

# MSCI CAPPED INDEXES METHODOLOGY

September 2017

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## 1. INTRODUCTION TO THE MSCI CAPPED INDEXES

In calculating its international equity indexes, MSCI employs market capitalization weighting where each constituent in the index is weighted by its free float-adjusted market capitalization. Applying free float-adjusted market capitalization weighting may result in large sector, geographical or company concentration in certain cases. MSCI Capped Indexes are designed to provide an alternative to purely free float-adjusted market capitalization weighted indexes by constraining the maximum sector, geographical or constituent weights.

In addition to the MSCI Capped Indexes, MSCI constructs and calculates the MSCI 10/40 Indexes, MSCI 25/50 Indexes and MSCI 35/65 Indexes. These indexes are specifically intended for funds subject to regulatory constraints on maximum weights. For more details on these indexes, please refer to <https://www.msci.com/index-methodology>

## 2. CONSTRUCTING THE MSCI CAPPED INDEXES

The MSCI Capped Indexes are constructed from underlying MSCI indexes (herein, “Parent Indexes”). For each capped index, the following is defined:

- a criterion for grouping constituents of the Parent Index
- the maximum weight to be applied for such groups

Constituents of the Parent Index can be grouped as follows:

- by country or region
- by sector, industry group, industry or sub-industry, based on the Global Industry Classification Standard (GICS®)
- by stock exchange or currency of price
- by group entity (for a definition and a description of the maintenance of Group Entities, please refer to the MSCI 10/40 methodology at <https://www.msci.com/index-methodology>)
- by issuer
- each constituent may be considered as a single group

At construction and at each rebalancing, if the weight of any group in the Parent Index is greater than the maximum weight, its weight will be capped at the maximum weight. Within the capped group, securities are weighted in proportion to their free float-adjusted market capitalization. The weight of the securities outside of the capped group will be increased in proportion to their weight prior to such capping.

### **3. MAINTAINING THE MSCI CAPPED INDEXES**

#### **3.1. QUARTERLY AND SEMI-ANNUAL INDEX REVIEWS**

Coinciding with the Quarterly and Semi-Annual Index Reviews of the MSCI Global Investable Market Indexes, the MSCI Capped Indexes are generally rebalanced on the last business day of February, May, August and November as described under Section 2 above. The MSCI Capped pro forma indexes are generally announced nine business days before the effective date, unless otherwise specified in the respective methodologies.

Intra-quarter weights will fluctuate according to market movements.

#### **3.2. REBALANCING DUE TO NON-COMPLIANCE**

A maximum intra-quarter weight may be defined. If the weight of a group increases above the maximum intra-quarter weight, the index will be rebalanced as described under Section 2 above.

#### **3.3. ONGOING EVENT RELATED CHANGES**

In general, the MSCI Capped Indexes follow the event maintenance of the MSCI Global Investable Market Indexes. Changes in the Parent Index are reflected simultaneously in the MSCI Capped Index.

##### **3.3.1. EARLY INCLUSIONS OF NEW SECURITIES TO THE PARENT INDEX**

Early inclusions of new securities to the Parent Index outside of the Quarterly and Semi-Annual Index Reviews, such as IPOs, will be added to the MSCI Capped Index. The weight of the added security will be capped if required as per Section 2 above.

##### **3.3.2. ADDITIONS AND DELETIONS DUE TO CORPORATE EVENTS**

The general treatment of additions and deletions due to corporate events aims at reducing turnover in the MSCI Capped Index.

A security added to the Parent Index following a corporate event (acquisition, spinoff or merger) will also be added to the MSCI Capped index with an estimated capped weight.

A constituent deleted from the Parent Index following a corporate event will be simultaneously deleted from the MSCI Capped Index.

## 4. SPECIFIC CAPPING METHODOLOGIES

This section describes the specific index capping methodologies that are available as part of the MSCI Capped Indexes methodology:

### 4.1. MSCI 10/40 INDEXES

The MSCI 10/40 Indexes constrain the weight of any single group entity at 10%, and the sum of the weights of all group entities representing more than 5% weight at 40%, with a buffer of 10% applied on these limits at each index rebalancing. Further details of the MSCI 10/40 Indexes are available at:

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

### 4.2. MSCI 25/50 INDEXES

The MSCI 25/50 Indexes constrain the weight of any single group entity at 25%, and the sum of the weights of all group entities representing more than 5% weight at 50%, with a buffer of 10% applied on these limits at each index rebalancing. Further details of the MSCI 25/50 Indexes are available at:

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

### 4.3. MSCI 20/20 INDEXES

The MSCI 20/20 Indexes constrain the weight of any single group entity at 20%, with a buffer of 10% applied on this limit at each index rebalancing. The MSCI 20/20 Indexes are rebalanced quarterly. Changes are implemented as of the close of the last business day of each February, May, August and November, to coincide with the Quarterly Index Reviews of their Parent Indexes. The MSCI 20/20 Indexes are in general rebalanced five business days before the effective date. The changes resulting from the rebalancing are announced on the same day.

The MSCI 20/20 Indexes are also rebalanced on an “as needed” basis. This means that a MSCI 20/20 Index is rebalanced at the end of any day on which the constraints as specified above (without the buffer) are breached, so that the MSCI 20/20 Index will always be within the constraints before the opening of the following trading day. The other index construction and index maintenance rules for the MSCI 20/20 Indexes are as described in Sections 2 and 3 respectively of this document.

#### 4.4. MSCI 20/35 INDEXES

The MSCI 20/35 Indexes constrain the weight of the largest group entity at 35%, and all other group entities at 20%, with a buffer of 10% applied on these limits at each index rebalancing.

The MSCI 20/35 Indexes are rebalanced quarterly. Changes are implemented as of the close of the last business day of each February, May, August and November, to coincide with the Quarterly Index Reviews of their Parent Indexes. The MSCI 20/35 Indexes are in general rebalanced five business days before the effective date. The changes resulting from the rebalancing are announced on the same day.

The MSCI 20/35 Indexes are also rebalanced on an “as needed” basis. This means that a MSCI 20/35 Index is rebalanced at the end of any day on which the constraints as specified above (without the buffer) are breached. The rebalancing will take place as of the close of the day when the index breaches the constraints, so that the MSCI 20/35 Index will always be within the constraints before the opening of the following trading day. The other index construction and index maintenance rules for the MSCI 20/35 Indexes are as described in Sections 2 and 3 respectively of this document.

#### 4.5. MSCI EM BEYOND BRIC INDEX

The MSCI EM Beyond BRIC Index is a sub-set of the MSCI Emerging Markets Index that excludes Brazil, Russia, India and China. In addition the weight of any country is constrained at 15%. The other index construction and index maintenance rules for the MSCI EM Beyond BRIC Index are as described in Sections 2 and 3 respectively of this document.

#### 4.6. MSCI 35/65 INDEXES

The MSCI 35/65 Indexes constrain the weight of the largest security at 35%, and the sum of the weights of the largest five securities at 65%, with a buffer of 5% applied on these limits at each index review. The indexes are designed to take into account the concentration limits defined by the National Commission for the Pension System (“Comision Nacional del Sistema de Ahorro para el Retiro” or CONSAR) in Mexico.

The MSCI 35/65 Indexes are rebalanced on a semi-annual basis, coinciding with the Semi-Annual Index Reviews of the MSCI Global Investable Market Indexes (GIMI). The MSCI 35/65 Indexes are in general rebalanced nine business days before the effective date. The changes resulting from the rebalancing are announced on the same day.

The MSCI 35/65 Indexes are also rebalanced on an “as needed” basis to maintain the 35/65 constraints on any given day. This means that a MSCI 35/65 Index is rebalanced at the end of any day on which the constraints as specified above (without the buffer) are breached. The rebalancing will take place as of the close of the day when the index breaches the

constraints, so that the MSCI 35/65 Index will be within the constraints at the opening of any day. The other index construction and index maintenance rules for the MSCI 35/65 Indexes are as described in Sections 2 and 3 respectively of this document.

Similar to the MSCI 25/50 Indexes<sup>1</sup>, Minimizing the tracking error between the MSCI 35/65 Index and the Parent Index, while keeping the index turnover to a reasonable level, is another important objective of the current methodology. This is achieved by rebalancing the MSCI 35/65 Index using an optimization process that aims to minimize the constituent weight differences between the MSCI 35/65 Index and the Parent Index.

#### **4.7. MSCI ADAPTIVE CAPPED INDEXES**

For the MSCI Adaptive Capped Indexes, a maximum multiple (“L”) of the benchmark weight of the corresponding Parent Index is set. The MSCI Adaptive Capped Indexes then constrain the weight of any single security to the level of a “cap weight” derived using this maximum benchmark multiple L. All the securities from the underlying index having weights higher than the derived cap weight are constrained to the cap weight. Remaining securities are assigned a weight that is equivalent to L multiplied by the weight of the security in the underlying index. The cap weight can change from one Index Review to the next. Further details of the MSCI Adaptive Capped Indexes are available at:

<http://www.msci.com/products/indexes/strategy/capped/>

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<sup>1</sup> <https://www.msci.com/index-methodology>

## **APPENDIX I: METHODOLOGY FOR THE MSCI ISRAEL CAPPED INDEX**

The MSCI Israel Capped Index is constructed from the MSCI Israel IMI (the “Parent Index”). The MSCI Israel Capped Index is constructed and maintained in accordance with the MSCI 25/50 Indexes methodology described in section 4.2, effective January 28, 2016.

Prior to January 28, 2016, the Index was constructed and maintained as per the rules described in section 2 for the MSCI Capped Indexes methodology by applying a capping constraint of 24% to the constituents of the Parent Index at each Quarterly Index Review.



## APPENDIX II: METHODOLOGY FOR THE MSCI FRONTIER MARKETS 15% COUNTRY CAPPED INDEX

The MSCI Frontier Markets (FM) 15% Country Capped Index is constructed from the MSCI Frontier Markets Index (the “Parent Index”). The Index is constructed and maintained as per the rules described in section 2 for the MSCI Capped Indexes methodology by applying a country capping of 15% to the constituents of the Parent Index at each Quarterly Index Review.

MSCI maintains a list of Eligible Markets for the MSCI FM 15% Country Capped Index. Only securities from the Eligible Markets, which are a part of the Parent Index, can be included in the Index. Changes to the list are announced with the February Quarterly Index Reviews following a public consultation and are implemented as part of subsequent May Semi-Annual Index Reviews.

The list of Eligible Markets for the MSCI FM 15% Country Capped Index (as of the May 2017 Semi-Annual Index Review) is as follows:

Argentina	Mauritius
Bahrain	Morocco
Bangladesh	Nigeria
Croatia	Oman
Estonia	Romania
Jordan	Serbia
Kazakhstan	Slovenia
Kenya	Sri Lanka
Kuwait	Tunisia
Lebanon	Vietnam
Lithuania	

Please note that Pakistan would not be an Eligible Markets for the MSCI FM 15% Country Capped Index effective June 01 2017 due to reclassification of Pakistan from Frontier Markets to Emerging Markets. This change will be affected in phases as mentioned in Appendix III.

## APPENDIX III: PHASING IN THE CONTEXT OF THE RECLASSIFICATION OF PAKISTAN

The reclassification of Pakistan from Frontier Markets to Emerging Markets will be implemented as part of the May 2017 Semi-Annual Index Review (SAIR). MSCI will phase the May 2017 SAIR changes in the MSCI FM 15% Country Capped Index and in the MSCI FM ex GCC 15% Country Capped Index over four successive months:

- Phase 1: as of close of May 31, 2017 (effective June 1, 2017) to coincide with the May 2017 Semi-Annual Index Review
- Phase 2: as of close of June 30, 2017 (effective July 3, 2017)
- Phase 3: as of close of July 31, 2017 (effective August 1, 2017)
- Phase 4: as of close of August 31, 2017 (effective September 1, 2017) to coincide with the August 2017 Quarterly Index Review

A larger proportion of the changes (40% of the weight difference) will be implemented in the first phase in May, while the remaining changes will be spread over three subsequent phases of 20% each.

Each phase will involve the following activities for each index:

- Determine the security index weights post-reclassification (after application of the country capping)
- Calculate the difference between the current security index weights and the security index weights post-reclassification («Weight Difference»)
- Calculate the pro forma security index weights («Pro Forma Weights»):
  - Phase 1 => Pro Forma Weight = Current Weight + (Weight Difference \* 40%)
  - Phase 2 => Pro Forma Weight = Current Weight + (Weight Difference \* 33.3%)
  - Phase 3 => Pro Forma Weight = Current Weight + (Weight Difference \* 50%)
  - Phase 4 => Pro Forma Weight = Post-Reclassification Weight

The pro forma weights will be announced five business days before the effective date of each phase. For each phase, MSCI will use data as of the close of the business day prior to the announcement to derive the pro forma weights. During the phasing period, corporate events will be implemented as usual in both indexes as per Section 3.3.

**THE FOLLOWING SECTIONS HAVE BEEN MODIFIED SINCE SEPTEMBER 2013:**

Section 1: Introduction

- Inclusion of MSCI 35/65 Indexes

Section 4: Specific Capping Methodologies

- Addition of MSCI 35/65 index methodology

**THE FOLLOWING SECTIONS HAVE BEEN MODIFIED SINCE MAY 2015:**

Section 4: Specific Capping Methodologies

- Addition of MSCI Adaptive Capped Indexes methodology

**THE FOLLOWING SECTIONS HAVE BEEN MODIFIED SINCE NOVEMBER 2015:**

Appendix I: Methodology for the MSCI Israel Capped Index

- Addition of Appendix I

**THE FOLLOWING SECTIONS HAVE BEEN MODIFIED SINCE JANUARY 2016:**

Appendix II: Methodology for the MSCI FM 15% Country Capped Index

- Addition of Appendix II

**THE FOLLOWING SECTIONS HAVE BEEN MODIFIED SINCE NOVEMBER 2016:**

Appendix III: Phasing in the Context of the Reclassification of Pakistan

- Addition of Appendix III

**THE FOLLOWING SECTIONS HAVE BEEN MODIFIED SINCE MARCH 2017:**

Appendix II: Methodology for the MSCI FM 15% Country Capped Index

- Updated the list of Eligible Markets to reflect the Reclassification of Pakistan from Frontier Markets (FM) to Emerging Markets (EM), effective June 01, 2017

**The following sections have been modified after March 2017:**

Section 3: Maintaining the MSCI Capped Indexes

- Updated section 3.1 to include the announcement date of the pro forma indexes.

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