



Index Methodology

MSCI Frontier Markets 100 Index Methodology

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1 Introduction

The MSCI Frontier Markets 100 Index is based on the MSCI Frontier Markets (FM) Investable Market Index (IMI) (the “Parent Index”). The MSCI Frontier Markets 100 Index aims to reflect the performance of frontier markets while putting stronger emphasis on tradability compared to the Parent Index. This is achieved through four main features:

- A minimum liquidity level¹ is required for securities to be included in the MSCI Frontier Markets 100 Index
- Only stocks exhibiting sufficient foreign room² are eligible for inclusion
- A higher minimum free float-adjusted market capitalization requirement is applied compared to the Parent Index
- The number of constituents can fluctuate within a specific target range at the time of an Index Review

In addition, a country cap is applied in the MSCI Frontier Markets 100 Index in order to avoid excessive country concentration.

In May 2014 MSCI revised the methodology for the MSCI Frontier Markets 100 Index in order to address the impact on the Index of the reclassification of the MSCI Qatar and MSCI UAE Indexes from Frontier Markets to Emerging Markets. The treatment of the transition to the revised methodology as well as the differences between the versions of the methodology are detailed in Appendices I and II respectively.

2 Index Construction

2.1 Eligible Universe

The Eligible Universe for the MSCI Frontier Markets 100 Index is derived by applying investability screens to securities in the Parent Index. In order to be included in the Eligible Universe, a security:

- Must not be subject to a Limited Investability Factor (LIF) due to low foreign room and;
- Must have a 12-month Annualized Traded Value Ratio (ATVR) above 10%

2.2 Minimum Free Float-Adjusted Market Capitalization Requirement

In order to be included in the MSCI Frontier Markets 100 Index, a security from the Eligible Universe must meet a specific Minimum Free Float-Adjusted Market Capitalization Requirement.

¹ Measured by the 12-month Annualized Traded Value Ratio (ATVR).

² Foreign room is defined as the proportion of shares still available to foreign investors relative to the maximum allowed.

The Minimum Free Float-Adjusted Market Capitalization Requirement is derived as follows:

- First, the securities in the Parent Index are sorted in descending order of free float-adjusted market capitalization and the cumulative coverage of the free float-adjusted market capitalization of the parent index is calculated at each security.
- Second, when the cumulative free float-adjusted market capitalization coverage of 80% of the sorted Parent Index is achieved the free float-adjusted market capitalization of the security at that point defines the Minimum Free Float-Adjusted Market Capitalization Requirement.

2.3 Including Securities in the MSCI Frontier Markets 100 Index

First, the securities in the Eligible Universe that have a free float-adjusted market capitalization above or equal to the Minimum Free Float-Adjusted Market Capitalization Requirement are counted.

Then, if the resulting number is:

- Between 85 and 115: all the securities counted are included in the MSCI Frontier Markets 100 Index.
- Above 115: the securities in the Eligible Universe are ranked by decreasing free float-adjusted market capitalization and the top 115 securities are selected for inclusion in the MSCI Frontier Markets 100 Index.
- Below 85: the securities in the Eligible Universe are ranked by decreasing free float-adjusted market capitalization and the top 85 securities are selected for inclusion in the MSCI Frontier Markets 100 Index, even if the smallest securities fail the Minimum Free Float-Adjusted Market Capitalization Requirement.

2.4 Country Cap

A cap of 40% is applied to the cumulative weight of the two largest countries in the MSCI Frontier Markets 100 Index.

If the total free float-adjusted market capitalization weight of the largest two countries is greater than 40% after application of the rules described in Section 2.3, the weight of each security of these two countries is proportionally decreased in order to achieve a cumulative weight of exactly 40%. As a result, the weight of each security of the other countries is proportionally increased.

2.5 The 25/50 Rule

The MSCI Frontier Markets 100 Index is designed to take into account US Internal Revenue Code investment constraints needed for a fund to qualify as a regulated investment company in the US. The MSCI 25/50 Index Methodology is therefore applied after the step described in section 2.4.

The details of this methodology are available at

http://www.msci.com/products/indexes/strategy/capped/twentyfive_fifty/

3 Index Maintenance

3.1 Semi-Annual Index Reviews

The composition of the MSCI Frontier Markets 100 Index is fully reviewed on a semi-annual basis coinciding with the May and November Semi-Annual Index Reviews (SAIRs) of the MSCI Global Investable Market Indexes.

The pro forma MSCI Frontier Markets 100 Index is announced nine business days before the effective date of the Semi-Annual Index Reviews. MSCI uses pro forma data as of the close of the business day prior to the announcement to derive the pro forma MSCI Frontier Markets 100 Index.

Changes in Foreign Inclusion Factors (FIFs) and updates in number of shares for existing constituents effective at the SAIRs as per the MSCI Global Investable Market Indexes methodology are reflected in the MSCI Frontier Markets 100 Index.

If a security that is scheduled to be added to or deleted from the MSCI Frontier Markets 100 Index is suspended from trading on the effective implementation date of the Index Review, MSCI will cancel the implementation. For index changes affecting number of shares or Foreign Inclusion Factors, the implementation will be aligned with the parent index.

3.1.1 Updating the Eligible Universe

During an SAIR, the Eligible Universe is reviewed according to the rules described in Section 2.1. In addition, to minimize index turnover, an existing constituent of the MSCI Frontier Markets 100 Index may remain in the Eligible Universe if its 12-month ATVR falls below the minimum level requirement of 10% as long as it is above 2/3rd of that level.

3.1.2 Updating the Minimum Free Float-Adjusted Market Capitalization Requirement

During an SAIR, the Minimum Free Float-Adjusted Market Capitalization Requirement is updated using the rules described in Section 2.2.

3.1.3 Including the Securities in the MSCI Frontier Markets 100 Index

This section describes the rules used for including securities in the MSCI Frontier Markets 100 Index during SAIRs.

As a first step, the following securities in the updated Eligible Universe are counted:

- Existing constituents of the MSCI Frontier Markets 100 Index that have a free float-adjusted market capitalization above or equal to 2/3rd of the Minimum Free Float-Adjusted Market Capitalization Requirement
- Securities not currently constituents of the MSCI Frontier Markets 100 Index that have a free float-adjusted market capitalization above or equal to the Minimum Free Float-Adjusted Market Capitalization Requirement

Then, if the resulting number is:

- between 85 and 115: all the securities counted are included in the MSCI Frontier Markets 100 Index.
- above 115: the following securities in the updated Eligible Universe are selected for inclusion in the MSCI Frontier Markets 100 Index with the following priority until 115 securities are selected:
 - Existing constituents of the MSCI Frontier Markets 100 Index that have a free float-adjusted market capitalization above or equal to the Minimum Free Float-Adjusted Market Capitalization Requirement
 - Securities not currently constituents of the MSCI Frontier Markets 100 Index that have a free float-adjusted market capitalization above or equal 1.5x the Minimum Free Float-Adjusted Market Capitalization Requirement
 - Existing constituents of the MSCI Frontier Markets 100 Index that have a free float-adjusted market capitalization above or equal to 2/3rd of the Minimum Free Float-Adjusted Market Capitalization Requirement
 - Securities not currently constituents of the MSCI Frontier Markets 100 Index that have a free float-adjusted market capitalization above or equal to the Minimum Free Float-Adjusted Market Capitalization Requirement

Within each of the above steps, the securities are selected in descending order of free float-adjusted market capitalization.

- below 85: the following securities in the updated Eligible Universe are selected for inclusion in the MSCI Frontier Markets 100 Index with the following priority until 85 securities are selected:
 - Existing constituents of the MSCI Frontier Markets 100 Index that have a free float-adjusted market capitalization above or equal to 2/3rd of the Minimum Free Float-Adjusted Market Capitalization Requirement

- Securities not currently constituents of the MSCI Frontier Markets 100 Index that have a free float-adjusted market capitalization above or equal to the Minimum Free Float-Adjusted Market Capitalization Requirement
- Existing constituents of the MSCI Frontier Markets 100 Index that have a free float-adjusted market capitalization between 1/3rd and 2/3rd of the Minimum Free Float-Adjusted Market Capitalization Requirement
- Securities not currently constituents of the MSCI Frontier Markets 100 Index that have a free float-adjusted market capitalization between 2/3rd and one time of the Minimum Free Float-Adjusted Market Capitalization Requirement
- Existing constituents of the MSCI Frontier Markets 100 Index that have a free float-adjusted market capitalization below 1/3rd of the Minimum Free Float-Adjusted Market Capitalization Requirement
- Securities not currently constituents of the MSCI Frontier Markets 100 Index that have a free float-adjusted market capitalization below 2/3rd of the Minimum Free Float-Adjusted Market Capitalization Requirement

Within each of the above steps, the securities are selected in descending order of free float-adjusted market capitalization.

3.1.4 Country Cap

During SAIRs, a cap of 40% is applied to the cumulative weight of the two largest countries in the MSCI Frontier Markets 100 Index as described in section 2.4.

3.2 Quarterly Index Reviews

Additions to the Parent Index at the time of February and August Quarterly Index Reviews of the MSCI Global Investable Market Indexes are not reflected in the MSCI Frontier Markets 100 Index and are considered for inclusion at the following SAIR.

Deletions from the Parent Index at the time of February and August Quarterly Index Reviews of the MSCI Global Investable Market Indexes are simultaneously reflected in the MSCI Frontier Markets 100 Index.

3.3 Ongoing Event Related Changes

With the exception of treatment of IPOs and other early inclusions, the MSCI Frontier Markets 100 Index follows the event maintenance of the Parent Index. Details regarding the treatment of corporate events not covered below can be found in the MSCI Corporate Events Methodology Book, available at:

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

3.3.1 IPOs and other early inclusions

IPOs and other early inclusions (for example, spun-off companies) will only be considered for inclusion in the MSCI Frontier Markets 100 Index at the Semi-Annual Index Review following the event.

3.3.2 Number of Securities in the Index Following Corporate Events

In the event that the number of securities in the MSCI Frontier Markets 100 Index would fall below 85 or rise above 115 due to corporate events, no additions or deletions would be made to restore the number of securities to 85 or 115 until the next Semi-Annual Index Review.

Appendix I: Transition

This current methodology for the MSCI Frontier Markets 100 Index became effective starting from the May 2014 Semi-Annual Index Review. The transition from the previous methodology for the MSCI Frontier Markets 100 Index occurred in seven monthly phases:

- Phase 1: as of the close of May 30, 2014 (effective June 2, 2014) to coincide with the May 2014 Semi-Annual Index Review
- Phase 2: as of the close of June 30, 2014 (effective July 1, 2014)
- Phase 3: as of the close of July 31, 2014 (effective August 1, 2014)
- Phase 4: as of the close of August 29, 2014 (effective September 1, 2014)
- Phase 5: as of the close of September 30, 2014 (effective October 1, 2014)
- Phase 6: as of the close of October 31, 2014 (effective November 3, 2014)
- Phase 7: as of the close of November 25, 2014 (effective November 26, 2014) to coincide with the November 2014 Semi-Annual Index Review

Each phase involved the following activities:

- Determine the post-transition MSCI Frontier Markets 100 Index
- Determine the difference between the current MSCI Frontier Markets 100 Index (at the time of each phase) and the post-transition MSCI Frontier Markets 100 Index
- Implement only a portion of this difference in the MSCI Frontier Markets 100 Index (except for phase 7 when the MSCI Frontier Markets 100 Index converged with the post-transition MSCI Frontier Markets 100 Index)

In order to minimize reverse turnover, only the final step of the transition to the revised methodology was implemented as part of the November 2014 Semi-Annual Index Review, i.e. the MSCI Frontier Markets 100 Index was not rebalanced. The Semi-Annual Index Reviews for the MSCI Frontier Markets 100 Index, as described in this methodology book, will resume at the time of the May 2015 Semi-Annual Index Review.

Changes in the number of shares and Foreign Inclusion Factors (FIFs) for the Parent Index resulting from regular Index Reviews or corporate events were implemented simultaneously in the MSCI Frontier Markets 100 Index. In addition companies deleted from the Parent Index due to corporate events or Index Reviews (as defined in the MSCI GIMI methodology) were also deleted from the MSCI Frontier Markets 100 Index during this transition period.

Details on each phase are provided in the table below:

	Post-transition index	Data used	Changes implemented
Phase 1	The post-transition index was derived from applying the revised index maintenance methodology as described in Section 3.	Pro forma data of the parent index (i.e. reflecting the results of the May 2014 Semi-Annual Index Review) as of the close of the business day before the announcement date of phase 1.	1/7th of the difference (measured by security index market cap) between the current index and the post-transition index was implemented.
Phase 2	At each phase from phase 2 to phase 7, securities in the post-transition index were updated to reflect market performance as well as changes in the parent index due to past corporate events and index reviews. The list of constituents in the post-transition index remained unchanged, with the exception of securities deleted from the parent index due to past corporate events or index reviews which were excluded from the post-transition index.	Data of the parent index as of the close of the business day before the announcement date of phase 2.	1/6th of the difference between the current index and the post-transition index was implemented.
Phase 3		Data of the parent index as of the close of the business day before the announcement date of phase 3.	1/5th of the difference between the current index and the post-transition index was implemented.
Phase 4		Pro forma data of the parent index (i.e. reflecting the results of the August 2014 Quarterly Index Review) as of the close of the business day before the announcement date of phase 4.	1/4th of the difference between the current index and the post-transition index was implemented.
Phase 5		Data of the parent index as of the close of the business day before the announcement date of phase 5.	1/3rd of the difference between the current index and the post-transition index was implemented.
Phase 6		Data of the parent index as of the close of the business day before the announcement date of phase 6.	One half of the difference between the current index and the post-transition index was implemented.
Phase 7	The country cap described in Section 2.4 was then applied to the post-transition index.	Pro forma data of the parent index (i.e. reflecting the results of the November 2014 Semi-Annual Index Review) as of the close of the business day before the announcement date of phase 7.	The full difference between the current index and the post-transition index was implemented.

Appendix II: Differences Between the Previous and the Current MSCI Frontier Markets 100 Methodology

	Previous Methodology	Current Methodology
Parent Index	The MSCI Frontier Markets 100 Index was based on the MSCI Frontier Markets (FM) Index	The MSCI Frontier Markets 100 Index is based on the MSCI Frontier Markets (FM) Investable Market Index (IMI)
Free float-adjusted market capitalization requirement	No additional minimum free float-adjusted market capitalization requirement was applied compared to the Parent Index	A higher minimum free float-adjusted market capitalization requirement is applied compared to the parent index
Number of constituents	The number of constituents was set to 100 at the time of an Index Review	The number of constituents is allowed to fluctuate between 85 and 115 at the time of an index review
Country cap	A cap of 50% was applied to the weight of a country in the MSCI Frontier Markets 100 Index	A cap of 40% is applied to the cumulative weight of the two largest countries in the MSCI Frontier Markets 100 Index

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The company's flagship product offerings are: the MSCI indexes with over USD 9 trillion estimated to be benchmarked to them on a worldwide basis¹; Barra multi-asset class factor models, portfolio risk and performance analytics; RiskMetrics multi-asset class market and credit risk analytics; IPD real estate information, indexes and analytics; MSCI ESG (environmental, social and governance) Research screening, analysis and ratings; and FEA valuation models and risk management software for the energy and commodities markets. MSCI is headquartered in New York, with research and commercial offices around the world.

¹ As of March 31, 2014, as reported on June 25, 2014, by eVestment, Lipper and Bloomberg