

# MSCI EMERGING + FRONTIER MARKETS WORKFORCE INDEX METHODOLOGY

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## **1 INTRODUCTION**

The MSCI Emerging + Frontier Markets Workforce Index is designed to track the performance of companies in emerging and frontier markets that have favourable demographics, education and employment patterns.

## 2 CONSTRUCTING MSCI EMERGING + FRONTIER MARKETS WORKFORCE INDEX

The applicable reference Index is MSCI EFM (Emerging + Frontier Markets) Index and MSCI ACWI + Frontier Markets (ACWI FM) Index is the Parent Index.

The Index construction is based on a three-step process:

- Country and constituent selection
- Calculating weights for each country
- Weights of the Index constituents

### 2.1 COUNTRY AND CONSTITUENT SELECTION:

An initial construction of MSCI Emerging + Frontier Markets Workforce Index consists of countries from the EFM (Emerging + Frontier Markets) universe (reference Index).

The methodology ranks all countries in the reference Index universe and selects the top 65% of the countries with the highest youth population (%) based on data obtained from five years ago as mentioned in Appendix I. The eligible countries are then selected subject to their satisfying three criteria described below:

- Net secondary school enrollment level must be greater than 80% of the World average of the most recent year
- Rural population percentage not more than 20% higher than the World average of the most recent year, and
- Agricultural employment not more than 20% higher than the World average of the most recent year.

All securities from the Parent Index belonging to the final list of eligible countries are considered for potential inclusion in the Index.

### 2.2 WEIGHTING SCHEME

The weighting scheme is divided into two steps – calculating weight for included countries and then for securities within those included countries.

#### 2.2.1 CALCULATING WEIGHT FOR EACH COUNTRY:

The weight of an eligible country is determined from the aggregate free float market capitalization of securities in that country. Countries with less than 0.25% market

capitalization weight are excluded and the weights of the remaining countries are rescaled proportionately. The maximum weight of a country is capped at 20% and the remaining countries' weights are rescaled proportionately.

### **2.2.2 SECURITY WEIGHTING:**

All securities belonging to the eligible countries from the previous step are weighted by their free float market capitalization within their country weights.

### **3 MAINTAINING THE INDEX**

#### **3.1 ANNUAL INDEX REVIEW:**

The Index is rebalanced annually in November to coincide with the Semi-Annual Index Reviews of the underlying country indexes. The pro forma index is generally announced nine business days before the effective date.

During each Annual Index Review, the cumulative weight for each country is computed as described in section 2.2

Existing countries included at previous rebalancing and new countries eligible for inclusion in the index will be evaluated for inclusion in the Index using the following process:

- Once a country is eligible for inclusion in the Index at an Annual Index Review, it will remain in the Index for a minimum period of five years, subject to meeting the market capitalization floor weight of 0.25%. If a country is an existing country constituent in the Index and does not satisfy the eligibility criteria in section 2.1 for five consecutive years, then the weight of that country is reduced in a phased manner equally over a period of three years subject to market capitalization floor weight of 0.25%. (a constraint factor of 2/3 after five years, 1/3 after six years and 0 is applied after seven years of non-selection). However, if the country meets the eligibility criteria described in section 2.1 during this period, it would be again eligible for inclusion in the Index.
- An eligible country in the Index may not be necessarily a country constituent in the reference Index at an Annual Index Review due to MSCI country classification rules.

#### **3.2 QUARTERLY INDEX REVIEW:**

The Index is reviewed on a quarterly basis to reflect the changes to the Parent Index. These Index reviews coincide with the regular Semi-Annual and Quarterly Index Reviews of the MSCI Global Investable Market Indexes.

#### **3.3 TREATMENT OF CORPORATE EVENTS:**

Corporate events are reflected in the Index as they occur and as they are captured in the country indexes that together form the Index.

##### **3.3.1 IPOS AND NEWLY LISTED SECURITIES:**

IPOs and other newly listed securities will only be considered for inclusion at the next annual Index review, even if they qualify for early inclusion in the Parent Indexes.

### 3.3.2 ADDITIONS AND DELETIONS DUE TO CORPORATE EVENTS

There will be no early inclusion of new securities to the MSCI Emerging + Frontier Markets Workforce Index, except when the new security results from an event affecting an existing constituent (e.g., merger, acquisition, and spin-off). In such a case, the constraint factor for the new security will be the same as the existing constituent.

In the event of a merger or an acquisition where an index constituent acquires another index constituent, the remaining company is maintained in the index with a constraint factor calculated as the weighted average of the constraint factors before the corporate event.

Please refer to the MSCI Corporate Events Methodology book available at <https://www.msci.com/index-methodology> for more details.

## APPENDIX I

### Data Sources:

- Youth population - <http://data.worldbank.org/indicator/SP.POP.0014.TO.ZS>
- Net Secondary School Enrollment - <http://data.worldbank.org/indicator/SE.SEC.NENR>
- Rural Population - <http://data.worldbank.org/indicator/SP.RUR.TOTL.ZS>
- Agricultural Employment - <http://data.worldbank.org/indicator/SL.AGR.EMPL.ZS>

In case of missing data for some variables, we use the following sources:

Country	Source	Variable	Link
BRAZIL	UNESCO	Secondary Enrollment	<a href="http://dx.doi.org/10.1787/888932666836">http://dx.doi.org/10.1787/888932666836</a>
CHINA	UNICEF	Secondary Enrollment	<a href="http://www.childinfo.org/files/EAPR_China.pdf">http://www.childinfo.org/files/EAPR_China.pdf</a>
CZECH REPUBLIC	UNESCO	Secondary Enrollment	<a href="http://dx.doi.org/10.1787/888932666836">http://dx.doi.org/10.1787/888932666836</a>
INDIA	Government	Secondary Enrollment	<a href="http://mospi.nic.in/mospi_new/upload/SYB2013/ch29.html">http://mospi.nic.in/mospi_new/upload/SYB2013/ch29.html</a>
MOROCCO	World Economic Forum	Secondary Enrollment	<a href="http://www3.weforum.org/docs/GCR2013-14/Morocco.pdf">http://www3.weforum.org/docs/GCR2013-14/Morocco.pdf</a>
NIGERIA	UNESCO	Secondary Enrollment	<a href="http://dx.doi.org/10.1787/888932666836">http://dx.doi.org/10.1787/888932666836</a>
RUSSIA	OECD	Secondary Enrollment	<a href="http://www.oecd.org/edu/Russian%20Federation_EAG2013%20Country%20Note.pdf">http://www.oecd.org/edu/Russian%20Federation_EAG2013%20Country%20Note.pdf</a>
TAIWAN	Government	Secondary Enrollment	<a href="http://english.moe.gov.tw/ct.asp?xitem=14476&amp;ctNode=11429&amp;mp=1">http://english.moe.gov.tw/ct.asp?xitem=14476&amp;ctNode=11429&amp;mp=1</a>
TAIWAN	Government	Agricultural Employment	<a href="http://eng.stat.gov.tw/ct.asp?xitem=15761&amp;ctNode=1609&amp;mp=5">http://eng.stat.gov.tw/ct.asp?xitem=15761&amp;ctNode=1609&amp;mp=5</a>

In case the underlying data for a particular country is not available, that country will be considered as not meeting the eligibility criteria at that specific annual index review.



**The following sections have been modified since November 2014:**

- Updated section 3.1 to include the announcement date of the pro forma index.
- Updated the link to MSCI Corporate Events Methodology in Section 3.3

**The following sections have been modified since September 2017:**

- Updated Appendix I to include treatment for missing data

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