Indexes

Existing constituents of the Investable Market Indexes can remain in the Investable Market Indexes only if:

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

If the listing used for an existing constituent no longer meets the above liquidity requirements, other eligible listings that do meet such liquidity requirements will be used to represent the security in the Market Investable Equity Universe. If the security has two or more other eligible listings, the following priority rules would be used to determine which of such listings will be used to represent the security in the Market Investable Equity Universe:

- Local listing³⁴
- Foreign listing in the same geographical region³⁵
- Foreign listing in a different geographical region³⁶.

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

³⁴ If the security has two or more local listings, then the listing with the highest 3-month ATVR would be used.

³⁵ MSCI classifies markets into three main geographical regions: EMEA, Asia Pacific and Americas. If the security has two or more foreign listings in the same geographical region, then the listing with the highest 3-month ATVR would be used.

³⁶ If the security has two or more foreign listings in a different geographical region, then the listing with the highest 3-month ATVR would be used.

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

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

3.2.4 Quarterly Index Review of Changes in FIFs

Changes in free float estimates and corresponding FIFs resulting from the following events are reflected in the indexes on a quarterly basis at the February, May, August and November Index Reviews, provided the change in free float is more than 1% or in cases of corrections.

- Events that are supposed to be implemented at the time of the event as per the MSCI Corporate Events Methodology but that could not be reflected immediately in the MSCI indexes (e.g., due to lack of publicly available details about the event at the time of the event).
- Increases in Foreign Ownership Limits (FOLs).
- Decreases in FOLs which did not require foreign investors to immediately sell shares in the market.
- Re-estimations of free float figures resulting from the reclassification of shareholders from strategic to non-strategic (and vice versa).
- End of lock-up periods for shareholders used in determination of free float by MSCI, which lead to changes in free float.³⁷

³⁷ These changes will be implemented as part of the Index Review following the completion of the event provided the results of the event are publicly available prior to the Price Cutoff Date of that Index review and if they satisfy one of the following conditions, including potential updates, when the event is completed:

- The absolute size of the FIF change is 0.15 or more, or

- Exercise of IPO over-allotment options which result in an increase in free float. For existing constituents of the Investable Market Indexes (IMI), only sizeable over-allotments will be reflected.³⁶
- Conversion of a non-index constituent share class or an unlisted line of shares which has an impact on index constituents.

FIF changes resulting from the above events are implemented as part of a given Index Review if the events take place prior to the Price Cutoff Date (as defined in Sub-Section 3.1.9 for SAIRs and 3.2.6 for QIRs) of that Index Review. For the impacted securities, the FIF and Number of Shares (NOS) are monitored and updated right up to the Price Cutoff Date.

In cases of changes effective after the Price Cutoff Date, the implementation would generally be postponed to the next closest Index Review.

MSCI may implement the changes as part of a given Index Review even if they are effective after the Price Cutoff Date. Such changes may be announced by MSCI until 3 business days before the Index Review effective date.

3.2.5 Quarterly Index Review of Changes in Number of Shares (NOS)

Changes in NOS resulting from the following events are generally updated on a quarterly basis at the February, May, August and November Index Reviews rather than at the time of the event, provided the absolute NOS change is greater than 1,000 shares or relative NOS change is greater than 0.02%:

- Exercise of options or warrants and employee stock option plans.
-
- The change in free float-adjusted market capitalization resulting from the FIF change represents at least:
 - USD 1 billion for securities classified in the US.
 - USD 500 million for securities classified in Developed Markets other than the US.
 - USD 200 million for securities classified in the Emerging Markets.

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

If the changes meet the above conditions but the completion and/or the results of the event are made publicly available after the Price Cutoff Date of that Index Review, then the implementation of these changes will be postponed to the next closest Index Review.

- Conversion of convertible bonds or other instruments, including periodic conversion of preferred stocks.
- Conversion of a non-index constituent share class or an unlisted line of shares which has an impact on index constituents.
- Periodical conversion of a share class into another share class.
- Exercise of over-allotment options.
- Periodic share buybacks.
- Cancellation of shares.
- Acquisition for shares of non-listed companies or assets.
- Other events that could not be implemented on or near the effective dates, and where no Price Adjustment Factor (PAF) is necessary.
- In addition, for the following events, changes in NOS that are less than 5%, 10% or 25% for Standard constituents (as well as securities assigned to Standard size segment but failed to be added to the Index), Small Cap constituents (as well as securities assigned to Small Cap size segment but failed to be added to the Index) and Micro Cap constituents (as well as listed securities not assigned to any size segment) respectively of the security's pre-event number of shares are generally implemented at the QIRs rather than at the time of the event, in order to minimize index turnover:
 - Private placements and primary equity offerings.
 - Debt-to-equity swaps.
 - Acquisition of listed non-index constituents.
 - Results of rights issue with subscription price greater than or equal to the market price.

Changes in NOS implemented as part of the QIR could also trigger a review of the free float of the security³⁸. Any resultant change in FIF would be implemented

³⁸ Free float of the security would be reviewed, provided at least one of the following conditions is satisfied:

- The absolute change in number of shares is greater than or equal to 5% for Standard constituents (as well as securities assigned to Standard size segment but failed to be added to the Index), 15% for Small Cap constituents (as well as securities assigned to Small Cap size segment but failed to be added to the Index) and 25% for Micro Cap Index constituents.

simultaneously provided they satisfy the QIR implementation thresholds, as outlined in the footnote to Sub-section 3.2.4: Quarterly Index Review of Changes in FIFs.

The above mentioned changes in NOS, as well as changes in FIF triggered by the changes in NOS, are implemented as part of a given Index Review if they take place prior to the Equity Universe Cutoff Date (as defined in Sub-Section 3.1.9 for SAIRs and 3.2.6 for QIRs) of that Index Review. In cases of changes effective after that date, the implementation would generally be postponed to the next closest Index Review.

MSCI may implement the changes as part of a given Index Review even if they are effective after the Equity Universe Cutoff Date. Such changes may be announced by MSCI until 3 business days before the Index Review effective date.

3.2.6 Date of Data Used for Quarterly Index Reviews

The standard data cutoff dates for the February and August QIRs are as follows:

- Equity Universe Cutoff Date: the last business day of November for the February QIR and the last business day of May for the August QIR, respectively. This is the relevant cutoff date for data used to update NOS as per Sub-section 3.2.5: Quarterly Index Review of changes in Number of Shares (NOS).
- Liquidity Cutoff Date: the last business day of December for the February QIR and the last business day of June for the August QIR, respectively. This is the relevant cutoff date for data used for the liquidity calculations.
- Price Cutoff Date: any one of the last 10 business days of January for the February QIR and of July for the August QIR, respectively. This is the relevant cutoff date:

-
- The change in security full market capitalization resulting from the number of shares change represents at least:
 - USD 1 billion for securities classified in the Developed Markets.
 - USD 500 million for securities classified in the Emerging Markets.

The absolute change in number of shares is greater than or equal to 25% for listed securities not assigned to any size segment.

Changes that do not meet the above conditions will be reviewed for float as part of the May Semi-Annual Index Review.

- For the prices used for calculating market capitalization;
- For data used to update FIFs as per Sub-section 3.2.4: Quarterly Index Review of changes in FIFs;
- For the data used to incorporate all foreign room changes.

In addition, the FIF and NOS are fully reviewed and updated as of the Price Cutoff Date for additions to the Standard/Small Cap Size-Segments and deletions from the Standard Index as part of the Index Review.

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

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

MSCI monitors the full company market capitalization (issuer level) of the Market Investable Equity Universes on a monthly basis as a part of its ongoing maintenance. As a reminder, the full company market capitalization is the aggregate security market capitalization of all listed and unlisted³⁹ securities of an issuer⁴⁰. Additional securities identified for existing index constituents by the tenth business day of a

³⁹ Unlisted securities with no economic rights are not included in the computation of full company level market capitalization. Securities without economic rights mean holders are not entitled to receive dividends and receive distributions upon the dissolution, liquidation, or winding up of their holdings.

⁴⁰ Full company market capitalization = $\sum (\text{Number of shares of listed security lines} \times \text{Price}) + \sum (\text{Number of shares of unlisted security lines} \times \text{Price of representative listed security line} \times \text{Conversion factor})$. Conversion factor is determined as a proportion of par value of the unlisted security and the representative listed security.

given month will be introduced on the third business day of the following month. Please note that Number of Shares (NOS), Foreign Inclusion Factors (FIF) and weights in the MSCI indexes are not affected by the updates.

Please refer to [Appendix VIII: Policy Regarding Trading Suspensions and Market Closures during Index Reviews](#) for details on MSCI's policy regarding market closures during index reviews.

3.3 Ongoing Event-Related Changes

Ongoing event-related changes to the indexes 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 events that take place on a continuing basis. These changes generally are reflected in the indexes at the time of the event.

These corporate events 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:

<https://www.msci.com/index-methodology>

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 IPOs⁴¹, 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 Indexes are updated daily as

⁴¹ As described in section 3.3.4.1

described in [Appendix IX: Updating the 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 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, are reflected in the indexes simultaneously with the implementation of the event in the index. Pending NOS and/or float changes, if any, are implemented simultaneously with the event.

Decreases in FOLs or Foreign Room in which foreign investors are obliged to immediately sell shares in the market or when further purchases are no longer allowed will be reflected in the indexes as soon as possible. In cases where the FOL change results in a FIF decrease below 0.15, the security will be deleted unless it is a Standard Index constituent with free float-adjusted market capitalization meeting at least 2/3rds of the 1.8 times one half of the Standard Index Interim Size-Segment Cutoff.

Changes in NOS and FIF resulting from primary equity offerings representing at least 5%, 10% or 25% for Standard constituents (as well as securities assigned to Standard size segment but failed to be added to the Index), Small Cap constituents (as well as securities assigned to Small Cap size segment but failed to be added to the Index) and Micro Cap constituents (as well as listed securities not assigned to any size segment) respectively of the security's pre-event number of shares are 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.

MSCI implements pending number of shares and/or free float updates simultaneously with the event. Note that if the number of shares update is smaller than $\pm 1\%$ on a post-event number of shares basis, it will be implemented at a subsequent Index Review.

Note that contrary to secondary offerings, primary equity offerings involve the issuance of new shares by a company.

Changes in the number of shares smaller than 5%, 10% and 25% are implemented at a subsequent Index Review. Such cases will be subject to the rules applicable for the Index Reviews in accordance with the section 3.2.5 of the MSCI GIMI methodology.

Secondary offerings/block sales with sizes representing at least 5%, 10% or 25% for Standard constituents (as well as securities assigned to Standard size segment but failed to be added to the Index), Small Cap constituents (as well as securities assigned to Small Cap size segment but failed to be added to the Index) and Micro Cap constituents (as well as listed securities not assigned to any size segment) respectively of the security's pre-event number of shares are implemented at the time of the event with two full business days advance notification provided that sufficient post-event information is publicly available.

Secondary offerings/block sales that do not meet the above conditions at the time of the event are considered for implementation at the May Semi-Annual Index Review following the Annual Full Country Float Review. Such cases will be subject to the rules applicable for the index reviews in accordance with the section 3.1.7 of the MSCI GIMI methodology.

Changes in industry classification resulting from a large corporate event are 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 SEGMENT, STYLE SEGMENT OR INDUSTRY 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 Indexes and in the World All Cap Indexes in a timely fashion while minimizing index turnover, the Size-Segment classification of a security is reviewed simultaneously with the event, if the market capitalization change implied by the event, including potential update in the number of shares for the security, is deemed significant.

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

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

In addition, the securities must pass the investability screens described in [Sub-section 2.2 Determining the Market Investable Equity Universes](#).

Moreover, to be added to the Investable Market Index, the securities must meet the minimum foreign room requirement for the Investable Market Index described in [Sub-section 2.3.5.2 Minimum Foreign Room Requirement](#).

For a security to be added to the Standard Index, the free float-adjusted market capitalization must be at least 50% of the Standard 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.

If a Small Cap constituent is considered for a size-segment migration to the Standard Index due to a significant market capitalization increase, and would qualify to be included in the Standard Index in terms of full company market capitalization but not in terms of security float-adjusted market capitalization, MSCI may decide to maintain the company in the Small Cap Index provided that its full company market capitalization remains below 1.5 times the Standard Interim Size-Segment Cutoff.

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

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

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

The guidelines regarding significant market capitalization changes described above apply in most corporate events cases. For certain corporate events where the

outcome is uncertain such as acquisitions for shares or non-renounceable rights issues, or combinations of different types of corporate events, or other exceptional cases, MSCI determines the most appropriate implementation method and announces it prior to the changes becoming effective in the indexes.

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 considered for immediate inclusion in the MSCI Global Investable Market Indexes, as long as they meet all the index constituent eligibility rules and guidelines described in Sub-sections 2.2 and 2.4 with the exception of the length of trading and liquidity screens.

For example, if a non-constituent company acquires a constituent company, the constituent company's securities may be replaced by the securities of the acquiring company. Similarly, if a constituent company merges with a non-constituent company, the merged company may replace the constituent company. In addition, if a constituent's share class is converted into another share class that is new or currently not in the index, this new share class can be included in the index to replace the current share class. However, when an index constituent is distributing rights to acquire a non-index constituent at a subscription price, MSCI does not include the non-index constituent at the time of the event, especially if the post-event information of the new entity is not complete and publicly available.

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

Securities spun-off from existing constituents are also considered for inclusion at the time of the event. Size-segment review and industry classification review are

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

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 are removed from the MSCI Global Investable Market Indexes as soon as practicable. Companies that fail stock exchange's listing requirements with announcements of delisting from the stock exchanges are treated in the same way. When the primary exchange price is not available, the securities are 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 is deleted at the lowest system price (0.00001) in the security's price currency.

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

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

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

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

- The security no longer passes the investability screens described in Sub-sections 2.2 and 4.1 (the security will be allocated to the World Micro Cap Index if it no longer passes the screens described in Sub-section 2.2 but still passes the screens described in Sub-section 4.1).
- The security is a constituent of the Standard Index and would be maintained in the Standard Index based on its company's full market capitalization after the event, however its float-adjusted market capitalization does not meet 2/3rd of one half of the Standard Index Interim Size-Segment Cutoff.⁴²
- The security is a constituent of the Standard Index and would be migrated to the Small Cap Index based on its company's full market capitalization after the event, however its float-adjusted market capitalization does not meet one half of the Small Cap Index Interim Size-Segment Cutoff.
- The security is a constituent of the Small Cap Index and its float-adjusted market capitalization does not meet 2/3rd of one half of the Small Cap Index Interim Size-Segment Cutoff following the event.
- The security is a constituent of the Small Cap Index and would be migrated to the Standard Index based on its company's full market capitalization after the event, however its float-adjusted market capitalization does not meet one half of the Standard Index Interim Size-Segment Cutoff, while the company's full market

⁴² If the Standard Index constituent has a FIF lower than 0.15 after the event, the minimum float-adjusted market capitalization requirement is 2/3rds of the 1.8 times one half of the Standard Index Interim Size-Segment Cutoff.

capitalization after the event is at least 1.5 times the Standard Interim Size-Segment Cutoff.

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

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

3.3.4 Corporate Events Affecting Non-Index Constituents

3.3.4.1 IPOs AND OTHER EARLY INCLUSIONS

In many cases, newly listed equity securities available to foreign investors are considered for inclusion in the MSCI Global Investable Market Indexes, according to MSCI's Global Investable Market Indexes methodology rules and guidelines, at the time of the Index Reviews. However, for IPOs, which are significant in size and meet all the MSCI inclusion criteria, an early inclusion, outside of the Index Reviews, may be considered for inclusion in the Standard Index. If the decision is made to include an IPO early, the inclusion is effective after the close of the security's tenth day of trading. However, in certain cases, another date may be chosen for the inclusion to reduce turnover, for example, where the normal inclusion date is close to the effective date of the next Index Review, as described in Sub-sections 3.1.6.1 (for the Semi-Annual Index Reviews) and 3.2.2 (for the Quarterly Index Reviews).

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

In order for an IPO and other newly eligible securities to qualify for an early inclusion to the Standard Index, a security must meet the index constituent eligibility rules and guidelines described in Sub-section 2.2 with the exception of the length of trading and liquidity screens, meet the size-segment investability requirements described in Sub-section 2.3.5.1 and have a company full market capitalization of at least 1.8 times the Interim Market Size-Segment Cutoff and free float-adjusted market capitalization of at least 1.8 times one-half of the Interim Market Size-Segment Cutoff as of the close of its first or second trading day.⁴³

⁴³ IPOs with a FIF of less than 0.15 would have to meet the same criteria for early inclusion as IPOs with a FIF of 0.15 or higher.

Any over-allotment (also called green shoe) publicly announced as exercised prior to MSCI's announcement on the first or second trading day is included in the IPO's market capitalizations calculations.

Securities may also be considered for early inclusion in other significant cases, including but not limited to those resulting from mergers and acquisitions giving rise to a large new company or a large primary or secondary public offering of an already listed security if the size of the offering exceeds the IPO threshold of 1.8 times one-half of the Interim Market Size-Segment Cutoff. In the case of a large public offering (primary or secondary), the size of the offering is calculated by multiplying the issue price applicable to institutional shareholders with the number of shares from the offer. Such cases will be treated in the same way as IPOs of significant size. MSCI's decision will be based on information regarding the results of the offering and over-allotment (exercised partially or fully), if any, made publicly available within up to 2 business days after the close of the subscription period. If the decision is made to early include a security, MSCI will include the security by giving 10 business days' notice.

However, securities becoming eligible following among others, for example, a pure change in the legal form, a conversion of share class, or a secondary listing in a new exchange, and for which there is no offering or no corporate events that could meet one of the conditions mentioned above, are not considered for early inclusion.

Similarly, securities spun off from non-index constituent or initial listings without public offerings are not considered for early inclusion. Such cases are considered for inclusion in the MSCI Global Investable Market Indexes, according to MSCI's Global Investable Market Indexes methodology rules and guidelines, at the time of the Index Reviews.

3.3.5 Corporate Events Affecting the Index Review

Changes in Number of Shares (NOS) and Foreign Inclusion Factors (FIFs) due to corporate events for which the completion date is effective on or before the Index Review Price Cutoff Date (as defined in Sub-sections 3.1.9 and 3.2.6) are taken into account when undertaking the index maintenance activities as part of Semi-Annual Index Reviews (as described in Sub-section 3.1) and Quarterly Index Reviews (as described in Sub-section 3.2).

For pro forma index constituents that are currently non-index constituents, changes in NOS and FIF due to corporate events for which the completion date is effective after the Index Review Price Cutoff Date (as defined in Sub-sections 3.1.9 and 3.2.6) will be implemented as per the methodology applicable to the relevant pro-forma size segment.

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

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

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

3.4 Announcement Policy

3.4.1 Semi-Annual Index Review

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

3.4.2 Quarterly Index Review

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

3.4.3 Ongoing Event-Related Changes

3.4.3.1 CLIENT ANNOUNCEMENTS

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

The changes are typically announced at least ten business days prior to these changes becoming effective in the indexes as "expected" announcements, or as "undetermined" announcements, when the effective dates are not known yet or when

aspects of the event are uncertain. MSCI sends “confirmed” announcements at least two business days prior to events becoming effective in the indexes provided that all necessary public information concerning the event is available. In case a “confirmed” announcement needs to be amended, MSCI sends a “correction” announcement with a descriptive text announcement to provide details about the changes made. MSCI also sends announcements in “Acknowledged” status within five business days following the public announcement by the company of the acquisition, if the impact is above one time the constituent’s underlying country index Large Cap Cutoff.

For certain events, MSCI only sends “confirmed” announcements, especially due to insufficient or lack of publicly available information or late company disclosure. For the MSCI World Micro Cap Index and the MSCI Frontier Markets Small Cap Index, MSCI only sends “confirmed” announcements at least two business days prior to events becoming effective in the index, provided that all necessary public information concerning the event is available.

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

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

MSCI also sends text announcement for corporate events effective within the next 48 hours, except for market neutral events such as split, reverse split or stock dividend.

Early deletions of constituents due to events such as bankruptcy are announced as soon as practicable prior to their implementation in the MSCI indexes.

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

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

No descriptive text announcement will be sent for the MSCI World Micro Cap Index constituents and Frontier Markets Small Cap Index constituents.

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

3.4.3.2 PUBLIC ANNOUNCEMENTS

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

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

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

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

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

3.4.4 IPOs and Other Early Inclusions

Early inclusions of large IPOs in the MSCI Standard Index Series are announced no earlier than the first day of trading and no later than before the opening of the third day of trading in the market where the company has its primary listing⁴⁴.

⁴⁴ Following the November 2019 SAIR, securities on the STAR Market of the Shanghai Stock Exchange may be early included in the MSCI China All Shares and the MSCI China A Onshore Indexes outside of an index review as per Section 6 of the MSCI Corporate Events Methodology. Early inclusion of STAR Market securities in these MSCI Indexes will be announced no earlier than the second day of trading and no later than before the opening of the third day of trading after listing, provided the security meets the market capitalization thresholds as of the close of either first or second trading day.

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

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

3.4.5 Global Industry Classification Standard (GICS)

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

4 MSCI All Cap Indexes

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

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

4.1 Constructing the MSCI All Cap Indexes

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

Constructing the MSCI All Cap Indexes involves the following steps:

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

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

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

Each of these screens is described in detail below.

4.1.1 Micro Cap Maximum Size Requirement

This screen is applied at the company level.

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

4.1.2 Micro Cap Minimum Size Requirement

This screen is applied at the company level.

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

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

4.1.3 Micro Cap Minimum Liquidity Requirement

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

4.1.4 Global Minimum Foreign Inclusion Factor Requirement

This screen is applied at the individual security level.

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

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

4.1.5 Minimum Length of Trading Requirement

This screen is applied at the individual security level.

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

4.2 Maintaining the MSCI All Cap Indexes

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

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

4.2.1 Semi-Annual Index Reviews in May and November

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

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

4.2.1.1 UPDATING THE MICRO CAP MINIMUM SIZE REQUIREMENT

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

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

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

- Between 99.7% and 99.8%, the Micro Cap Minimum Size Requirement is set to the current full market capitalization of the company at that rank.
- Below 99.7%, the Micro Cap Minimum Size Requirement is reset to the full market capitalization of the company at 99.7% coverage and the rank of that company is noted for the next rebalance.

- Above 99.8%, the Micro Cap Minimum Size Requirement and rank are reset based on the full market capitalization of the company at 99.8% coverage and the rank of that company is noted for the next rebalance.

4.2.1.2 ASSIGNING COMPANIES TO THE MICRO CAP SIZE-SEGMENT

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

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

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

4.2.2 Quarterly Index Reviews of February and August

QIRs are only aimed at reflecting the impact of significant market events on FIFs and updating NOS. Typically no change in the constituents of the Micro Cap Size-Segment may take place at the time of QIRs.

At the time of QIRs a company may enter the Micro Cap Size-Segment only if it is deleted from the Small Cap Size-Segment due to a low liquidity and it satisfies the conditions specified in Sub-section 4.2.1.2.

During a QIR, a security will be deleted from the Micro Cap Size-Segment if an FOL change results in a FIF of 0.

4.2.3 Ongoing Event-Related Changes

Ongoing event-related changes to the indexes 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 are reflected in the indexes at the time of the event.

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

5 MSCI Frontier Markets Indexes

5.1 Frontier Markets Definition

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

- demonstrate a relative openness to and accessibility for foreign investors
- are generally not considered as part of the developed markets universe⁴⁵
- do not belong to countries undergoing a period of extreme economic (e.g., hyperinflation) or political instability (e.g., civil war)

MSCI then applies the following materiality requirement:

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

5.1.1 Updating MSCI Frontier Markets Index Coverage

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

A Standalone Market Standard Index may be added to the MSCI Frontier Markets Index at the earliest as part of the May Semi-Annual Index Review that follows the creation of the Standalone Market Standard Index for that market. Markets that meet the minimum requirements for inclusion in the MSCI Frontier Markets Indexes may be added to the review list of markets for potential reclassification as part of the regular MSCI Market Classification Review. MSCI will announce the markets that will be included in Frontier Markets at least six months before the upcoming May Semi-Annual Index Review.

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

⁴⁵ E.g. Luxembourg 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.

5.2 Methodology Used to Construct and Maintain the MSCI Frontier Markets Indexes

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

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

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

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

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

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

More details on the methodological differences are described below.

5.2.1 Categorization of Frontier Markets into Larger and Smaller Markets

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

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

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

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

5.2.1.1 EQUITY UNIVERSE MINIMUM FLOAT-ADJUSTED MARKET CAPITALIZATION REQUIREMENT

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

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

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

Example:

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

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

5.2.1.2 GLOBAL MINIMUM FOREIGN INCLUSION FACTOR REQUIREMENT

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

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

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

5.2.1.3 GLOBAL MINIMUM SIZE REFERENCE

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

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

Markets are set at 0.5 times the corresponding Emerging Markets Global Minimum Size References.

5.2.2 FM Minimum Liquidity Requirement

5.2.2.1 CATEGORIZATION OF FRONTIER MARKETS INTO VERY LOW, LOW OR AVERAGE LIQUIDITY MARKETS

In order to account for the differences in liquidity patterns across Frontier Markets, each Frontier Market is categorized as a very low, low or average liquidity market. The corresponding minimum liquidity requirement levels are set at 2.5%, 5% or 15% 12-month ATVR, respectively. In addition, a minimum level of 50% of 12-month Frequency of Trading is required for the inclusion of a security in an Investable Market Equity Universe of a Frontier Market for all liquidity categories. This rule is referred to as the Frontier Markets Minimum Liquidity Requirement.

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

For each Frontier Market MSCI considers the following factors:

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

5.2.2.2 MINIMUM LIQUIDITY REQUIREMENT FOR EXISTING CONSTITUENTS

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

very low liquidity markets may remain in a Market Investable Universe if their 12-month ATVR stays above 1%. Furthermore, in order to remain in the Investable Market Indexes (IMI), a constituent of the MSCI Frontier Markets IMI will need to have a 12-month Frequency of Trading of at least 10%, applicable to all liquidity categories.

If the listing used for an existing constituent no longer meets the above liquidity requirements, other eligible listings that do meet such liquidity requirements will be used to represent the security in the Market Investable Equity Universe. If the security has two or more other eligible listings, the following priority rules would be used to determine which of such listings will be used to represent the security in the Market Investable Equity Universe:

- Local listing⁴⁶
- Foreign listing in the same geographical region⁴⁷
- Foreign listing in a different geographical region⁴⁸.

Changes in listing from a foreign listing to a local listing for existing constituents will be applied even if the foreign listing still meets the liquidity requirements, in cases where the local listing has a 12-month ATVR above 30% for average liquidity markets or 15% for low liquidity and very low liquidity markets, respectively. In addition, the local listing needs to have a 12-month Frequency of Trading of at least 50%.

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

- Would delete the security from the index if the security does not meet at least half of the liquidity requirements for existing constituents calculated after applying the Liquidity Adjustment Factor or

⁴⁶ If the security has two or more local listings, then the listing with the highest 3-month ATVR would be used.

⁴⁷ MSCI classifies markets into three main geographical regions: EMEA, Asia Pacific and Americas. If the security has two or more foreign listings in the same geographical region, then the listing with the highest 3-month ATVR would be used.

⁴⁸ If the security has two or more foreign listings in a different geographical region, then the listing with the highest 3-month ATVR would be used.

- Would maintain the security in the GIMI and remove the Liquidity Adjustment Factor if the security meets all the liquidity requirements for new constituents, calculated before applying the Liquidity Adjustment Factor for two consecutive Semi-Annual Index Reviews or
- Would continue maintaining the security in the GIMI with the Liquidity Adjustment Factor of 0.5 if none of the above conditions are met

5.2.3 Final Size-Segment Investability Requirements

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

5.2.4 Index Continuity Rules

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

At subsequent Index Reviews, if after the application of the index maintenance methodology a Standard Index contains less than two securities, then the remaining securities are selected for inclusion in the Standard Index using the following process:

- The securities included in the updated Market Investable Equity Universe are identified
- These securities are ranked by descending free float-adjusted market capitalization, however in order to increase index stability the free float-adjusted market capitalization of the securities included in the Standard Index prior to the index review is multiplied by a factor of 1.5
- The securities are added to the Standard Index in order to reach two constituents in the ranking order determined in the step above

Please note that the index continuity rules are applicable only to the Standard Market Indexes. Other indexes, such as Large, Mid or Small Market Indexes or indexes based on the GICS segmentation may have as little as one constituent. Also such indexes may be discontinued if there are no constituents left in accordance with the MSCI GIMI methodology. Similarly, MSCI may resume calculation of such indexes if over time some companies become eligible for inclusion.

5.2.5 Implementation of Corporate Events

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

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

5.2.6 IPOs and Other Early Inclusions

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

6 MSCI Standalone Market Indexes

MSCI Standalone Market Indexes are broadly classified into two groups: newly eligible markets and markets previously classified under Developed, Emerging or Frontier Markets categories, reclassified to Standalone status. Newly eligible markets may either be new markets, previously not covered by MSCI or markets that were closed to a specific group(s) of investors.

6.1 Creation of Standalone Market Indexes for Newly Eligible Markets

MSCI will consider the creation of Standalone Market Indexes for countries not currently covered by MSCI during the May Semi-Annual Index Review. These markets must demonstrate a relative openness and accessibility for foreign investors and are not undergoing a period of extreme economic or political instability.

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

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

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

The creation of such MSCI Standalone Market Indexes would generally not require a client consultation.

6.2 Classification of Other Markets as Standalone

MSCI may also temporarily reclassify markets that are currently part of the Developed Markets, Emerging Markets or Frontier Markets as a Standalone Market in the case of severe deterioration in market accessibility or size and liquidity for that market.

Reclassification of such markets may take place within or outside any regular Index Review cycles. The timing of such reclassification would generally be determined

through client consultations and communicated with sufficient lead-time before implementation.

6.3 Maintaining Standalone Market Indexes

MSCI Standalone Market Indexes are governed by the methodology applicable to the MSCI Country Indexes classified as Developed, Emerging or Frontier Markets.

While newly eligible markets are generally maintained using criteria used for Frontier Markets, rules applicable to other market categories may apply depending on the size and liquidity of a particular market at the time of the creation of the Standalone Market Index.

For markets reclassified from Developed, Emerging or Frontier Markets, MSCI would generally apply the methodology that was applicable to the market prior to the reclassification to Standalone status. In any event, MSCI would clarify the maintenance rules for the MSCI Country Indexes which are subject to reclassification.

6.4 Inclusion of Standalone Market Indexes in the MSCI Composite Indexes

6.4.1 Inclusion of Newly Eligible Markets

In general, Standalone Market Indexes covering newly eligible markets may be added to the MSCI Frontier Markets Indexes at the earliest as part of the May Semi-Annual Index Review that follows the creation of the Standalone Market Standard Index for that market. Please refer to section 5.1.1 for more details on Updating Frontier Markets Coverage. Markets that meet the minimum requirements for inclusion in the MSCI Frontier Markets Indexes may be added to the review list of markets for potential reclassification as part of the regular MSCI Market Classification Review. MSCI will announce the markets that will be included in Frontier Markets at least six months before the upcoming May Semi-Annual Index Review.

Some Standalone Markets may nevertheless exhibit higher level of market accessibility and economic development than Frontier Markets. In addition, these markets may meet the size and liquidity requirements of Developed or Emerging Markets. In such instances, MSCI may include the Standalone Market Indexes in the MSCI Developed Markets or Emerging Markets Indexes. MSCI will review the market classification of such Standalone Markets at the regular MSCI Market Classification Review and determine whether such markets may be classified in the Developed Markets or Emerging Markets Indexes only following a client consultation.

6.4.2 Re-inclusion of Markets in the MSCI Composite Indexes

MSCI generally reviews the Market Classification of Standalone Markets previously included in the MSCI Composite Indexes as part of the MSCI Annual Market Classification Review. Their potential re-inclusion in the MSCI Developed Markets, Emerging Markets or Frontier Markets Indexes will be considered only following client consultation.

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

APPENDICES

Appendix I: Equity Markets and Universe

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

Eligible Markets (Developed Markets)

Country Name	Stock Exchange	Market Segment	Eligibility of Foreign Listings
AUSTRALIA	Australian Securities Exchange		-
AUSTRIA	Vienna Stock Exchange	Prime Market Standard Market	-
BELGIUM	Euronext	Euronext	-
CANADA	Toronto Stock Exchange		-
DENMARK	Copenhagen Stock Exchange	Large Cap Mid Cap Small Cap First North First North Premier	-
FINLAND	Helsinki Stock Exchange	Large Cap Mid Cap Small Cap First North First North Premier	-
FRANCE	Euronext	Euronext Euronext Growth	-
GERMANY	Deutsche Börse Xetra	EU Regulated market Open Market	-
HONG KONG	Stock Exchange of Hong Kong	Main Board Growth Enterprise Market	Yes
IRELAND	Irish Stock Exchange	Main Securities Market (MSM) Enterprise Securities Market (ESM)	-
ISRAEL	Tel Aviv Stock Exchange		Yes
ITALY	Borsa Italiana	MTA (Mercato Telematico Azionario) AIM Italia (Mercato Alternativo del Capitale) Global Equity Market (1)	-
JAPAN	Tokyo Stock Exchange (TSE)	First Section Second Section Mothers	-
	TSE JASDAQ Nagoya Stock Exchange	First Section Second Section Centrex	-
NETHERLANDS	Euronext	Euronext	Yes
NEW ZEALAND	New Zealand Stock Exchange New Zealand Alternative Exchange		-
NORWAY	Oslo Stock Exchange	Oslo Bors - OBX Oslo Bors - OB Match Oslo Bors - OB Standard Oslo Bors - OB New Oslo Axess	-
PORTUGAL	Euronext	Euronext	-
SINGAPORE	Singapore Exchange	Main Board Catalist	-
SPAIN	Madrid Stock Exchange Mercado Alternativo Bursatil (MAB)	Mercado Continuo Growth Companies (GC) SOCIMI	-
SWEDEN	Stockholm Stock Exchange	Large Cap Mid Cap Small Cap	-
	Nordic Growth Market First North	First North First North Premier Norwegian Listed Shares (1)	-
	AktieTorget		-
SWITZERLAND	SIX Swiss Exchange	Swiss Blue Chip shares Mid and Small Caps Swiss shares Foreign Shares Sponsored Foreign Shares (1)	-
	BX Swiss		-
UNITED KINGDOM	London Stock Exchange	Main Market - Premium Listing Main Market - Standard Listing AIM Admission to Trading Only (ATT) (1)	-
USA	New York Stock Exchange NASDAQ	Global Select Market Global Market Capital Market	-
	NYSE American NYSE Arca Investors Exchange (IEX) BATS Exchange (BZX)		-

(1) Listings on this market segment are eligible only for securities that also have a listing on another eligible stock exchange / market segment.

Eligible Markets (Emerging Markets)

Eligible Markets

Country Name	Stock Exchange	Market Segment	Eligibility of Foreign Listings
ARGENTINA (3)			Yes
BRAZIL	Bolsa de Valores de São Paulo	Traditional Level 1 Level 2 Novo Mercado	-
CHILE	Santiago Stock Exchange		-
CHINA (1)	Shenzhen Stock Exchange	Main Board SME Board ChiNext	Yes
	Shenzhen Stock Exchange - Hong Kong Stock Connect		
	Shanghai Stock Exchange	Main Board STAR Market	
	Shanghai Stock Exchange - Hong Kong Stock Connect		
	Stock Exchange of Hong Kong	Main Board Growth Enterprise Market	
COLOMBIA	Colombian Stock Exchange		-
CZECH REPUBLIC	Prague Stock Exchange	Prime Market Standard Market	-
EGYPT	Cairo & Alexandria Stock Exchanges		-
GREECE	Athens Exchange	Big Capitalization Medium and Small Capitalization	-
HUNGARY	Budapest Stock Exchange	Prime Market Standard Market	-
INDIA	National Stock Exchange Mumbai Stock Exchange		-
INDONESIA	Jakarta Stock Exchange	Main Board Development Board	-
KOREA	Korea Exchange	KOSPI KOSDAQ	-
MALAYSIA	Malaysia Stock Exchange	Main Market ACE Market	-
MEXICO	Mexican Stock Exchange	Equity Segment Global Market Segment (2)	-
PAKISTAN	Pakistan Stock Exchange		-
PERU	Lima Stock Exchange		Yes
PHILIPPINES	Philippine Stock Exchange	Main Board	-
POLAND	Warsaw Stock Exchange	Main Market Parallel Market	-
QATAR	Doha Securities Market		-
RUSSIA (1)	Moscow Exchange		Partially*
SAUDI ARABIA (4)	Saudi Stock Exchange (Tadawul)	Main Market	-
SOUTH AFRICA	Johannesburg Stock Exchange	Main Board AltX	-
	ZAR X		
TAIWAN	Taiwan Stock Exchange	General Stock	-
	Taipei Exchange		
THAILAND	Stock Exchange of Thailand	Stock Exchange of Thailand Market for Alternative Investment	-
TURKEY	Istanbul Stock Exchange	BIST STARs BIST MAIN Collective And Structured Products	-
UNITED ARAB EMIRATE	Abu Dhabi Securities Exchange Dubai Financial Market NASDAQ Dubai		-

*As publicly announced, MSCI will defer the potential inclusion of additional foreign listed companies in the MSCI Russia Index until further notice.

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

(2) Listing on this market segment are eligible only for securities that also have a listing on another eligible stock exchange / market segment.

(3) Re-classified from Frontier Markets to Emerging markets at the May 2019 SMI.

(4) Re-classified from Standard Markets to Emerging markets at the May 2019 SMI.

Eligible Markets (Frontier Markets)

Country Name	Stock Exchange	Market Segment	Eligibility of Foreign Listings
BAHRAIN	Bahrain Stock Exchange		Yes
BANGLADESH	Dhaka Stock Exchange		-
BENIN (1)	Bourse Regionale des Valeurs Mobilières		-
BURKINA FASO (1)	Bourse Regionale des Valeurs Mobilières		-
CROATIA	Zagreb Stock Exchange	Prime Market Official Market Regular Market	-
ESTONIA	Tallinn Stock Exchange	Main List Secondary List	-
GUINEA-BISSAU (1)	Bourse Regionale des Valeurs Mobilières		-
IVORY COAST (1)	Bourse Regionale des Valeurs Mobilières		-
JORDAN	Amman Stock Exchange		-
KAZAKHSTAN			Yes
KENYA	Nairobi Stock Exchange	MIMS AIMS	-
KUWAIT	Kuwait Stock Exchange	Premier Market Main Market	-
LEBANON	Beirut Stock Exchange	Official Market	-
LITHUANIA	Vilnius Stock Exchange	Main List Secondary List	-
MALI (1)	Bourse Regionale des Valeurs Mobilières		-
MAURITIUS	Stock Exchange of Mauritius	Official Market	Yes
MOROCCO	Casablanca Stock Exchange		-
NIGER (1)	Bourse Regionale des Valeurs Mobilières		-
NIGERIA	Nigeria Stock Exchange		-
OMAN	Muscat Securities Market		-
ROMANIA	Bucharest Stock Exchange	Premium Tier Standard Tier International Shares Tier AeRo Market	-
SENEGAL (1)	Bourse Regionale des Valeurs Mobilières		-
SERBIA	Belgrade Stock Exchange	Listing A Listing B Unregulated Market	-
SLOVENIA	Ljubljana Stock Exchange	Prime Market Standard Market	-
SRI LANKA	Colombo Stock Exchange	Main Board Second Board	-
TOGO (1)	Bourse Regionale des Valeurs Mobilières		-
TUNISIA	Bourse de Tunis	Primary Market	-
VIETNAM	Hanoi Stock Exchange Ho Chi Minh Stock Exchange		-

(1) Member of the West African Economic and Monetary Union (WAEMU)

Eligible Markets (Standalone Markets)

Country Name	Stock Exchange	Market Segment	Eligibility of Foreign Listings
BOSNIA HERZEGOVINA (1)	Banija Luka Stock Exchange Sarajevo Stock Exchange		-
BOTSWANA (2)	Botswana Stock Exchange	BSE Domestic Equity Market Venture Capital Market	Yes
BULGARIA (8)	Bulgarian Stock Exchange	Official Market	-
ICELAND (10)	Iceland Stock Exchange	Large Cap Mid Cap Small Cap First North First North Premier	-
JAMAICA (2)	Jamaica Stock Exchange		-
MALTA (11)	Malta Stock Exchange		-
PALESTINE (3)	Palestine Exchange		-
PANAMA (9)			Yes
TRINIDAD AND TOBAGO (4)	Trinidad and Tobago Stock Exchange	First Tier Second Tier	-
UKRAINE (7)	PFTS Stock Exchange		Yes
ZIMBABWE (5)	Zimbabwe Stock Exchange (Harare)		-

(1) Added as standalone market at the May 2010 SAIR

(2) Added as standalone markets at the November 2008 SAIR

(3) Added as standalone market at the May 2013 SAIR

(4) Reclassified from Frontier Markets to standalone market at the May 2011 SAIR

(5) Added as standalone markets at the November 2010 SAIR

(7) Reclassified from Frontier Markets to standalone market at the August 2015 QIR

(8) Reclassified from Frontier Markets to standalone market at the August 2016 QIR

(9) Added as standalone market at the May 2017 SAIR, currently only US listed securities eligible

(10) Added as standalone market at the May 2018 SAIR

(11) Added as standalone market at the May 2019 SAIR

Eligible Classes of Securities for Stock Exchanges in Developed Markets

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

*The table shows the eligible classes of securities by country of listing. Please note that different countries of listing and their associated share classes may be eligible for country equity universes which may include foreign listings.

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

Eligible Classes of Securities for Stock Exchanges in Emerging Markets

Country of Listing*	Classes of Securities
ARGENTINA (3)	None
BRAZIL	Ordinary shares Preferred shares (2) Units
CHILE	Common shares Preferred shares (2)
CHINA (1)	"A" shares "B" shares Stapled securities
COLOMBIA	Ordinary shares Preferred shares (2)
CZECH REPUBLIC	Common shares
EGYPT	Ordinary shares
GREECE	Ordinary shares Preferred shares (2)
HUNGARY	Common shares
INDIA	Ordinary shares
INDONESIA	Ordinary shares
KOREA	Common shares Preferred shares (2)
MALAYSIA	Common shares Stapled securities
MEXICO	Ordinary shares Certificates of Participation Units
PAKISTAN	Ordinary shares
PERU	Common shares Preferred shares (2) Investment shares
PHILIPPINES	Common shares Philippine Depositary Receipts
POLAND	Common shares
QATAR	Ordinary shares
RUSSIA (1)	Common shares Preferred shares (2) ADRs GDRs
SAUDI ARABIA (4)	Common shares
SOUTH AFRICA	Common shares Preferred shares (2) Units
TAIWAN	Ordinary shares Preferred shares (2)
THAILAND	Common shares Preferred shares (2)
TURKEY	Common shares
UNITED ARAB EMIRATES	Ordinary shares

*The table shows the eligible classes of securities by country of listing. Please note that different countries of listing and their associated share classes may be eligible for country equity universes which may include foreign listings.

(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) Reclassified from Frontier Markets to Emerging markets at the May 2019 SAIR

(4) Reclassified from Standalone Markets to Emerging markets at the May 2019 SAIR

Eligible Classes of Securities for Stock Exchanges in Frontier Markets

Country of Listing*	Classes of Securities
BAHRAIN	Ordinary shares
BANGLADESH	Ordinary shares
BENIN (2)	Ordinary shares
BURKINA FASO (2)	Common shares
CROATIA	Common shares
	Preferred shares (1)
ESTONIA	Common shares
GUINEA-BISSAU (2)	Common shares
IVORY COAST (2)	Common shares
JORDAN	Common shares
KAZAKHSTAN	None
KENYA	Common shares
	Preferred shares (1)
KUWAIT	Ordinary shares
LEBANON	Common shares
	Preferred shares (1)
LITHUANIA	Common shares
MALI (2)	Common shares
MAURITIUS	Common shares
	Preferred shares (1)
MOROCCO	Ordinary shares
NIGER (2)	Common shares
NIGERIA	Common shares
OMAN	Ordinary shares
ROMANIA	Common shares
SENEGAL (2)	Common shares
SERBIA	Common shares
SLOVENIA	Common shares
	Preferred shares (1)
SRI LANKA	Ordinary shares
TOGO (2)	Common shares
TUNISIA	Common shares
VIETNAM	Common shares

*The table shows the eligible classes of securities by country of listing. Please note that different countries of listing and their associated share classes may be eligible for country equity universes which may include foreign listings.

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

(2) Member of the West African Economic and Monetary Union (WAEMU)

Eligible Classes of Securities for Stock Exchanges in Standalone Markets

Country of Listing*	Classes of Securities
BOSNIA-HERZEGOVINA (2)	Ordinary shares
BOTSWANA (3)	Common shares
BULGARIA (8)	Common shares
ICELAND (10)	Common shares
JAMAICA (3)	Common shares Preferred shares (1)
MALTA (11)	Common shares
PALESTINE (4)	Common shares
PANAMA (9)	None
TRINIDAD AND TOBAGO (5)	Common shares
UKRAINE (7)	Common shares Preferred shares (1)
ZIMBABWE (6)	Common shares

*The table shows the eligible classes of securities by country of listing. Please note that different countries of listing and their associated share classes may be eligible for country equity universes which may include foreign listings.

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

(2) Added as standalone market at the May 2010 SAIR

(3) Added as standalone markets at the November 2008 SAIR

(4) Added as standalone market at the May 2013 SAIR

(5) Reclassified from Frontier Markets to standalone market at the May 2011 SAIR

(6) Added as standalone markets at the November 2010 SAIR

(7) Reclassified from Frontier Markets to standalone market at the August 2015 QIR

(8) Reclassified from Frontier Markets to standalone market at the August 2016 QIR

(9) Added as standalone market at the May 2017 SAIR

(10) Added as standalone market at the May 2018 SAIR

(11) Added as standalone market at the May 2019 SAIR

REITs

Companies that have adopted the following REITs or REIT equivalent structures in the countries mentioned below qualify to be classified in one of the REIT Sub-Industries of the GICS.

- Australia: LPT (Australian Listed Property Trust), A-REIT
- Belgium: SICAFI (Société d'Investissement à Capital Fixe Immobilière)
- Bulgaria, Canada, Germany, Ireland, Israel, Finland, Hong Kong, China, Korea, Taiwan, the UK and the U.S.: REIT (Real Estate Investment Trust)
- France: SIIC (Sociétés d'Investissements Immobiliers Cotées)
- Greece: REIC (Real Estate Investment Company)
- India: REIT (Real Estate Investment Trust)
- Italy: SIQ (Società di investimento immobiliare quotata)
- Japan: J-REIT (Japanese Real Estate Investment Trust)
- Malaysia: REIT (Real Estate Investment Trust/Property Trust Funds)
- Saudi Arabia: REIT (Real Estate Investment Traded Fund)
- Spain: SOCIMI (Sociedades Anonimas Cotizadas de Inversion en el Mercado Inmobiliario)
- Mexico: FIBRAS (Fideicomiso de Infraestructura y Bienes Raíces)
- Netherlands: FBI (Fiscal investment institution/Fiscale Beleggingsinstelling)
- New Zealand: Listed Property Vehicles (LPVs)
- Singapore: S-REIT (Singapore Real Estate Investment Trust)
- South Africa: REIT
- Turkey: Gayrimenkul Yatirim Ortakligi
- United Arab Emirates: REIT
- Pakistan: REIT

MSCI closely monitors the potential emergence of REIT equivalent structures in other countries and updates the above list when appropriate.

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 Equity Universe and will be subject to the same index eligibility rules applicable to other equity (and equity-like) securities.

Ineligible Alert Boards

Securities of companies included in the alert boards listed in the table below are not eligible for inclusion in the MSCI Equity Universe.

Country Name	Stock Exchange	Alert Board
Developed Markets		
Denmark	Copenhagen Stock Exchange	Observation Status (1)
Finland	Helsinki Stock Exchange	Observation Status (1)
Sweden	Stockholm Stock Exchange	Observation Status (1)
Singapore	Singapore Exchange	Watch List
Emerging Markets		
China	Shanghai Stock Exchange Shenzhen Stock Exchange	Special Treatment (ST / *ST)
India	Mumbai Stock Exchange	Z Group S+ Framework
Korea	Korea Exchange	Administrative Issues
Malaysia	Bursa Malaysia	PN17 Companies
Taiwan	Taiwan Stock Exchange Gretai Securities Market	Altered Trading Method (ATM)
Thailand	Stock Exchange of Thailand	Companies Facing Delisting
Turkey	Istanbul Stock Exchange	Watch List Companies
Frontier Markets		
Estonia	Tallinn Stock Exchange	Observation Status (1)
Lithuania	Vilnius Stock Exchange	Observation Status (1)

Vietnam	Ho Chi Minh Stock Exchange	Controlled Securities
<u>Stand Alone Market</u>		
Iceland	Iceland Stock Exchange	Observation Status (1)

(1) Not applicable to securities under Observation Status due to public takeover offers

Non-Index Constituents

Non-index constituents included in the alert boards listed in the table above are not eligible for inclusion in the MSCI Equity Universe.

In order to minimize potential reverse turnover, securities deleted due to inclusion on such boards (see deletion of existing index constituents below) may only be added back to the MSCI GIMI after 12 months from their deletion from the index provided that they have been removed from the ineligible alert board before the relevant equity universe cutoff date. For example, securities that are deleted due to becoming part of an ineligible alert board as part of the May 2014 SAIR will only be eligible for inclusion in the MSCI GIMI as part of the May 2015 SAIR if they have been removed from the ineligible alert board by the end of February 2015.

Deletion of Existing Index Constituents

Constituents of the MSCI GIMI that enter the alert boards listed in the table above will be deleted on the last business day of each month at market price with a notice period of at least two full business days. During an Index Review, the deletion of a security that enters an ineligible alert board will be made to coincide with the effective date of the Index Review. In addition, MSCI may reverse the addition of any company that may enter the alert boards in order to avoid potential reverse turnover.

In the event the securities do not trade on the implementation date of the deletion, MSCI would amend the deletion price from market price to lowest system price.

Appendix II: Market Classification Framework

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

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

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

Criteria		Frontier	Emerging	Developed
A Economic Development				
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 Size and Liquidity Requirements				
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 776 mm USD 61 mm 2.5% ATVR	3 USD 1,551 mm USD 776 mm 15% ATVR	5 USD 3,102 mm USD 1,551 mm 20% ATVR
C Market Accessibility Criteria				
C.1	Openness to foreign ownership	At least some	Significant	Very high
C.2	Ease of capital inflows / outflows	At least partial	Significant	Very high
C.3	Availability of Investment Instruments	Modest	Good and tested	Very high
C.4	Competitive landscape	High	High	Unrestricted
C.5	Stability of the institutional framework	Modest	Modest	Very high

* High income threshold for 2018: GNI per capita of USD 12,056 (World Bank, Atlas method)

** Minimum in use for the May 2019 Semi-Annual Index Review, updated on a semi-annual basis

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

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

Market accessibility aims to reflect international investors' experience in investing in a given market and as a result, this criterion includes several sub-criteria. These

criteria are generally based on qualitative measures that are reviewed for all markets at least once a year during the MSCI Global Market Accessibility Review.

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



Market Accessibility Criteria

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

Markets Under Index Continuity

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, three constituents for an EM Standard Index, and two constituents for an FM Standard Index.

The following table below shows those markets where after the application of the index maintenance methodology, the Standard Index contains less than the minimum number of constituents, and hence the index continuity rules have been applied to achieve the minimum number of constituents as part of the May 2019 SAIR.

Developed Markets	Emerging Markets	Frontier Markets
	Pakistan	Estonia
		Lithuania*
		Mauritius
		Serbia*
		Tunisia
		WAEMU

*Markets with no other investable securities apart from the current constituents in the Standard Indexes

Appendix III: Country Classification of Securities

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

General Framework

Each company and its securities followed in the MSCI Equity Universe are classified in one and only one country.

The country classification of a company is generally determined by the company's country of incorporation and the primary listing of its securities. MSCI will classify a company in the country of incorporation if its securities have a primary listing in this country. This approach determines the country classification of the vast majority of companies.

Other Cases

In some cases, a company's securities may be incorporated in one country while its securities have a primary listing in a different country. For example, 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 such cases where a company's securities have a primary listing outside of the country of incorporation, an additional analysis is performed to determine the company's country classification. In addition to the company's country of incorporation and the location of the primary listing, MSCI considers a set of criteria, including:

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

In the cases where the analysis cannot establish a significant link of a company with a single country, MSCI will generally classify the company in the country of the primary listing of its securities.

Country Specific Cases

United States (US): Companies listed in the US may be classified in the US provided that they file a Form 10-K/10-Q and four of the following five variables do not point to another single country: operations, revenues, headquarters, management and shareholder base. Companies incorporated in Puerto Rico and listed in the US are generally included in the US Equity Universe.

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

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 MSCI Russia universe if they have an eligible listing in Russia that meets all the investability screens described in Sub-section 2.2, including the EM Minimum Liquidity Requirement. Russian Depositary Receipts are currently not considered as eligible listings.

China: The MSCI China universe includes companies incorporated in the People's Republic of China (PRC) and listed in the form of A shares⁴⁹, or 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\$). Securities with a "ST" or "*ST" status are excluded from the Equity Universe (see Appendix I for more details).

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: company whose largest shareholder is an organization or enterprise that is owned by the state, provinces, or municipalities of the PRC.

P-Chip: the company satisfies at least two out of three 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 non-current assets in PRC China

For existing constituents, the exit thresholds for revenue and non-current assets are 70% and 50% respectively.

⁴⁹ Currently only Large Cap A shares are included in the MSCI China Index.

Companies which exhibit strong linkage to China but do not satisfy the H Shares, Red Chip or P Chip conditions above are included in MSCI Hong Kong universe.

The MSCI China universe excludes companies which satisfy the above conditions but derive more than 80% of their revenues from the Hong Kong Special Administrative Region. These companies will be included in the MSCI Hong Kong universe. However existing constituents may remain in the MSCI Hong Kong universe if they meet the threshold of 70%. Also, the companies which derive a majority of revenues and assets from Macau are included in the MSCI Hong Kong universe.

Securities classified in China may be represented by a foreign listing (i.e. a listing outside China or Hong Kong) in the MSCI China Indexes. However, such securities listed in the US and resulting from reverse mergers⁵⁰ are not eligible for index inclusion.

Australia: The MSCI Australia universe includes companies incorporated in Papua New Guinea that are listed on the Australian Securities Exchange.⁵¹

Greece: The MSCI Greece universe includes companies incorporated in Cyprus that are listed on the Athens Exchange.⁵²

Countries subject to economic sanctions: MSCI does not cover certain countries for which significant economic sanctions are applied. Examples of such countries as of February 2018 are Cuba, Democratic Republic of the Congo, Libya, North Korea, Iran, Iraq, Somalia, Sudan and Syria.

Companies that are classified to and/or incorporated in such countries are not eligible for inclusion in the MSCI Global Investable Market Indexes. MSCI regularly assesses eligibility of new markets and communicates their potential inclusion in the MSCI GIMI in advance of implementation.

⁵⁰ Companies resulting from reverse merger but are later listed through a formal IPO will be considered eligible.

⁵¹ Effective since the November 2015 SAIR.

⁵² Effective since the May 2009 SAIR.

Change in Country Classification

In general, country classification review for all securities in the MSCI Equity Universe is conducted annually and changes, if any, are implemented at November SAIRs.

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

In case an index constituent changes its incorporation as part of a corporate event, the country classification in such cases is reviewed in accordance with the section 5.4 of the MSCI Corporate Events methodology book. In that case, the company may be reclassified simultaneously with the change in country of incorporation or at an Index Review following the corporate event. If a decision is made to re-classify the company after the change in country of incorporation, an announcement will be sent out as per the MSCI announcement policy. No announcement will be sent if the company will not be re-classified.

For cases with change in incorporation outside of a corporate event, the country classification is generally reviewed and implemented at the May and November SAIRs following the incorporation change, based on the country classification framework as mentioned above.

Appendix IV: Foreign Listing Materiality Requirement

Securities may be represented in the MSCI Global Investable Market Indexes by a listing in the country where they are classified (i.e. “local listing”). In addition, securities may also be represented by a listing in a different country (i.e. “foreign listing”) in certain MSCI Country Investable Market Indexes (IMI) within the MSCI Global Investable Market Indexes.

Foreign listings may become eligible to represent securities only from the countries that meet the Foreign Listing Materiality Requirement. This requirement is applied at the time of SAIRs to the countries that do not yet include securities represented by foreign listings.

In order to assess whether a country meets the Foreign Listing Materiality Requirement, the following steps are undertaken:

- Apply SAIR index maintenance rules described in Sub-section 3.1 to determine which securities represented by a foreign listing would be included in the MSCI Country IMI if foreign listings were eligible from that country.
- Calculate the aggregate free float-adjusted market capitalization of all such securities
- This aggregate market capitalization of securities represented by foreign listings should represent at least:
 - 5% of the free float-adjusted market capitalization of the relevant MSCI Country IMI⁵³, and
 - 0.05% of the free float-adjusted market capitalization of the MSCI ACWI IMI.

The second condition is not applied to Frontier Markets countries.

Once a country meets the Foreign Listing Materiality Requirement at a given SAIR, foreign listings will become eligible from this country at the following SAIR. Then, foreign listings will remain eligible even if the aggregate market capitalization of securities represented by foreign listings decreases over time below the materiality thresholds.

The following table provides the list of countries for which securities may be represented by foreign listings:

⁵³ Securities represented by foreign listings are included in the free float-adjusted market capitalization of the MSCI Country IMI for the purpose of this calculation.

Countries for which foreign listings are eligible		
Argentina	Israel	Peru
Bahrain	Kazakhstan	Russia (*)
Botswana	Mauritius	Ukraine
China	Netherlands	
Hong Kong	Panama (**)	

(*) Only selected listings in London and New York are eligible. As publicly announced, MSCI will defer the potential inclusion of additional foreign listed companies in the MSCI Russia Indexes until further notice.

(**) The MSCI Panama Index was launched as a Standalone Market Index as part of the May 2017 Semi-Annual Index Review and currently includes only foreign listings.

At the May 2019 SAIR, no additional country met the Foreign Listing Materiality Requirement. Hence, foreign listings will not become eligible for any additional MSCI Country Indexes as part of the November 2019 SAIR.

Appendix V: Free Float Definition and Estimation Guidelines

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

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

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

Defining and Estimating Free Float

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

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

- **Strategic and other non-free float shareholdings:** Stakes held by private or public shareholders whose investment objectives or other characteristics suggest that those holdings are not likely to be available in the market. In practice, disclosure requirements generally do not permit a clear determination of these investment objectives. Therefore, MSCI primarily classifies shareholdings as free float or non-free float based on a categorization of investor types into non-strategic and strategic respectively.
- **Limits on share ownership for foreign investors:** Limits on the proportion of a security's share capital that is authorized for purchase by non-domestic investors. Where they exist, these foreign share-ownership limits are set by law, government regulations, company by-laws and other authoritative statements.
- **Other foreign investment restrictions:** Investment restrictions, other than those described above, which materially limit the ability of international investors to

freely invest in a particular equity market, sector or security. There is typically no simple way to account for these limitations in a benchmark, as these restrictions tend to be more subtle and complex, and may affect different market participants in different ways.

Classification of Shareholder Types

STRATEGIC SHAREHOLDER TYPES (NON-FREE FLOAT)	
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. ⁵⁴
Banks	Shareholdings by banks are considered as strategic, excluding shareholdings held in trust on behalf of third parties that are deemed to be non-strategic. (Shareholding by trust banks in Japan are considered non-strategic).
Principal officers and board members	Shares owned by the company's principal officers or members of the company's board of directors, including shares owned by individuals or families that are related to or closely affiliated with the company's principal officers, members of the company's board of directors, or founding members deemed to be insiders.
Employees	Shares of the employing companies, held by both officers and non-officers, which are held in a variety of ways including plans sponsored by the employer for the purpose of retirement and savings plans, incentive compensation programs and other deferred and employee pension funds.
Private Equity & Venture Capital	Shareholdings owned by private equity firms and venture capital funds are generally classified as non-free float.
NON-STRATEGIC SHAREHOLDER TYPES (FREE FLOAT)	
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

⁵⁴ For most countries, treasury shares are included in the determination of the total shares outstanding which is used in the calculation of the indexes, and therefore MSCI takes them into account in its calculation of free float. In other countries where treasury shares are excluded from the determination of the total shares outstanding, they are accordingly not taken into consideration for the free float calculation.

	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 is 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.
- **Sovereign Wealth Funds (SWF):**

- Holdings by SWF in securities classified in a domicile country of such fund are treated as non-free float.
 - For securities classified in a non-domicile country, stakes of SWFs of above 7% are treated as non-free float. Existing SWFs stake in securities classified in a non-domiciled country that are currently treated as non-free float will continue to be treated as such until the holdings fall below 5%.
- **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% are treated as strategic.
- **Depository Receipts:** Shares that are deposited to back the issuance of Depository receipts such as ADRs and GDRs are classified as non-strategic, unless it is established that a specific stake held in Depository receipts is strategic in nature.
- **Shares with "loyalty" incentives:** In a public offering, special incentives are sometimes provided to retail investors and are subject to a minimum holding period. These shares will not be considered as part of the free float during the minimum holding period if the incentives are deemed to be material. In general, a conditional share bonus in a ratio of 1 to 5 (or an equivalent price discount of 1/6th), or more, will be considered as material.
- Lock-up periods:
 - Any shares that are subject to lock-up periods will be considered as non-free float during the lock-up period. At the end of the lock-up period, these shares will be classified as strategic or non-strategic based on the nature of the shareholder.
 - Free float of these securities will be reviewed, as defined in Sub-Section 3.1.7 for SAIRs and 3.2.4 for QIRs based on the date of data defined in Sub-Section 3.1.9 for SAIRs and 3.2.6 for QIRs.

- On expiration of the lock up holders, if there are no subsequent disclosures, MSCI would retain these non-free float holdings for one year from the date of listing.

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 Depositary Receipts (DRs) such as ADRs or GDRs as an exception to the outstanding foreign ownership restrictions, the FOL calculation includes the percentage represented by the depositary receipts. MSCI defines the percentage represented by DRs as the number of shares represented by DRs issued at the time of initial offering of the DRs adjusted for subsequent corporate events divided by the total number of shares outstanding.
- Similarly, if a company exceptionally permits certain foreign shareholders to own shares in excess of the maximum stated in the company's by-laws and the exception is publicly disclosed, this is taken into account in the calculation of the FOL.
- When a company's foreign ownership restriction is defined as a proportion of the company's total share capital and the company has multiple-listed share classes with no specific limit set for any one class, MSCI applies the company's FOL equally to each of the company's listed share classes.
- When a company's foreign ownership restriction is defined as a proportion of the company's total share capital and the company has multiple share classes but only one is listed, MSCI calculates the FOL by applying the total shares available to foreign investors (after taking into consideration foreign non-free float shareholdings of non-listed shares, if any) on the listed shares only.

Example:

Calculating Foreign Ownership Limit (FOLs)			
	Listed	Non-Listed	Total
Number of shares outstanding	500	500	1,000

Foreign non-free float shareholdings	100	100
Foreign ownership limit applied to the company	= 40%	
Foreign Ownership Limit (FOL) applied to listed shares	= ((0.40*1,000) – 100)/500	
	= 0.60	

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:
• 100% minus Non-Free Float Shareholdings, including Domestic and Foreign Shareholdings		
• FOL minus Foreign Non-Free Float Shareholdings		

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 Indexes can be achieved.

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

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

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

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

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

Free Float-Adjusted for Limited Investability = Free Float for Foreign Investors times the LIF

Therefore, for securities subject to other foreign investment restrictions, the Foreign Inclusion Factor is equal to the lesser of:

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

Foreign Room

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

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

Eligible Markets	Country Name
Developed Markets (DM)	AUSTRALIA
	JAPAN
Emerging Markets (EM)	CHINA

	INDIA INDONESIA KOREA PHILIPPINES QATAR TAIWAN UNITED ARAB EMIRATES
Frontier Markets (FM)	OMAN TUNISIA VIETNAM
Standalone Markets	SAUDI ARABIA ZIMBABWE

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

Example:

Calculating Foreign Room

Foreign ownership Limit (FOL) applied to the company	=40%
Foreign shareholdings	=20%
Foreign room	$=(40\%-20\%)/40\%$
	=50%

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		
	Company A	Company B
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%
Foreign Inclusion Factor (FIF)	0.60	0.12
Market price (\$)	500	500
Full market capitalization (\$ mm)	5,000	5,000
Free float-adjusted market capitalization (\$ mm)	3,000	600

Example:

Calculating Free Float-Adjusted Market Capitalization:			
Securities Subject to FOLs			
Company C	Company D*	Company E	
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
Free float (%)	12.4	60.0	60.0
Foreign ownership limit (%)	33.3	33.3	33.3
Foreign strategic shareholding (%)	10.0	10.0	0.0
Foreign ownership limit less the foreign strategic shareholding (%)	23.3	23.3	33.3
Foreign Inclusion Factor (FIF)	0.12	0.25	0.33
Market price (\$)	500	500	500

Full market capitalization (\$ mm)	5,000	5,000	5,000
Free float-adjusted market capitalization (\$ mm)	600	1,250	1,650
*This example is applicable only to companies classified in countries for which foreign room cannot be monitored			

Treatment of Hong Kong Listed Securities With High Shareholding Concentration Issues

Securities of companies included on the Hong Kong Securities and Futures Commission (SFC) high shareholding concentration notices are not eligible for inclusion in the MSCI GIMI. Such securities will remain ineligible until sufficient public disclosure is made by the issuing companies confirming an increase in free float that results in a Foreign Inclusion Factor equal to or larger than 0.15, following the SFC high shareholding concentration notice.

Constituents of the MSCI GIMI included on the SFC high shareholding concentration notices will be deleted on a quarterly basis coinciding with the regular Index Reviews.

At each regular Index Review MSCI will reflect the SFC high shareholding concentration notices until the Price Cutoff Date (as defined in sections 3.1.9 and 3.2.6). Constituents of the MSCI GIMI added to the SFC high shareholding concentration notices after the Price Cutoff Date will be deleted from the IMI at the next Index Review, unless such deletion is warranted as part of the ongoing Index Review based on other index inclusion criteria, such as size or liquidity. Index Review changes, including increasing free float-adjusted market capitalization or migration of such security will be cancelled.

Additions of newly eligible securities to the MSCI GIMI as part of a regular Index Reviews may be revised until five business days before the Index Review effective date if such newly eligible companies were added to the SFC high shareholding concentration notices after the Index Review Price Cutoff Date.

In order to avoid potential reverse turnover, MSCI may review eligibility of companies included on the SFC high shareholding concentration notice until five business days before the Index Review effective date if sufficient public disclosure is made available by the company that confirms an increase in free float resulting in a Foreign Inclusion Factor equal to or larger than 0.15.

Securities deleted as a result of inclusion on the SFC high shareholding concentration notice would not be added back to the MSCI GIMI for a period of 12 months after sufficient public disclosure becomes available that confirms an increase in free float resulting in a Foreign Inclusion Factor equal to or larger than 0.15.

Treatment of Non-Voting Depositary Receipts in Thailand

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

Foreign ownership limits that apply to common shares do not apply to NVDRs, and therefore the NVDR scheme may allow foreign investors to own a greater percentage of shares than the foreign ownership limit of Thai companies. However, there is a limit on the amount of NVDRs that may be issued for financial institutions⁵⁵ (generally set at 25%). NVDRs are traded through the Local Line and as such, investors can buy and sell them at the price of the Local Line.

Aside from NVDRs, foreign investors may purchase the Foreign Line, where they are entitled to all economic rights as well as voting rights. Foreign Lines are subject to Foreign Ownership Limits, and investors can buy and sell them at the price of the Foreign Line.

Treatment for companies without NVDR issuance limits

Companies with no limits on NVDR issuance are not subject to FOL and will be represented in the MSCI Indexes using their respective Local Lines.

Treatment for companies with NVDR issuance limits

Companies with limits on NVDR issuance, may be represented in the MSCI Indexes using both Foreign Lines and Local Lines. Each line is evaluated independently for potential inclusion or exclusion from the MSCI Thailand Indexes as per the index maintenance rules.

Company Full Market Capitalization. The company full market capitalization is calculated based on the price⁵⁶ of the Local Line.

Foreign Inclusion Factor. The free float distribution between the Foreign Line and the Local Line is determined as follows:

⁵⁵ Financial institutions including banks and finance companies that accept deposits from the public

⁵⁶ This will result in changes to the company full market capitalization of BANGKOK BANK and KASIKORNBANK. The changes in the company full market capitalization were reflected in the MSCI product files effective April 16, 2019.

If Foreign Line is not included in Index	If Foreign Line is included in Index
$FIF_{(Local\ Line)} = \text{Minimum (DIF, NVDR limit - NVDR strategic holdings)}$	$FIF_{(Foreign\ Line)} = \text{Minimum (DIF, FOL - FOREIGN strategic shareholding)}$
	$FIF_{(Local\ Line)} = \text{Minimum (DIF - FIF}_{(Foreign\ Line)}, \text{NVDR limit - NVDR strategic holdings)}$

Foreign Room. Foreign room is assessed for the Local Line relative to the NVDR issuance limits in line with the quarterly review of foreign room described in sections 3.1.6.2 and 3.2.1.4.

Foreign Lines are not monitored for low foreign room since Foreign Lines have secondary market trading.

Early Inclusions. MSCI will not include the Foreign Line in the MSCI Indexes at the time of IPOs or other early inclusions. This is to provide sufficient time to evaluate liquidity of Foreign Lines in the secondary market. Only the Local Line may be considered for early inclusion if it meets all the necessary requirements.

Appendix VI: Global Industry Classification Standard (GICS)

Introduction

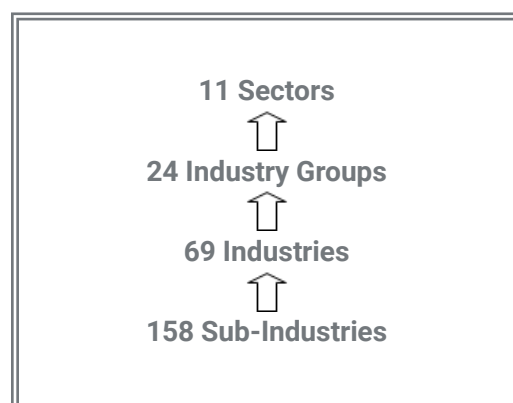
The Global Industry Classification Standard (GICS) was developed by MSCI in collaboration with S&P Global to provide an efficient, detailed and flexible tool for use in the investment process. It is designed to respond to the global financial community's need for a global, accurate, complete and widely 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 Structure

The key features of the GICS Structure are that it is:

- Universal: the Structure applies to companies globally.
- Reliable: the structure correctly reflects the current state of industries in the equity investment universe.
- Flexible: the structure offers four levels of analysis, ranging from the most general sector to the most specialized sub-industry.
- Evolving: annual reviews are conducted by MSCI and S&P Global to ensure that the structure remains fully representative of today's global markets. 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 11 sector classifications:

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

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.

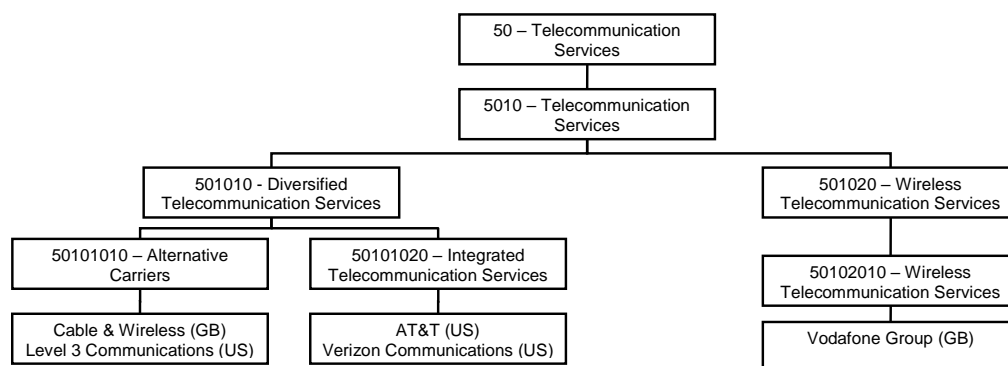
The GICS: Market Demand-Oriented

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 11 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 more than 60% of the company's revenues.

Example: Nokia (FI)

2013 Results	Nokia Networks	Nokia Technologies	HERE
Revenues	89%	4%	7%
Earnings	88%	24%	-12%

Classified as:

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

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

Example: General Electric (US)

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

Classified as:

GICS Level	GICS Code	Code Description
Sector	20	Industrials
Industry Group	2010	Capital Goods
Industry	201050	Industrial Conglomerates
Sub-Industry	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.

Please refer to www.msci.com/gics for GICS structure.

GICS Structure Review Frequency

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

Appendix VII: Price Source for Securities

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

<https://www.msci.com/index-methodology>

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

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

Russia

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

Markets open on Saturday and/or Sunday

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

Appendix VIII: Policy Regarding Trading Suspensions and Market Closures during Index Reviews

Policy Regarding Trading Suspensions for Individual Securities during Index Reviews

MSCI will postpone the implementation of Index Review changes for IMI constituents, as well as Micro Cap constituents, when the affected securities are suspended⁵⁷ 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.

Index Review changes include:

- Additions to, deletions from or migrations between the MSCI Large Cap, MSCI Mid Cap, MSCI Small Cap and MSCI Micro Cap Indexes
- Changes in Foreign Inclusion Factor (FIF), Domestic Inclusion Factor (DIF), Number of Shares (NOS) or style for the relevant current and pro forma IMI and Micro Cap constituents
- Changes in the Index Inclusion Factor in the context of the inclusion of China A shares, if any (e.g. increase in weight due to the two-step inclusion process as part of the August 2018 QIR)
- All Index Review changes that are postponed due to suspension will be cancelled two months after the effective date of the Index Review if the securities are still suspended and will be implemented at the Index Review following the securities' resumption of trading if still warranted.
- Additions of Chinese securities to all MSCI Indexes⁵⁸ (including pro forma MSCI China Indexes, MSCI China A Inclusion Indexes, MSCI China All Shares Indexes and MSCI China A Onshore Indexes) will be cancelled instead of postponed if the securities are suspended on the day prior to the effective implementation of the Index Review. The inclusion of the security will be re-evaluated at the next Index Review.

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.

⁵⁷ The suspension status is taken as per the close of the regular trading time of the relevant stock exchange.

⁵⁸ Non-current IMI constituent

Market Closures Due to Scheduled Stock Market Holidays

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

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

Unexpected Full Trading Day Market Closures

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

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

Unexpected Market Closures of Less Than Full Trading Day

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

Market Outage during the Trading Day

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

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

Appendix IX: 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 Indexes, the Global Minimum Size Reference was determined to be USD 3.95 billion and reflected the market capitalization of the 1700th 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 1700th 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 1700th 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 1600th company is the new Global Minimum Size Reference for the DM Standard Indexes. At the next SAIR, the full market capitalization of the 1600th company will be the pro forma Global Minimum Size Reference.

Appendix X: Frontier Markets Country Classification

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

MSCI Frontier Markets Indexes			
	Very Low Liquidity (2.5% ATVR)	Low Liquidity (5% ATVR)	Average Liquidity (15% ATVR)
Larger Frontier Market			Kuwait
	Bahrain	Estonia	Bangladesh
	Croatia	Jordan	Vietnam
	Lebanon	Kazakhstan	
	Lithuania	Kenya	
	Mauritius	Oman	
Smaller Frontier Market	Morocco	Romania	
	Nigeria		
	Serbia		
	Slovenia		
	Sri Lanka		
	Tunisia		
	WAEMU**		
Standalone Market Indexes^			
	Very Low Liquidity (2.5% ATVR)	Low Liquidity (5% ATVR)	Average Liquidity (15% ATVR)
Larger Frontier Market	Nil		
	Bosnia-Herzegovina		
	Botswana		
	Bulgaria		
	Iceland		
	Jamaica		
Smaller Frontier Market	Malta		
	Panama		
	Palestine		
	Trinidad & Tobago		
	Ukraine		
	Zimbabwe		

^The list includes all Standalone Market Indexes rebalanced using the MSCI Frontier Markets Size and Liquidity Thresholds.

**The West African Economic and Monetary Union (WAEMU) consists of the following member countries: Benin, Burkina Faso, Ivory Coast, Guinea-Bissau, Mali, Niger, Senegal and Togo

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

Appendix XI: MSCI DR Indexes

Constructing the MSCI DR Indexes

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

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

Maintaining the MSCI DR Indexes

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

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

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

Quarterly Listing Reviews

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

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

All constituents deleted from the Parent Indexes resulting from either Quarterly Index Reviews or Semi-Annual Index Reviews will be simultaneously deleted from the MSCI DR Indexes, provided the asset was included in the MSCI DR Indexes. Additions to the Parent Indexes will be added to the corresponding MSCI DR Indexes only if they meet the liquidity and seasoning requirements.

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

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

Ongoing Event Related Changes

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

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

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

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

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

Additions and Deletions due to Corporate Events

For a constituent added to a Parent Index following a corporate event, the most liquid DR for such constituent will be eligible for inclusion in the respective MSCI DR Index

at the next regularly scheduled Quarterly Index Review or Semi-Annual Index Review, provided it meets all index inclusion requirements.

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

IPOs

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

Dividend Reinvestment for DRs Indexes

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

Withholding tax

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

Dividend Fees Payable by DR Holders

Normally a dividend fee is applied to dividends paid by DRs. This fee is an administrative cost associated with processing the dividend and it is a standard practice for depositary banks to charge it to the DR shareholders. MSCI does not take into account this dividend fee amount in the calculation of gross and net dividends, at the exception of Russian DRs (refer to section 2.3.6 of the MSCI Index Calculation Methodology for more details)

Appendix XII: MSCI Domestic Indexes

The MSCI Domestic Indexes are designed to represent the performance of the domestic equity markets of certain countries.

Most of the MSCI Domestic Indexes are based on the MSCI Global Investable Market Indexes Methodology. The indexes use the Domestic Inclusion Factor (DIF) as the free float adjustment factor for the market capitalization of each security. MSCI defines the free float of a security as the proportion of tradable shares outstanding that are deemed to be available for purchase in the public equity markets by domestic investors. In practice, limitations on free float available to domestic investors also include strategic and other shareholdings and these are not considered as part of available free float.

Please see Appendix V for details on MSCI free float calculation guidelines.

Currently, MSCI Domestic Indexes based on the MSCI Global Investable Market Indexes Methodology are available for China⁵⁹, India and GCC Countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates).

MSCI China A Onshore Indexes

The MSCI China A Onshore Indexes, referred to as the MSCI China A Indexes prior to March 1, 2018, are part of the MSCI Domestic Indexes.

The MSCI China A Onshore Indexes are based on the MSCI Global Investable Market Indexes, with the following methodology adaptations:

Equity Universe:

For the MSCI China A Onshore Indexes, the universe is defined as all China A shares listed on the Shanghai and Shenzhen Stock Exchanges. In general, all listed equity securities, or listed securities that exhibit characteristics of equity securities, except investment trusts, mutual funds and equity derivatives, are eligible for inclusion in the universe. Securities with a “ST” or “*ST” status are excluded from the Equity Universe (see Appendix I for more details).

⁵⁹ The domestic China Index is known the MSCI China A Onshore Index.

Equity Universe Minimum Size:

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

Assigning a Free Float-Adjustment Factor:

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

MSCI free float-adjusts the market capitalization of each security using an adjustment factor referred to as the Domestic Inclusion Factor (DIF). The DIF is not subject to Foreign Ownership Limits (FOL).

Currently, the index market capitalization of securities in the MSCI China A Onshore Indexes is determined as Domestic Inclusion Factor * Security Full Market Capitalization as in the MSCI Global Investable Market Indexes.

Appendix XIII: Inclusion of the MSCI Saudi Arabia Indexes in the MSCI Emerging Markets Indexes

The MSCI Saudi Arabia Indexes were launched as Standalone Market Indexes effective June 1, 2015, coinciding with the opening of the Saudi Arabia equity market to foreign direct investment. The indexes were transitioned from the MSCI Provisional Saudi Arabia Indexes as part of the May 2015 Semi-Annual Index Review.

The MSCI Saudi Arabia Indexes follow the MSCI Global Investable Market Indexes methodology using the Emerging Markets size and liquidity requirements.

The indexes incorporate the 49% Foreign Ownership Limit that applies to non-GCC investors. Starting from the November 2016 Semi-Annual Index Review, the indexes no longer reflect the 20% ownership limit for Qualified Foreign Financial Investors (QFIs) as this limit was abolished effective September 4, 2016 following amendments by the Saudi Arabia Capital Market Authority to the “Rules for Qualified Foreign Financial Institutions Investment in Listed Securities.”

Following the 2018 Annual Market Classification Review, MSCI announced that it will include the MSCI Saudi Arabia Index in the MSCI Emerging Markets Index, in two equal steps, as measured by free float-adjusted market capitalization.

The first inclusion step, in which Saudi Arabian securities will be added to the MSCI Emerging Markets Indexes at an Index Inclusion Factor (IIF) of 0.5, will coincide with the May 2019 Semi-Annual Index Review. The second step, as part of which the IIF would be increased to 1, will take place as part of the August 2019 Quarterly Index Review.

Provisional Indexes

Currently, MSCI calculates the following indexes that are maintained based on Emerging Markets requirements as per the MSCI Global Investable Market Indexes methodology:

- MSCI Saudi Arabia Index
- MSCI Saudi Arabia IMI

These indexes will serve as the basis for the pro forma indexes that will be included in the MSCI Emerging Markets Indexes.

In addition, MSCI has made available the following provisional indexes which include the MSCI Saudi Arabia Index or the MSCI Saudi Arabia IMI:

- MSCI Provisional ACWI with SA and AR Index
- MSCI Provisional ACWI IMI with SA and AR

- MSCI Provisional EM with SA and AR Index
- MSCI Provisional EM IMI with SA and AR
- MSCI Provisional EM EMEA with SA Index
- MSCI Provisional EM EMEA IMI with SA
- MSCI Provisional EM Islamic M Series with SA and AR

Index Maintenance of the MSCI Saudi Arabia Indexes at the May 2019 SAIR

MSCI will apply index maintenance rules on the existing MSCI Saudi Arabia Indexes using Emerging Markets size and liquidity requirements as part of the May 2019 SAIR. The IIF of 0.5 will then be applied on the Saudi Arabian securities for inclusion to the MSCI Emerging Markets Indexes.

The IIF will not be taken into consideration in the index maintenance process in determining the pro forma list of constituents of the MSCI Saudi Arabia Indexes at the time of the May 2019 SAIR. Specifically, the ATVR calculation as well as the free float-adjusted market capitalization used for assessment against additional size-segment investability requirements will not be impacted by the IIF.

Index Maintenance of the MSCI Saudi Arabia Indexes at the August 2019 QIR

As part of the August 2019 QIR, MSCI will apply index maintenance rules on the existing MSCI Saudi Arabia Indexes based on Emerging Markets size and liquidity requirements and the IIF applied on the Saudi Arabian securities will be increased to 1.

New additions at the time of the August 2019 QIR will no longer be subject to the two-step inclusion process and will instead be included at their full weight.

Ongoing Event Maintenance of the MSCI Saudi Arabia Indexes

The ongoing event-related changes to the MSCI Saudi Arabia Indexes will continue to follow the MSCI GIMI Methodology and the MSCI Corporate Events Methodology.

In line with the two-step inclusion process, Saudi Arabian securities that will be included in the period between the effective dates of the May 2019 SAIR and August 2019 QIR (i.e. outside regular Index Reviews) will be added with an IIF of 0.5. The IIF will only be applied to determine the index weight of the newly added securities and will not impact the assessment for potential early inclusion.

Impact on the MSCI Saudi Arabia Domestic Indexes

In line with the inclusion of the MSCI Saudi Arabia Indexes to the MSCI Emerging Markets Indexes, the MSCI Saudi Arabia Domestic Indexes will be maintained based on Emerging Markets requirements for size and liquidity starting at the May 2019 SAIR, instead of the current Frontier Markets requirements.

The MSCI Saudi Arabian Domestic Indexes will continue to be reflected in selected MSCI composite indexes⁶⁰. The IIF will not impact the MSCI Saudi Arabia Domestic Indexes and related composites.

⁶⁰ As announced on February 13, 2019, in the context of the inclusion of Saudi Arabia to Emerging Markets, MSCI will rename certain composite indexes containing the MSCI Saudi Arabia Domestic Index. For example, the MSCI GCC Countries Indexes will be renamed to the MSCI GCC Countries Combined Indexes coinciding with the May 2019 SAIR.

Treatment of Suspended Securities at the Time of the Inclusion

At the time of the inclusion of the MSCI Saudi Arabia Indexes to the MSCI Emerging Markets Indexes, MSCI will apply suspension treatment from the perspective of the MSCI Emerging Markets Indexes while maintaining a building-block approach. The details of the treatment are described below.

Treatment of Suspended Securities at the time of the May 2019 SAIR

MSCI will postpone the addition of securities to the MSCI Saudi Arabia Indexes and therefore MSCI Emerging Markets Indexes if the securities are suspended two business days before the effective date of the reclassification. Once the securities resume trading, the securities will be added to the MSCI Saudi Arabia Indexes after two business days.

Similarly, MSCI will postpone the addition of existing constituents of the MSCI Saudi Arabia Indexes to the MSCI Emerging Markets Indexes if the securities are suspended two business days from the effective date of the reclassification. However, in order to retain the building block approach within the MSCI Equity Indexes, such securities will be deleted at the lowest system price from the MSCI Saudi Arabia Indexes as of the close of the effective implementation date and will be added back to the MSCI Saudi Arabia Indexes (and consequently, to the MSCI Emerging Markets Indexes) two business days after the securities resume trading.

Also, deletions from the MSCI Saudi Arabia Indexes and thus, non-addition to the MSCI Emerging Markets Indexes will be removed from the MSCI Saudi Arabia Indexes at the lowest system price as of the close of the effective implementation date in order to retain the building block approach of the MSCI Equity Indexes.

Treatment of Suspended Securities at the time of the August 2019 QIR

The increase in the IIF (and consequently the weight increase as part of the second inclusion step) will be postponed if a security is suspended two business days from the effective date of the August 2019 QIR. The increase in the IIF will be implemented two business days after the security resumes trading.

The addition or deletion of securities to/from the MSCI Saudi Arabia and MSCI Emerging Markets Indexes will be postponed if the securities are suspended two business days before the effective date of the reclassification. Once the securities resume trading, the securities will be added to or deleted from the MSCI Saudi Arabia Indexes after two business days.

Impact of Suspension Treatment on Other Indexes

The suspension treatment may impact the MSCI Saudi Arabia Domestic Indexes as well as Derived Indexes whose Parent Indexes include the MSCI Saudi Arabia Indexes. For such indexes, the suspended securities that are deleted at lowest system price from the MSCI Saudi Arabian Indexes will also be deleted at the lowest

system price if they are suspended two business days from the effective date of the reclassification. The addition of the suspended securities once they resume trading will depend on the respective treatment of the specific derived indexes for early inclusions.

Appendix XIV: MSCI China Indexes

MSCI offers a range of equity indexes designed to represent the performance of the China equity market. The table below outlines the MSCI China Indexes.

MSCI China Indexes Offering

MSCI China Indexes	Share Class									
	B Shares	H Shares	Red Chips	P Chips	Foreign Listings	A Shares				
						All	Connect eligible only	Size- Segment	Listing	Index Inclusion Factor
Integrated China Equity Universe										
MSCI China All Shares Index	✓	✓	✓	✓	✓		L/M/S	Onshore		FIF
MSCI China A International Index						✓	L/M/S	Onshore		FIF
MSCI China Indexes	✓	✓	✓	✓	✓		✓	L**	Connect	5%*
MSCI China A Inclusion Index							✓	L**	Connect	FIF
MSCI China A Inclusion RMB Index							✓	L**	Onshore	FIF
MSCI China A Index							✓	L/M	Connect	FIF
MSCI China A RMB Index							✓	L/M	Onshore	FIF
Domestic China A Shares Equity Universe										
MSI China A Onshore Index						✓		L/M/S	Onshore	DIF

*Index Inclusion Factor will increase to 10%, 15% and 20% as part of the May 2019 SAIR, August 2019 QIR and November 2019 SAIR respectively

**Mid Cap China A shares will be added as part of the November 2019 SAIR

The **MSCI China All Shares Indexes** are built on the basis of the integrated China Equity Universe, including China A shares. The MSCI China All Shares Indexes are designed to represent the opportunity set of China share classes. It will be used as a basis for the construction of the MSCI China Indexes, included in Emerging Markets, subject to additional screening and inclusion factor, as well as the newly launched MSCI China A Indexes, which reflect only securities available through the Stock Connect program.

The **MSCI China A International Indexes** are constructed to represent the performance of the China A shares component of the MSCI China All Shares Indexes. These indexes include China A shares regardless of their eligibility for trading through the Stock Connect program.

The **MSCI China A Indexes** are derived from the MSCI China A International Indexes and are designed to represent the performance of the China A shares portion of the MSCI China All Shares Index that are accessible through the Stock Connect program.

The MSCI China A Indexes are calculated using the Stock Connect listing based on the offshore RMB exchange rate (CNH) while the MSCI China A RMB Indexes are variants of the MSCI China A Indexes that are calculated using China A local listings based on the onshore RMB exchange rate (CNY).

For more details on the MSCI China All Shares and MSCI China A International Indexes, please refer to the MSCI China All Shares Indexes Methodology⁶¹.

The **MSCI China Indexes** are designed to represent the performance of the Chinese securities that are included in the MSCI Emerging Markets Indexes. In addition to the Red-chips, P-chips, B shares, H shares and foreign listings, Stock Connect eligible

⁶¹ Available on <https://www.msci.com/index-methodology>

Large Cap China A shares are included at 5% of their actual free float-adjusted market capitalization using the connect listing following the two step inclusion on June 1 and September 3 2018.

The **MSCI China A Inclusion Indexes**⁶² represent the China A share portion of the MSCI China Index. These indexes are also calculated using the CNH and CNY rates similar to the MSCI China A Indexes.

In addition, MSCI will also continue to calculate the **MSCI China A Onshore Indexes**⁶³ which are based on the Domestic Inclusion Factor (DIF) that is not subject to FOL and constructed only on the basis of the China A Equity Universe. Until March 1 2018, these indexes were named the MSCI China A Indexes.

⁶² Please refer to Appendix XVI for more details.

⁶³ Please refer to Appendix XII for more details on the MSCI China A Onshore Indexes.

Appendix XV: Inclusion of China A Shares in the MSCI China Indexes

On June 20, 2017 MSCI announced the partial inclusion of China A shares in the MSCI China Indexes and hence the MSCI Emerging Markets Indexes. As such, China A shares of companies assigned to the Large Cap Size-Segment and which are trading through the Stock Connect are included in the MSCI China Indexes at 5% of their FIF-adjusted market capitalization through the application of an Index Inclusion Factor (IIF).

On February 28, 2019, MSCI announced that it will increase the weight of China A shares in the MSCI Indexes which will be implemented in three steps as described below:

Step 1: increase the IIF of all China A Large Cap shares in the MSCI Indexes from 5% to 10% and add ChiNext Large Cap shares with a 10% inclusion factor coinciding with the May 2019 SAIR.

Step 2: increase the IIF of all China A Large Cap shares, including the ChiNext Large Cap shares, in the MSCI Indexes from 10% to 15% coinciding with the August 2019 QIR.

Step 3: increase the IIF of all China A Large Cap shares, including the ChiNext Large Cap shares, in the MSCI Indexes from 15% to 20% and add China A Mid Cap shares, including eligible ChiNext shares, with a 20% inclusion factor to the MSCI Indexes coinciding with the November 2019 SAIR.

Index Maintenance of the MSCI China Indexes as part of the Third Step of the Weight Increase of China A Shares

Deriving the Pro Forma Constituents of the MSCI China Index as part of the November 2019 SAIR

As part of the November 2019 SAIR, the MSCI China Index will be made to converge with the pro forma constituents of the MSCI Provisional CHINA NOVEMBER 2019 Index.

MSCI will rebalance the MSCI Provisional CHINA NOVEMBER 2019 Index at the time of the November 2019 SAIR in the following sequence:

1. Apply regular SAIR rebalancing rules on the MSCI China All Shares Index for determining the Size-Segmentation;
2. Exclude securities not eligible through the Stock Connect;

3. Exclude China A securities that are not part of the MSCI Provisional CHINA NOVEMBER 2019 Index prior to the November 2019 SAIR and;
 - i. fail to meet 1x the Market Size-Segment Cutoff for company full market capitalization or;
 - ii. fail to meet 0.5x the Market Size-Segment Cutoff for security FIF-adjusted market capitalization.

Provisional Indexes

On July 11, 2019, MSCI launched 21 new Provisional Indexes as part of the MSCI ACWI Index series that aim to assist investors in managing the final step of the weight increase of China A shares.

The list of new provisional indexes includes:

- MSCI Provisional CHINA NOVEMBER 2019 Index
- MSCI Provisional CHINA IMI NOVEMBER 2019 Index
- MSCI Provisional EM NOVEMBER 2019 Index
- MSCI Provisional EM IMI NOVEMBER 2019 Index
- MSCI Provisional EM ASIA NOVEMBER 2019 Index
- MSCI Provisional EM ASIA IMI NOVEMBER 2019 Index
- MSCI Provisional ACWI NOVEMBER 2019 Index
- MSCI Provisional ACWI IMI NOVEMBER 2019 Index
- MSCI Provisional ACWI ex JAPAN NOVEMBER 2019 Index
- MSCI Provisional ZHONG HUA NOVEMBER 2019 Index
- MSCI Provisional ZHONG HUA IMI NOVEMBER 2019 Index
- MSCI Provisional GOLDEN DRAGON NOVEMBER 2019 Index
- MSCI Provisional GOLDEN DRAGON IMI NOVEMBER 2019 Index
- MSCI Provisional AC ASIA NOVEMBER 2019 Index
- MSCI Provisional AC ASIA IMI NOVEMBER 2019 Index
- MSCI Provisional AC ASIA ex JAPAN NOVEMBER 2019 Index
- MSCI Provisional AC ASIA ex JAPAN IMI NOVEMBER 2019 Index
- MSCI Provisional AC ASIA PACIFIC NOVEMBER 2019 Index
- MSCI Provisional AC ASIA PACIFIC IMI NOVEMBER 2019 Index
- MSCI Provisional AC ASIA PACIFIC ex JP NOVEMBER 2019 Index
- MSCI Provisional AC ASIA PACIFIC ex JP IMI NOV 2019 Index

Treatment of Suspended Securities as part of the November 2019 SAIR

In the context of the weight increase of China A shares, changes in Index Inclusion Factor (IIF), if any, will be postponed if the affected securities are suspended on the day prior to the effective implementation of the Index Review. The postponed changes will be implemented 2 days after the securities resume trading.

Additions of Chinese securities, including the addition of Mid Cap China A shares, will be cancelled instead of postponed if the securities are suspended on the day prior to the effective implementation of the Index Review. The inclusion of the securities will be re-evaluated at the next Index Review.

In the event of trading suspensions on the day before the implementation date of the November 2019 SAIR, MSCI will align the MSCI China A Mid Cap Indexes with the China A share component of the MSCI China Indexes as well as the MSCI China A Inclusion Indexes on the effective date of the November 2019 SAIR. More specifically:

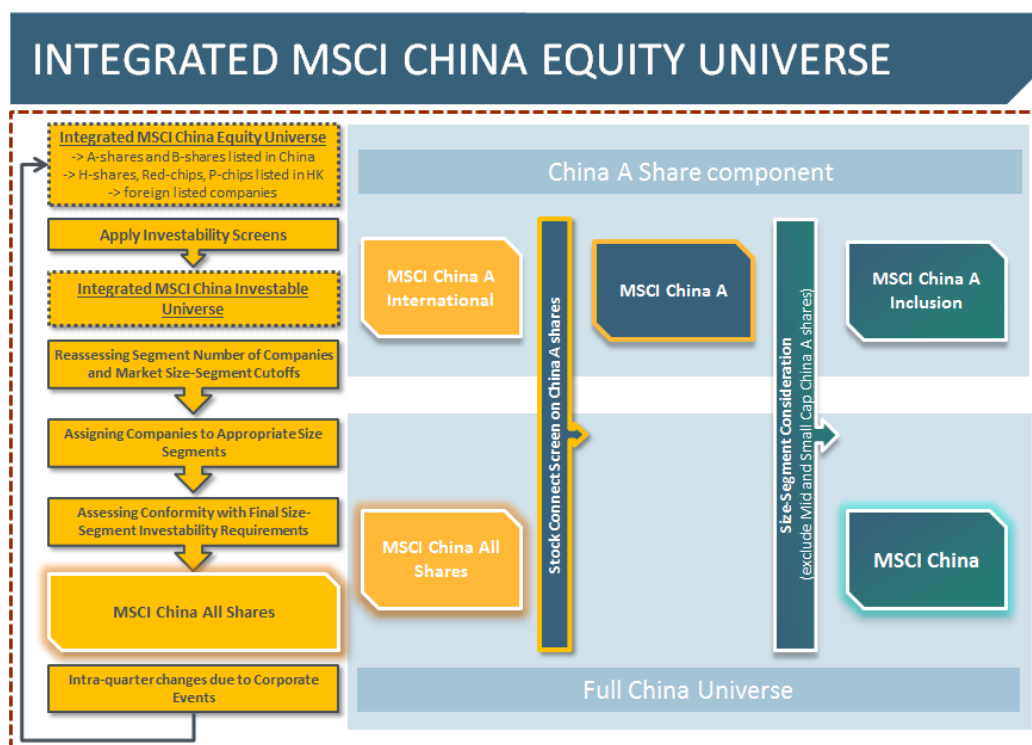
- Securities that are already constituents of the MSCI China A Mid Cap Indexes will be deleted on the effective date of the November 2019 SAIR if the addition to the MSCI China Index is cancelled following a suspension on the day prior to the Index Review effective implementation date;
- Deletions of securities from the MSCI China A Mid Cap Indexes will not be postponed even if they were suspended on the day before the effective implementation date.

Deletions of such suspended securities from the MSCI China A Index will be implemented at the lowest system price of 0.00001 of the security's price currency.

Please note that exceptionally, such securities will also be deleted simultaneously from the MSCI China All Shares and the MSCI China A Onshore Indexes at the lowest system price.

Index Maintenance of the MSCI China Indexes

This section should be read in conjunction with the earlier Section 2 'Constructing the MSCI Global Investable Market Indexes' and Section 3 'Maintaining the MSCI Global Investable Market Indexes' as it describes only on the points specific to maintenance of the MSCI China Indexes.



Integrated MSCI China Equity Universe

The MSCI China Indexes will continue to be maintained using the MSCI Global Investable Market Indexes methodology under Emerging Market framework. However, it will be constructed on the basis of the integrated MSCI China Equity Universe comprised of A-shares and B-shares listed in China, H-shares, Red-chips, and P-chips listed in Hong Kong and foreign listing listed outside China or Hong Kong, identical to the universe used for the construction of the MSCI China All Shares Index.

While all share classes from the integrated China Equity Universe will be included in the construction of the MSCI Investable Equity Universe, as well as in the process of allocation of companies into the Size-Segments, China A shares of companies allocated to the Mid and Small Cap Size-Segments as well as China A shares not available through the Stock Connect will not be included in the MSCI China Indexes.

Calculation of Market Capitalization

For the purpose of index rebalancing, the security market capitalization of all the China A shares in the integrated China equity universe will be converted to US Dollars using onshore RMB exchange rate (CNY) regardless whether CNY or CNH rate is

used for index calculation. For example, the issuer market capitalization of a company used as part of the rebalancing for the CNY or CNH based indexes would be the same and would be based on the CNY exchange rate.

Impact of the Index Inclusion Factor for the Index Construction

The IIF, if applicable, will not be taken into consideration in the context of an index inclusion decision. However, it will be applied in addition to the FIF in the calculation of the security index weights. More specifically, the IIF will not have any impact on the calculation of a security's free float-adjusted market capitalization, Annualized Traded Value Ratios (ATVRs) or foreign room that will be screened as part of the rebalancing process at the time of Index Reviews.

Investability Requirements

In addition to the Investability Requirements described in section 2.2, MSCI will exclude newly eligible securities (securities that are not current constituents of the Investable Market Indexes) from the investable equity universe if the securities:

- Are suspended on the Price Cutoff date, or
- Have been suspended for at least 50 days consecutively in the past 12 months⁶⁴

Companies and securities are evaluated based on the integrated MSCI China Equity Universe described above. All Investability Requirements for the MSCI China Indexes are fully consistent with the Investability Rules applied to the MSCI China All Shares Index.

Calculation of the Market Size-Segment Cutoffs and Assigning Companies to the Size-Segments

The Market Size-Segment Cutoffs and the Size-Segment allocation of companies are based on the integrated MSCI China Investable Equity Universe. After this step, allocation to Size-Segments within the MSCI China Indexes is identical to the MSCI China All Shares Indexes.

⁶⁴ As of each day from the effective date of the Index Review one year prior to the price cutoff date of the current Index Review (for example: a non-Index constituent suspended for 50 days as of any day from June 1, 2017, the effective date of the May 2017 SAIR, to April 23, 2018, the price cutoff date of the May 2018 SAIR, would not have been eligible for the Investable Market Universe of the May 2018 SAIR)

Special Treatment of the MSCI China Indexes Prior to the Inclusion of Mid Cap China A shares

In order to prevent reverse turnover in the Standard MSCI China Index, MSCI will not implement migrations between the Large Cap and the Mid Cap Size-Segments in the MSCI China Indexes prior to the inclusion of Mid Cap China A shares in the November 2019 SAIR.

MSCI will lift the special treatment applied on the MSCI China Indexes together with the inclusion of China A Mid Cap shares in the MSCI China and MSCI EM Indexes as part of the November 2019 SAIR.

In order to maintain consistency this treatment is applicable to all share classes across all MSCI China Indexes with the exception of the MSCI China A Onshore Indexes.

Foreign Ownership Limits and Foreign Room

MSCI currently applies a Foreign Ownership Limit of 30% on all China A shares.

MSCI will monitor the Foreign Room of China A shares and will apply the necessary adjustment factors according to sections 3.1.6.2 and 3.2.1.4.

Assessing Conformity with Final Size-Segment Investability Requirements

Like for any other market, once companies are assigned to each Size-Segment, the securities of companies are evaluated for conformity with the additional Size-Segment Investability Requirements for each Size-Segment. However, in addition to the requirements described in the relevant sections, such as Section 3.1.6, China A shares are further screened on the basis of their Stock Connect eligibility and Size-Segment allocation status.

More specifically, prior to the November 2019 SAIR, China A shares not available through the Stock Connect as well as China A shares of companies assigned to the Mid and Small Cap Size-Segments will not be added to the MSCI China Indexes and thus the MSCI Emerging Markets Indexes. Starting from the November 2019 SAIR, China A shares not available through the Stock Connect as well as China A shares of companies assigned to Small Cap Size-Segments will not be added to the MSCI China Indexes.

This is an essential distinction between the MSCI China Indexes and the MSCI China All Shares Indexes, where all China A shares are potentially eligible.

China A shares of companies screened on the basis of the Stock Connect eligibility as well as Size-Segment will be treated based on their status in the MSCI China All Shares Indexes. More specifically, as long as such China A share is a constituent of

the MSCI China All Shares Indexes, it will be subject to all the buffer rules (including buffers for investability requirements, size-segment allocation and final size-segment investability requirements) in the subsequent Index Review.

Stock Connect Eligibility

China A Shares that are eligible for both buy and sell under either the Shanghai Connect or the Shenzhen Connect program will be eligible for inclusion to the MSCI China Index.

Stock Connect eligibility will be reviewed on a quarterly basis coinciding with the regular MSCI Index Reviews. A China A share will only be considered for inclusion to the Stock Connect compatible indexes if it becomes accessible through the Stock Connect program on or prior to the Index Review Price Cutoff Date.

For example, a China A share becoming accessible through the Stock Connect programs after the Price Cutoff Date of the May SAIR will not be considered for the May SAIR.

Stock Connect Daily Limit Breach

MSCI will not postpone the implementation of Index Review changes for Stock Connect listings of China A shares when the Stock Connect daily limit is breached on the effective implementation date.

Ongoing Event Related Changes

The ongoing event-related changes to the MSCI China Indexes primarily follow the MSCI GIMI Methodology and the MSCI Corporate Events Methodology.

In order to reflect accessibility of securities trading on Stock Connect and keep the MSCI Indexes replicable, methodologies were enhanced in order to more accurately reflect the investment process of Stock Connect investors, especially for cases when Stock Connect is closed but the onshore Chinese domestic market is trading.

Details of the treatment of Stock Connect China A shares can be found in Appendix VIII of the MSCI Corporate Events Methodology.

This section provides details on specific Corporate Events treatment of China A Stock Connect securities in the MSCI China Indexes in relation to their status in MSCI China All Shares.

Stock Connect Eligibility

Existing China A share constituents of the Stock Connect compatible indexes that are no longer accessible through the Stock Connect programs will be deleted from the indexes with a notice period of at least two full business days.

If the impacted securities are suspended on the day prior to the implementation date, MSCI will postpone the implementation. The postponed deletions will be implemented two days after the securities resume trading.

Stock Connect Daily Limit Breach

MSCI will not postpone the implementation of corporate events for Stock Connect listings of China A shares when the Stock Connect daily limit is breached on the effective implementation date.

Early Inclusions

IPOs of China A shares will only be reviewed for addition to the MSCI China Index at subsequent Index Reviews in order to assess the Stock Connect eligibility of the security.

Other cases of early inclusion of China A shares (for example but not limited to spin off, merger, acquisition) will only be considered for inclusion in the MSCI China Indexes

- if the event involves an existing constituent of the index,
- if the new security is allocated to the Large Cap size-segment,
- and if the Stock Connect eligibility of the security is announced on or before the day of MSCI sending “Confirmed” corporate event announcement for the relevant event.

The IIF applicable to a newly added security will be the same as the IIF of the Parent security. The treatment for such cases, if any, would be communicated to clients with sufficient advance notice through the regular channels.

For example, a spin-off resulting from an existing Large Cap China A share constituent of the MSCI China Index that qualifies for the Mid Cap size-segment would not be added to the MSCI China Index but would be reviewed for inclusion in the following Index Review.

As another example, if a merger between an existing Large Cap China A share constituent of the MSCI China Index and a Mid Cap China A share not represented in the MSCI China Index results in a new security that qualifies for the Large Cap size-segment, the new security will be included in the MSCI China Index.

Furthermore, prior to the inclusion of Mid Cap China A shares in the November 2019 SAIR, migrations of China A shares to the Large Cap Size-Segment from the Mid Cap or Small Cap Size-Segments of the MSCI China All Shares Indexes outside regular Index Reviews will not be added to the MSCI China Index. However, migrations of China A shares from the Large Cap Size-Segment to the Mid Cap or Small Cap Size-Segments of MSCI China All Shares Indexes outside of regular Index Reviews will be simultaneously deleted from the MSCI China Index.

For example, if a China A share constituent of the MSCI China All Shares IMI is migrating from Small Cap or Mid Cap to Large Cap due to a corporate event, the China A share security will not be added to the MSCI China Index at the time of the implementation of the corporate event and will be considered for inclusion in the following Index Review for MSCI China Index. However, if a China A share constituent of the MSCI China All shares IMI is migrating from Large Cap to either Mid Cap or Small Cap due to a corporate event, the China A share security will be deleted from the Large Cap Size-Segment of MSCI China Index at the time of the implementation of the corporate event.

Following the inclusion of Mid Cap China A shares in the November 2019 SAIR, migrations of China A shares to the Large Cap or Mid Cap Size-Segments from the Small Cap Size-Segment of the MSCI China All Shares Indexes outside regular Index Reviews will not be added to the MSCI China Index. However, migrations of China A shares from the Large Cap or Mid Cap Size-Segments to the Small Cap Size-Segments of MSCI China All Shares Indexes outside of regular Index Reviews will be simultaneously deleted from the MSCI China Index.

Any China A share added to or deleted from the Large Cap Size-Segment of the MSCI China All Shares Indexes will be assessed for inclusion in the MSCI China Index in the following Index Review based on their status in the MSCI China All Shares Indexes.

Calculation of the Interim Market Size-Segment Cutoffs

The Interim Market Size-Segment Cutoffs are calculated based on the integrated MSCI China Investable Equity Universe. The Interim Size-Segment Cutoffs for the MSCI China Indexes and the MSCI China All Shares Indexes will be the same starting from June 1 2018.

Appendix XVI: MSCI China A Inclusion Indexes

The MSCI China A Inclusion Index and MSCI China A Inclusion RMB Index are designed to track the progressive partial inclusion of A shares in the MSCI Emerging Markets Index over time.

The MSCI China A Inclusion Index is designed for global investors accessing the A shares market using the Stock Connect framework.

The MSCI China A Inclusion RMB Index is designed for domestic China investors.

The Indexes are constructed to represent the performance of the China A shares component of the MSCI Emerging Markets Index.

Index Construction

At initial construction, the constituents of the MSCI China A Inclusion Indexes were derived from the MSCI China A Large Cap Provisional Index by excluding securities that have been suspended for 50 consecutive days or more. The MSCI China A Large Cap Provisional Index reflects the China A shares to be included in Emerging Markets in June 2018.

For more information on the details of the MSCI China A Large Cap Provisional Index, please refer to Appendix XV of the MSCI GIMI Methodology.

While the MSCI China A Large Cap Provisional Index was discontinued after June 2018, the MSCI China A Inclusion Indexes continue to reflect the China A shares which are included in Emerging Markets.

Index Maintenance

Before Inclusion of China A Shares to Emerging Markets

Prior to inclusion of China A shares in the MSCI Emerging Markets Index which will commence in June 2018, the constituents of the MSCI China A Inclusion Indexes were derived from the MSCI China A Large Cap Provisional Index at each Index Review.

The treatment of ongoing event-related changes to the MSCI China A Inclusion Index follows the treatment for MSCI China A Provisional Indexes described in Appendix XV.

After Inclusion of China A Shares to Emerging Markets

After the inclusion of China A shares to the MSCI Emerging Markets Index occurs in June 2018, the constituents of the MSCI China A Inclusion Index are derived from the

MSCI China Index at each Index Review by including only the China A shares component.

In the event of further inclusion of China A Shares to the MSCI China Index, and consequently the MSCI Emerging Markets Index, the newly eligible A shares will be added to the MSCI China A Inclusion Index at the time of the actual implementation of the China A share inclusion in the MSCI China Index.

The ongoing event-related changes to the MSCI China A Inclusion Index follow the MSCI GIMI Methodology. For more information on the details of the implementation of ongoing event related changes, please refer to section 3.3 of the MSCI GIMI Methodology and the MSCI Corporate Events Methodology.

Index Calculation

The MSCI China Inclusion Index is calculated using China A Stock Connect listings based on the offshore RMB exchange rate (CNH).

The MSCI China Inclusion RMB Index is calculated using China A local listings based on the onshore RMB exchange rate (CNY).

Appendix XVII: MSCI China A Indexes

The MSCI China A Indexes⁶⁵ and the MSCI China A RMB Indexes are designed to represent the performance of the China A shares portion of the MSCI China All Shares Index that are accessible through the Stock Connect program.

The MSCI China A Indexes are designed for global investors accessing the China A shares market through the Stock Connect program.

The MSCI China A RMB Indexes are designed for domestic China investors and have the same constituents as the MSCI China A Indexes.

Currently, MSCI calculates the Standard as well as the Large Cap and the Mid Cap Size Segment Indexes for both the MSCI China A and the MSCI China A RMB Indexes.

1.1 Index Construction

The MSCI China A Indexes are constructed by deriving the constituents from the MSCI China All Shares Indexes by first selecting the China A shares securities and then filtering out the China A shares securities that are not accessible through the Stock Connect program.

1.2 Index Maintenance

The constituents of the MSCI China A Indexes are derived from the MSCI China All Shares Index at each Index Review by including only the China A shares that are accessible through the Stock Connect program.

1.3 Ongoing Event Related Changes

The ongoing event-related changes to the MSCI China Indexes primarily follow the MSCI GIMI Methodology and the MSCI Corporate Events Methodology.

In order to reflect accessibility of securities trading on Stock Connect and keep the MSCI Indexes replicable, methodologies were enhanced in order to more accurately reflect the investment process of Stock Connect investors, especially for cases when Stock Connect is closed but the onshore Chinese domestic market is trading.

Details of the treatment of Stock Connect China A shares can be found in Appendix VIII of the MSCI Corporate Events Methodology.

⁶⁵ The MSCI China A Onshore Indexes were previously known as the MSCI China A Indexes prior to March 1, 2018. Please refer to Appendixes XII and XIV of the MSCI GIMI Methodology for more details on the MSCI China A Onshore Indexes.

The following treatment is applied until the November 2019 SAIR:

In order to maintain consistency with the MSCI China Index, migrations of China A shares to the Large Cap Size-Segment from the Mid Cap or Small Cap Size-Segments of the MSCI China All Shares Indexes outside regular Index Reviews will not be added to the MSCI China A Large Cap Index. However, migrations of China A shares from the Large Cap Size-Segment to the Mid Cap or Small Cap Size-Segments of the MSCI China All Shares Indexes will be simultaneously deleted from the MSCI China A Large Cap Index and added to the MSCI China A Mid Cap Index if applicable.

Furthermore, migrations of China A shares to the Mid Cap Size-Segment from the Small Cap Size-Segment of the MSCI China All Shares Indexes outside regular Index Reviews will not be added to the MSCI China A Mid Cap Index; while migrations of China A shares from the Mid Cap Size-Segment to the Small Cap Size-Segments will be simultaneously deleted from the MSCI China A Mid Cap Index.

Following the November 2019 SAIR, migrations of China A shares to the Standard Size-Segment from the Small Cap Size-Segment of the MSCI China All Shares Indexes outside regular Index Reviews will not be added to the MSCI China A Index; while migrations of China A shares from the Standard Size-Segment to the Small Cap Size-Segment will be simultaneously deleted from the MSCI China A Index.

MSCI China A Index – Migrations outside of Index Reviews				
		To		
		Large	Mid	Small
From	Large		yes	yes
	Mid	yes		yes
	Small	no	no	

1.4 Index Calculation

The MSCI China A Indexes are calculated using China A Stock Connect listings based on the offshore RMB exchange rate (CNH).

The MSCI China A RMB Indexes are calculated using China A local listings based on the onshore RMB exchange rate (CNY).

Appendix XVIII: Transition to the MSCI GIMI Methodology

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

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

The transition of the MSCI Standard and the MSCI Small Cap Indexes to the MSCI Global Investable Market Indexes 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 indexes derived from the MSCI Standard Indexes followed the two phase transition except the MSCI Euro and Pan Euro Indexes which were transitioned in one phase in November 2007.

The transition was synchronized for all markets and composites.

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

The Provisional Standard and Provisional Small Cap Indexes and the new Size-Segment and Style Indexes that were created based on this methodology were official MSCI indexes 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 Indexes

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

Deriving the Size-Segment Indexes at Initial Construction of the Provisional Indexes

In the initial construction of the Provisional Size-Segment Indexes, 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 Indexes targeted market coverage and size integrity as described in [Sub-section 2.3.3](#):

- [Determining the Segment Number of Companies and Associated Market Size-Segment Cutoffs](#) 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 Indexes at Semi-Annual Index Reviews were fully populated at initial construction with companies from the current Standard and Small Cap Indexes, 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 Indexes](#).
- 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 Indexes

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 Indexes methodology for the Provisional MSCI Standard and Small Cap Indexes in each market and for all Provisional Indexes derived from the Standard indexes were made available to clients. The Provisional Indexes started with a base level of 1000 as of the close of May 31, 2007. All Global Investable Market Indexes, including the Provisional Standard and Provisional Small Cap Indexes, 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 Indexes were discontinued.

Reflecting Constituent Changes in the Standard Indexes at the Transition Points

In the first phase of the transition in November 2007:

- After the Provisional Standard Indexes were rebalanced as per the SAIR, they were compared to the relevant Standard Indexes.

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

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

Index Inclusion Factors were used to manage the indexes 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 Index Inclusion Factor (November 30, 2007)	Provisional Proforma Index Inclusion Flag (May 30, 2008)	Standard (final) Index Inclusion Factor (May 30, 2008)
Existing Constituents					
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
New Constituents					
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 Indexes 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 Indexes 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 Indexes 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 Indexes and Size-Segment Indexes were maintained according to the index maintenance principles of the Global Investable Market Indexes methodology.

To minimize changes not related to the transition, all changes in the Standard Indexes were coordinated with the Provisional Indexes. Only very significant changes in the equity markets and constituents were reflected during the Quarterly Index Reviews for the existing Standard and Small Cap Indexes. All new additions of companies to the Provisional Standard Indexes resulting from IPOs and the August 2007 and February 2008 QIRs were also included in the Standard Indexes 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 Indexes was made with a view to minimize potential reverse turnover in the indexes.

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

May 2007 Annual Full Country Index Review of the Standard Indexes 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 Indexes 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 Indexes. Further, in order to minimize reverse turnover, the May 2007 Annual Full Country Index Review for the Standard Indexes used the same Global Minimum Size Requirement and other investability requirements that were applied in the construction and maintenance of the Provisional Standard Indexes. Only securities that were constituents of the Provisional Standard Indexes were added to the Standard Indexes 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 Indexes were deleted.

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

August 2007 Quarterly Index Review

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

between the Provisional Standard and Provisional Small Cap Indexes was also reflected in the Standard and Small Cap Indexes.

November 2007 Semi-Annual Index Review

The changes in the Standard and Small Cap Indexes 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 Indexes Methodology.

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

In the second step, MSCI determined the difference in each constituent's free float-adjusted market capitalization between the indexes resulting from the first step above and the corresponding Post Semi-Annual Index Review Provisional Standard and Provisional Small Cap Indexes. Then, one-half of this difference was added to or deleted from the Standard and Small Cap Indexes. 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 Indexes was conducted under the principles of the Global Investable Market Indexes 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 Indexes were also reflected in the Standard and Small Cap Indexes.

May 2008 Semi-Annual Index Review

In May 2008, the second SAIR for the Provisional Standard and Provisional Small Cap Indexes was conducted under the principles of the Global Investable Market Indexes 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 Indexes as of the close of May 30, 2008. After this, the Provisional Indexes were discontinued as of the close of June 30, 2008.

Transitioning Other Indexes

Global Value and Growth Indexes

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

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

Euro and Pan-Euro Indexes

The MSCI Euro and MSCI Pan-Euro Indexes are subsets of the Standard MSCI EMU and MSCI Europe Indexes, 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 Indexes methodology. Consequently,

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

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

Indexes Based on the Standard Indexes

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

GCC Countries Indexes

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

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

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

Summary Transition Timeline

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

Date	Provisional/New	Standard & Small Cap
March 28, 2007	Final MSCI Global Investable Market Indexes 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 Indexes, under the Global Investable Market Indexes methodology for each of the MSCI Provisional Standard and Provisional Small Cap Indexes, was made available.	Results of May Annual Index Review were announced.
May 31, 2007	Provisional Indexes start with a base level of 1000 as of the close	Annual Index Review changes became effective.

	of May 31, 2007 and calculation began	
June 5, 2007	Start of daily publication of the Provisional Standard and Provisional Small Cap Indexes. New Large Cap, Mid Cap, and Investable Market Indexes also published.	No impact.
August 2007	QIR of the Provisional and new indexes using buffers zones, updates of NOS, FIFs, IPO and newly eligible companies inclusions, etc.	QIR of the current Standard and Small Cap Indexes reflecting changes in NOS, FIF, etc. Addition of IPOs and newly eligible companies to the Provisional Standard Index Series were reflected in the Standard Index at their full weight. Migrations between the Provisional Standard and Provisional Small Cap Indexes were also reflected in the Standard and Small Cap Indexes.
November 2007	SAIR for Provisional and Size-Segment Indexes.	First phase of the transition included in QIR for Standard Indexes and SAIR for Small Cap Indexes.
November 30, 2007	Rebalanced Provisional Indexes implemented.	Partially transitioned Standard and Small Cap Indexes implemented.
February 2008	QIR of Provisional and new Size-Segment Indexes using buffers, updates of NOS, IPO inclusions, etc.	QIR of the current Standard and Small Cap Indexes reflecting changes in NOS, FIF etc. Addition of IPOs and newly eligible companies to the Provisional Standard Index Series were reflected in the Standard Index at their full weight. Migrations between the Provisional Standard and Provisional Small Cap Indexes were also reflected in the Standard and Small Cap Indexes.
May 2008 SAIR and Annual Review	SAIR for Provisional and Size-Segment Indexes.	Second and final phase of the transition included in May Annual Index Review for

		Standard Indexes and SAIR for Small Cap Indexes.
May 30, 2008		Fully transitioned Standard and Small Cap Indexes implemented.
After June 1, 2008	Provisional Indexes discontinued.	All MSCI global equity indexes operate under Global Investable Market Indexes methodology.

Changes to the Methodology Book

The following sections have been modified since November 2012:

3.2.4. Quarterly Index Review of Changes in FIFs

- Update of the footnote on page 45

3.3.3.3 Early Inclusion of Non-Index Constituents

- Update of the last paragraph on page 52

3.3.4.1 IPOs and Other Early Inclusions

- Update on page 54

3.3.5 Corporate Events Affecting the Index Review

- Update on page 55

Appendix I: Eligible Classes of Securities (Developed Markets)

- Update on page 73

Appendix III: Country Classification of Securities

- Update of the last paragraph on page 80
- Update on Russia on page 80
- Update on China on page 80

The following sections have been modified since February 2013:

2.2.5 Minimum Length of Trading Requirements

- Update last paragraph of section

3.1.6.2 Existing Constituents

- Update on page 39 and the footnote on page 40

3.2.4 Quarterly index Review of Changes in FIFs

- New paragraph end of section

3.2.5 Quarterly Index Review of Changes in the Number of Shares (NOS)

- New paragraph end of section

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

- Update on page 51

3.3.3.3 Early Inclusion of Non-Index Constituents

- Updates on page 52

3.3.4.1 IPOs and Other Early Inclusions

- Updates on page 55

5.1.1 Updating MSCI Frontier Markets Index Coverage

- New second paragraph

5.1.2 Standalone Country Indexes

- New section

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

- Updates on page 67

Appendix I: Eligible Markets (Emerging Markets & Frontier Markets)

- Updates on page 72 and 75
- Updates the footnote on page 71, 72 and 75

Appendix III: MSCI Ineligible Securities

- Updates on page 84

Appendix IV: Free Float Definition and Estimation Guidelines

- Updates on page 92

The following sections have been modified since May 2013:

3.1.9 Date of Data Used for Semi-Annual Index Review

- Updates on page 39

3.2.6 Date of Data Used for Quarterly Index Review

- Updates on page 47

Appendix III: MSCI Ineligible Securities

- Updates on page 84

The following sections have been modified since August 2013:

2.3.5.2 Minimum Liquidity Requirement for the Standard Indexes

- Section removed
- Updates on page 24

3.1.6 Assessing Conformity with Final Size-Segment Investability Requirements

- Updates on page 37

3.1.6.2 For Existing Constituents

- Updates on page 39
- Updates of the Footnote on page 39

3.2.1.4 Assessing Conformity with Final Size-Segment Investability Requirements

- Part of the section updated and moved under new section 3.2.3
- One paragraph added
- Updates of the Footnote on page 43

3.2.4 Quarterly Index Reviews of Changes in FIFs

- Update in footnote

3.2.4 Quarterly Index Reviews of Changes in Number of Shares (NOS)

- Updates

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

- Update for small cap

3.3.3.3 Early Inclusions of Non-Index Constituents

- Update in second paragraph

3.3.4.1 IPOs and Other Early Inclusion

- Updates

The following sections have been modified since November 2013:

3.1.6.2 For Existing Constituents

- Updates in second to the last paragraph
- Added footnote

3.2.1.4 Assessing Conformity with Final Size-Segment Investability Requirements

- Updates in third to the last paragraph

- Added footnote

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

- Section deleted

The following sections have been modified since February 2014:

2.1.1 Identifying Eligible Equity Securities

- Deleted “Other than Business Development Companies in the U.S.”

3.1.5 Assigning Companies to Appropriate Size-Segments

- Updates in first and second bullet points – added “or equal to”

3.2.1.3 Assigning Companies to Appropriate Size-Segments

- Update in first bullet point – added “or equal to”

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

- Updates in the first and fourth paragraph

Appendix I: Equity Markets and Universe

- Added sub-section on Ineligible Alert Boards

Appendix IX: Frontier Markets Country Classification

- Added the West African Economic and Monetary Union (WAEMU) as a Standalone Index

The following sections have been modified since May 2014:

2.1.1 Identifying Eligible Equity Securities

- Updates in the first paragraph and footnotes

2.4 Index Continuity Rules

- Updates in this section
- Section 3 Introduction
- Clarification paragraph added

3.1.9 Data used for Semi-Annual Index Reviews

- Updates in this section

3.2.2 Quarterly Index Review of Addition of Companies Currently not Constituents of the Investable Market Indexes

- Updates in this section

3.2.6 Data used for Quarterly Index Reviews

- Updates in this section

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

- Updates in this section

4.2.2 Quarterly Index Reviews of February and August

- Updates in this section

5.2.4 Index Continuity Rules

- Clarification paragraph added

Appendix III: Country Specific Cases

- Updates in this section

Appendix V: Global Industry Classification Standard (GICS)

- Updates in this section

Appendix X: MSCI Provisional Saudi Arabia Indexes

- New section

The following sections have been modified since August 2014:

2.1.1 Identifying Eligible Equity Securities

- Clarification on eligibility of Limited Partnerships

3.1.4.1 Determining Initial Segment Number of Companies

- Clarification on counting the Initial Segment Number of Companies for the IMI

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

- Clarification on treatment of securities with decreased FOL or foreign room outside of index reviews

Section 3.1.9: Date of Data Used for Semi-Annual Index Review

- Added footnote

Section 3.2.6: Date of Data Used for Quarterly Index Review

- Added footnote

Appendix I: Eligible Classes of Securities (Developed Markets)

- Updated table

Appendix I: Eligible Classes of Securities (Emerging Markets)

- Updated table

Appendix III: Country Specific Cases

- Updates in this section
- Appendix I: Updated list of countries with REITs

The following sections have been modified since November 2014:

Section 3.3.3.4: Early Deletions of Existing Constituents

- Updated deletion price and examples of early deletion

Appendix I: Eligible Classes of Securities (Emerging Markets)

- Updated deletion price for Ineligible Alert Boards

Appendix XI: MSCI Provisional Indexes for Coverage Enhancements

- New section

Appendix XIII: Transition of MSCI China A Index

- Deleted "Treatment of Suspensions"

Appendix XV: MSCI India Domestic Index

- New section

Appendix XVI: Enhancements to the Coverage of the MSCI Global Investable Market Indexes

- New section

The following sections have been modified since February 2015:

Appendix I: Equity Markets and Universe

- REITs

Appendix III: MSCI Ineligible Securities

Appendix X: MSCI Provisional Saudi Arabia Indexes

Appendix XI: MSCI Provisional Indexes for Coverage Enhancements

Appendix XIV: MSCI DR Indexes

- Updated for fees on dividends

Appendix XVI: Enhancements to the Coverage of the MSCI Global Investable Market Indexes

The following sections have been modified since May 2015:

Appendix X: MSCI Saudi Arabia Indexes

The following sections have been modified since July 2015:

Appendix I: Equity Markets and Universe

- Updated the table “Eligible Markets (Emerging Markets)”

Appendix XVI: Enhancements to the Coverage of the MSCI Global Investable Market Indexes

- Updated the table “Eligible Markets (Emerging Markets)”

The following sections have been modified since August 2015:

Section 3.2.4: Quarterly Index Reviews Changes in FIFs

- Added clarification in footnote

Appendix XVI: Enhancements to the Coverage of the MSCI Global Investable Market Indexes

- Updated the section on China under the revised Appendix III: Country Classification of Securities

The following sections have been modified since October 2015:

Appendix III: Country Classification of Securities

- Added the section on Australia under Country Specific Case

The following sections have been modified since November 2015:

Section 2.2: Determining the Market Investable Equity Universes

- Updates in this section

Section 2.2.1: Identifying Eligible Listings

- New section

Section 2.2.2: Applying Investability Screens

- New section (content previously included in section 2.2)

Section 2.2.5: DM and EM Minimum Liquidity Requirements

- Updates in this section on priority rules for selection of listings
- Added footnotes for further clarifications on liquidity calculation

Section 3.1.2: Updating the Market Investable Equity Universes

- Updates in this section

Section 3.1.2.1: Eligibility of Foreign Listings

- New section

Section 3.1.2.4: Minimum Liquidity Requirement for Existing Constituents

- Updates in this section on priority rules for selection of listings

Section 3.2.3: Quarterly Index Review of Deletion of Companies Currently Constituents of the Investable Market Indexes

- Updates in this section on priority rules for selection of listings

Section 3.2.5: Quarterly Index Review of Changes in Number of Shares (NOS)

- Updates in this section
- Added footnote

Section 5.1.2: Standalone Market Indexes

- Section deleted

Section 6: MSCI Standalone Market Indexes

- New section

Appendix I: Equity Markets and Universe

- Updated all the tables to reflect eligibility of foreign listings
- Updated list of countries with REITs to include Pakistan

Appendix III: Country Classification of Securities

- Updated the sections “General Framework” and “Other Cases”
- Updated the treatment of China under the section “Country Specific Cases”
- Added the treatment of Greece under the section “Country Specific Cases”

- Deleted the sections “Review and Maintenance” and “Country of Coverage of Companies Not Eligible for Inclusion in the MSCI Global Investable Market Indexes”

Appendix IV: Foreign Listing Materiality Requirement

- New appendix

Appendix V: Free Float Definition and Estimation Guidelines

- Updates in the table on the Classification of Shareholder Types

Appendix X: Frontier Markets Country Classification

- Updates in the format of the table

Appendix XVI: Enhancements to the Coverage of the MSCI Global Investable Market Indexes

- Appendix deleted

The following sections have been modified since February 2016:

Appendix V: Free Float Definition and Estimation Guidelines

- Added sub-section on Treatment of High Shareholding Concentration

Section 3.1.9: Date of data used for Semi-Annual index review

Updates in this section on ongoing maintenance of securities’ share classes, share types and alternate listing

The following have been modified since April 2016:

Section 3.1.9: Date of Data Used for Semi-Annual Index Review

- Updated the treatment of cases monitored and updated right up to the Price Cutoff Date

Section 3.2.4: Quarterly Index Review of Changes in FIFs

- Added the treatment of IPO over-allotment options

Section 3.2.5: Quarterly Index Review of Changes in Number of Shares (NOS)

- Added the treatment of over-allotment options

Section 3.2.6: Date of Data Used for Quarterly Index Review

- Updated the treatment of cases monitored and updated right up to the Price Cutoff Date

The following sections have been modified since May 2016:

Section 2.2.3: Equity Universe Minimum Size Requirement

- Added a footnote

Section 2.2.5: DM and EM Minimum Liquidity Requirement

- Updates in this section on calculation of Frequency of Trading

Appendix I: Equity Markets and Universe

- Updated the table “Eligible Classes of Securities for Stock Exchanges in Developed Markets”

Appendix III: Country Classification of Securities

- Added the treatment of countries subject to economic sanctions under the section “Country Specific Cases”

Appendix VIII: Policy Regarding Trading Suspensions and Market Closures during Index Review

- Added clarification for “Index Review changes”

The following sections have been modified since June 2016:

Appendix XII: MSCI Provisional Pakistan Indexes and MSCI Pakistan Indexes

- New section

The following sections have been modified since August 2016:

Section 2.4: Index Continuity Rules

- Updates in this section

Section 2.6: Classifying Securities under the Global Industry Classification Standard

- Updated to reflect revised GICS structure effective September 1, 2016

Section 5.2.4: Index Continuity Rules

- Updates in this section

Appendix I: Equity Markets and Universe

- Updated the table “Eligible Classes Of Securities For Stock Exchanges In Developed Markets”

Appendix VI: Global Industry Classification Standard (GICS)

- Updated to reflect revised GICS structure effective September 1, 2016

Appendix XIII: MSCI Provisional Indexes for Coverage Enhancements

- Appendix deleted

The following sections have been modified since October 2016:

Appendix I: Equity Markets and Universe

- Updated the table “Eligible Markets (Developed Markets)”

Section 2.2.5: DM and EM Minimum Liquidity Requirements

- Added footnote on priority rule for local listings

Section 3.1.2.4: Minimum Liquidity Requirement for Existing Constituents

- Added footnote on priority rule for local listings

Section 3.2.3: Quarterly Index Review of Deletion of Companies Currently Constituents of the Investable Market Indexes

- Added footnote on priority rule for local listings

The following sections have been modified since November 2016:

Section 3.1.4.2: Changes in the Segment Number of Companies

- Added footnotes

Section 3.1.9: Date of Data Used for Semi-Annual Index Review

- Updates in this section

Section 3.2.4: Quarterly Index Review of Changes in FIFs

- Updates in this section

Section 3.2.5: Quarterly Index Review of Changes in Number of Shares (NOS)

- Updates in this section

Section 3.2.6: Date of Data Used for Quarterly Index Review

- Updates in this section

Section 3.3.5: Corporate Events Affecting the Index Review

- Clarification paragraph added (first paragraph)

Appendix I: Equity Markets and Universe

- Updated the table “Eligible Markets (Developed Markets)”

- Updated the tables for Frontier Markets and Standalone Markets
- Updated the list of ineligible alert boards

Appendix VIII: Policy Regarding Trading Suspensions and Market Closures during Index Review

- Added clarification for “Index Review changes”

Appendix XI: MSCI Saudi Arabia Indexes

- Updated following a change in foreign ownership regulation

Appendix XVI: MSCI Domestic Indexes

- Updated to include other domestic countries

Appendix XVII: MSCI China All Shares Indexes and MSCI China A International Indexes

- Appendix added

The following sections have been modified since February 2017:

Section 3.1.7: Semi-Annual Index Review of Changes in FIFs

- Added clarification on threshold used for implementation of FIF changes

Appendix VIII: Policy Regarding Trading Suspensions and Market Closures during Index Review

- Updates in this section

The following sections have been modified since April 2017:

Appendix I: Equity Markets and Universe

- Updated list of countries with REITs to include Saudi Arabia

Appendix V: Free Float Definition and Estimation Guidelines

- Added clarification on buffer used for Semi-Annual Review of Non-Voting Depository Receipts in Thailand

The following sections have been modified since May 2017:

Section 3.2.5: Quarterly Index Review of Changes in Number of Shares (NOS)

- Update in this section

Section 5.1.1: Updating MSCI Frontier Markets Coverage

- Update in this section

Section 6.4.1: Inclusion of Newly Eligible Markets

- Update in this section

Appendix I: Equity Markets and Universe

- Updated the table “Eligible Markets (Developed Markets)”
- Updated the tables for Emerging Markets, Frontier Markets and Standalone Markets
- Updated the list of ineligible alert boards

The following sections have been modified since June 2017:

Appendix XVIII: MSCI China A International Large Cap Provisional Index

- Appendix added

The following sections have been modified since August 2017:

Section 3.3.3.1: Changes in FIF, Number of Shares or Industry Classification for Existing Constituents

- Clarification of the industry classification review as part of a corporate event

Section 3.3.3.2: Changes in Size Segment, Style Segment or Industry Classification as a Result of a Large Corporate Event

- Clarification of the industry classification review as part of a corporate event

Section 3.3.3.3: Early Inclusions of Non-Index Constituents

- Clarification of the industry classification review as part of a corporate event

Section 5.2.2: Categorization of Frontier Markets into Very Low, Low or Average Liquidity Markets

- Clarification on priority rules for selection of listings

Appendix I: Equity Markets and Universe

- Updated the table “Eligible Classes Of Securities For Stock Exchanges In Emerging Markets”
- Updated the list of ineligible alert boards

- Clarification on the treatment of additions of securities that are on ineligible alert boards

The following sections have been modified since September 2017:

Section 2.7: Constructing and Calculating the Individual MSCI Global Investable Markets Indexes

- Added section to clarify the creation and maintenance of the MSCI GIMI Composite Indexes

The following sections have been modified since October 2017:

Section 2.2.5: DM and EM Minimum Liquidity Requirement

- Updated the requirement for Chinese securities

Section 3.2.1.4: Minimum Liquidity Requirement for Existing Constituents

- Updated the requirement for Chinese securities

Appendix XVIII: Provisional Indexes to Assist the Upcoming Partial Inclusion of China A Shares in Emerging Markets

- Update in this section following consultation conclusion

Appendix XIX: MSCI China A Inclusion Indexes

- Appendix added

The following sections have been modified since November 2017:

Section 2.2.5 DM and EM Minimum Liquidity Requirement

- Clarification on the calculations of ATVR and Frequency of Trading

Section 3.1.2: Updating the Market Investable Equity Universes

- Clarification on the application of investability screens

Section 3.1.6.2: Final Size-Segment Investability Requirements for Existing Constituents

- Clarification on treatment of Standard Index constituents failing the additional investability requirements

Section 3.3.4.1: IPOs and Other Early Inclusions

- Clarification of early inclusions following large offerings

Section 3.4.3.1: Client Announcements

- New treatment for “acknowledged” announcement status

Appendix I: Equity Markets and Universe

- Updated the table “Eligible Markets (Developed Markets)”
- Updated the table “Eligible Markets (Emerging Markets)”
- Updated the table “Eligible Markets (Frontier Markets)”
- Updated the list of ineligible alert boards
- Clarification on the treatment of securities getting into the ineligible alert boards

The following sections have been modified since February 2018:

Section 5.2.6: IPOs and Other Early Inclusions

- Update in this section

Appendix I: Equity Markets and Universe

- Updated the table “Eligible Markets (Developed Markets)”
- Updated the table “Eligible Markets (Emerging Markets)”

Appendix XVIII: Provisional Indexes to Assist the Upcoming Partial Inclusion of China A Shares in Emerging Markets

- Update in this section

The following sections have been modified since March 2018:

Section 3.1.7: Semi-Annual Index Review of Changes in Foreign Inclusion Factors (FIFs)

- Change of implementation treatment for certain events at QIRs

Section 3.2.4: Quarterly Index Review of Changes in FIFs

- Change of implementation treatment for block sales, secondary offerings and acquisition for shares of unlisted assets

Section 3.2.5: Quarterly Index Review of Changes in Number of Shares (NOS)

- Change of implementation thresholds at the time of the event

Section 3.3.3.1: Changes in FIF, Number of Shares or Industry Classification for Existing Constituents

- Change of implementation thresholds at the time of the event

Appendix V: Free Float Definition and Estimation Guidelines

- Updates in this section

Appendix XI: MSCI DR Indexes

- Previously Appendix XIV

Appendix XII: MSCI Domestic Indexes

- Previously Appendix XV
- Added details on MSCI China A Onshore Index, previously Appendix XIII

Appendix XIII: MSCI Saudi Arabia Index

- Previously Appendix XI

Appendix XIV: MSCI China Indexes

- New section

Appendix XV: Inclusion of China A Shares in the MSCI China Indexes

- new section

Appendix XVI: MSCI China A Inclusion Indexes

- Previously Appendix XIX

Appendix XVII: Transition to the MSCI GIMI Methodology

- Previously Appendix XII

The following sections have been modified since May 2018:

Section 3.3.4.1: IPOs and Other Early Inclusions

- Clarification of the treatment of over-allotment

Appendix I: Equity Markets and Universe

- Updated the table “Eligible Markets (Developed Markets)”
- Updated the table “Eligible Markets (Emerging Markets)”
- Updated the table “Eligible Markets (Standalone Markets)”
- Updated the table “Eligible Classes Of Securities For Stock Exchanges In Developed Markets”
- Updated the table “Eligible Classes Of Securities For Stock Exchanges In Standalone Markets”

Appendix V: Free Float Definitions and Estimation Guidelines

- Clarified threshold for updating FOL and FIF related to NVDRs during SAIRs

Appendix X: Frontier Markets Country Classification

- Updated the table “Eligible Classes Of Securities For Stock Exchanges In Standalone Markets”

The following sections have been modified since June 2018:

Appendix XIII: Saudi Arabia Indexes

- Updates in this section

The following sections have been modified since July 2018:

Appendix XV: Inclusion of China A Shares in the MSCI China Indexes

- Clarified migrations outside of index reviews

Appendix XVII: MSCI China A Indexes

- Added new section, previously from MSCI China All Shares Indexes

Section 2.2.5: DM and EM Minimum Liquidity Requirements

- Clarifications made to footnote

Appendix XVIII: Provisional GICS Indexes

- New Appendix

Appendix XIX: Transition to the MSCI GIMI Methodology

- Previously Appendix XVII

The following sections have been modified since August 2018:

APPENDIX I: EQUITY MARKETS AND UNIVERSE

- Updated the table “Eligible Markets (Developed Markets)”
- Updated the table “Eligible Markets (Emerging Markets)”
- Updated the table “Eligible Markets (Standalone Markets)”
- Updated the table “Eligible Classes of Securities for Stock Exchanges in Standalone Markets”

Section 2.2.8 Minimum Foreign Room Requirement

- Updated Footnote

Section 3.1.6.2 For Existing Constituents

- Updated Footnote

Section 3.1.7 Semi-Annual Index Review of Changes In Foreign Inclusion Factors (FIFs)

- Updated Footnote

Section 3.2.1.4 Assessing Conformity with Final Size-Segment Investability Requirements

- Updated Footnote

Section 3.2.2 Quarterly Index Review of Addition of Companies Currently Not Constituents of the Investable Market Indexes

- Updated Footnote

Appendix XVIII: Provisional GICS Indexes

- Updated the dates in the example

The following sections have been modified since September 2018:

Appendix XIII: MSCI Saudi Arabia Indexes

- Updates in this section

Appendix XIX: MSCI Provisional Argentina Indexes

- New Appendix

The following sections have been modified since November 2018:

APPENDIX I: Equity Markets and Universe

- Updated the table “Eligible Markets (Developed Markets)”
- Updated the table “Eligible Markets (Standalone Markets)”
- Updated the table “Eligible Classes of Securities for Stock Exchanges in Emerging Markets”
- Updated the list of Ineligible Alert Boards

Appendix III: Country Classification of Securities

- Updates in Country Specific Cases for China

Updated Footnote

Appendix VI: Global Industry Classification Standard (GICS)

- Updates in this section

Appendix XV: Inclusion of China A Shares in the MSCI China Indexes

- Deleted “Provisional China Indexes

Appendix II: Market Classification Framework

- Modified Market Accessibility Review criteria to reflect the change related to “Availability of Investment Instruments”

The following sections have been modified since December 2018:

Section 2.1.1: Identifying Eligible Equity Securities

- Clarification on the treatment of stapled securities

Section 2.2.5 DM and EM Minimum Liquidity Requirement

- Clarification on the calculations of ATVR and Frequency of Trading

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

- Clarification on the treatment of unlisted securities

Section 3.2.6 Date of Data Used for Quarterly Index Review

- Clarification on the treatment of unlisted securities

APPENDIX I: EQUITY MARKETS AND UNIVERSE

- Updated the table “Eligible Markets (Emerging Markets)”
- Updated the table “Eligible Markets (Frontier Markets)”
- Updated the list of Ineligible Alert Boards

APPENDIX III: Country Classification of Securities

- Clarification on the treatment of reverse mergers

Appendix XVIII: MSCI Provisional GICS Indexes

- Appendix removed

Section 3.2.5: Quarterly Index Review of Changes in Number of Shares (NOS)

- Clarification on implementation thresholds at the time of the event

Section 3.3.3.1: Changes in FIF, Number of Shares or Industry Classification for Existing Constituents

- Clarification on implementation thresholds at the time of the event

The following sections has been modified since February 2019:

Section 3.1.6.2 Assessing Conformity with Final Size-Segment Investability Requirements for Existing Constituents

- Updated treatment for securities with low Foreign Room with liquid Depositary Receipts (DRs)

Section 3.2.1.4 Assessing Conformity with Final Size-Segment Investability Requirements

- Updated treatment for securities with low Foreign Room with liquid Depositary Receipts (DRs)

Appendix I: Equity Markets and Universe

- Updated list of REITs

Appendix V: Free Float Definition and Estimation Guidelines

- Updated the Treatment of Non-Voting Depositary Receipts in Thailand

Appendix XIII MSCI Saudi Arabia Indexes

- Updated treatment for the MSCI Saudi Arabia Indexes in the context of the reclassification to Emerging Markets

Appendix XV Inclusion of China A Shares in the MSCI China Indexes

- Updated treatment for the MSCI China Indexes in the context of the weight increase of China A shares

Appendix XVIII MSCI Provisional Argentina Indexes and MSCI Argentina Indexes

- Updated treatment for the MSCI Argentina Indexes in the context of the reclassification to Emerging Markets

The following sections has been modified since April 2019:

Section 2.2.5 DM and EM Minimum Liquidity Requirement

- Added clarification on adjustments on ATVR and FOT related to suspensions

Section 3.3.3.4 Early Deletions of Existing Constituents

- Clarification on the treatment of small cap constituents with large full market capitalization but low float-adjusted market capitalization

Section 3.3.5 Corporate Events Affecting the Index Review

- Clarification on the treatment of corporate events affecting pro forma index constituents effective between the price cutoff date and the Index Review effective date

Appendix I: Equity Markets and Universe

- Updated the table “Eligible Markets (Developed Markets)”
- Updated the table “Eligible Markets (Emerging Markets)”
- Updated the table “Eligible Markets (Frontier Markets)”
- Updated the table “Eligible Markets (Standalone Markets)”
- Updated the table “Eligible Classes of Securities for stock exchanges in Emerging Markets”
- Updated the table “Eligible Classes of Securities for stock exchanges in Frontier Markets”
- Updated the table “Eligible Classes of Securities for stock exchanges in Standalone Markets”
- Added clarification on treatment of securities in Ineligible Alert Boards

Appendix III: Country Classification of Securities

- Added clarification on Red-chips
- Clarification on the treatment of country of classification review following an incorporation change

The following sections has been modified since June 2019:

3.2.4 Quarterly Index Reviews of Changes in FIFs

- Clarifications and updates

Appendix II: Market Classification Framework

- Updated the table and summarized measure for “Availability of Investment Instruments”

The following sections has been modified since August 2019:

Section 3.2.2 Quarterly Index Review of Addition of Companies Currently Not Constituents of the Investable Market Indexes

- Clarification on the cutoff used when assigning companies to the Large cap Index

Appendix V: Free Float Definition and Estimation Guidelines

- Clarification on treatment of NVDRs

Appendix XVIII MSCI Provisional Argentina Indexes and MSCI Argentina Indexes

- Appendix deleted

The following sections has been modified since August 2019:

Section 2.1.1. Identifying Eligible Equity Securities

- Clarification on eligibility of securities

Section 3.4.4. IPOs and Other Early Inclusion

- Clarification on announcement policy on early inclusion of STAR board securities

Appendix I Equity Markets and Universe

- Updates on eligible segments

Appendix XV Inclusion of China A Shares in the MSCI China Indexes

- Updated with details on the third step of weight increase of China A shares

Appendix XVI MSCI China A Indexes

- Updates on migrations

Contact us

clientservice@msci.com

AMERICAS

Americas	1 888 588 4567 *
Atlanta	+ 1 404 551 3212
Boston	+ 1 617 532 0920
Chicago	+ 1 312 675 0545
Monterrey	+ 52 81 1253 4020
New York	+ 1 212 804 3901
San Francisco	+ 1 415 836 8800
São Paulo	+ 55 11 3706 1360
Toronto	+ 1 416 628 1007

EUROPE, MIDDLE EAST & AFRICA

Cape Town	+ 27 21 673 0100
Frankfurt	+ 49 69 133 859 00
Geneva	+ 41 22 817 9777
London	+ 44 20 7618 2222
Milan	+ 39 02 5849 0415
Paris	0800 91 59 17 *

ASIA PACIFIC

China North	10800 852 1032 *
China South	10800 152 1032 *
Hong Kong	+ 852 2844 9333
Mumbai	+ 91 22 6784 9160
Seoul	00798 8521 3392 *
Singapore	800 852 3749 *
Sydney	+ 61 2 9033 9333
Taipei	008 0112 7513 *
Thailand	0018 0015 6207 7181 *
Tokyo	+ 81 3 5290 1555

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