

# **MSCI MEXICO SELECT RISK WEIGHTED INDEX METHODOLOGY**

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## 1 INTRODUCTION

The MSCI Mexico Select Risk Weighted Index aims to reflect the performance of the universe of Mexican Large Cap and Mid Cap companies, excluding Real Estate Investment Trusts (REITs), but with lower risk than a market capitalization weighted Index. To do so, the MSCI Risk Weighted Indexes methodology is applied on the MSCI Mexico ex REITs Index. To help diversification, the Index is then capped as per the MSCI 35/65 Indexes methodology which constrains 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.

## 2 CONSTRUCTING THE MSCI MEXICO SELECT RISK WEIGHTED INDEX

### 2.1 DEFINING THE APPLICABLE UNIVERSE

The applicable universe is the MSCI Mexico ex REITs Index (the “Parent Index”), which is constructed as the MSCI Mexico Index excluding securities of companies classified in the Equity Real Estate Investment Trusts Industry and Mortgage Real Estate Investment Trusts Sub-Industry as per the Global Industry Classification Standard (GICS®).

### 2.2 APPLYING THE MSCI RISK WEIGHTED INDEXES METHODOLOGY

The MSCI Risk Weighted Indexes methodology is applied on the Parent Index.

For more information on the MSCI Risk Weighted Indexes methodology, please refer to <https://www.msci.com/index-methodology>

### 2.3 APPLYING THE CAPPING

In addition, the resulting set of constituents and weights is capped based on the MSCI 35/65 Indexes methodology as described in section 4.6 in the MSCI Capped Indexes methodology book<sup>1</sup>.

The Barra Optimizer<sup>2</sup> is utilized to perform the optimization function which is aimed at minimizing index turnover, tracking error and extreme deviation from the Parent Index. Appendix I details the optimization parameters.

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

<sup>2</sup> A brief description of the Barra Optimizer can be found at [https://www.msci.com/documents/10199/242721/Barra\\_Optimizer.pdf](https://www.msci.com/documents/10199/242721/Barra_Optimizer.pdf)

### **3 MAINTAINING THE MSCI MEXICO SELECT RISK WEIGHTED INDEX**

The Index is maintained as per the MSCI Risk Weighted Indexes methodology.

## APPENDIX I: OPTIMIZATION PARAMETERS

The following parameters are used in the optimization process:

- The Parent Index is used as the benchmark
- The objective is to minimize tracking error to the Parent Index
- A diagonal covariance matrix is used with the same risk for each constituent (1) and zero for all off-diagonals
- The minimum weight of capped index constituents is set to the weight of the smallest constituent in the Parent Index. This avoids the situation where the optimized index holds a security with a very small weight
- The risk aversion parameter is set to default value of 0.0075, which is generally used in mean-variance optimizations
- One way transaction cost is set to 0.5%, which aims to achieve a balance between minimizing active risk and turnover

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

- Section 1: Addition of MSCI 35/65 Capped Indexes application
- Section 2.3: Application of MSCI 35/65 Capped Indexes methodology to the Index
- Addition of Appendix I

**The following sections have been modified since May 2015:**

- Section 2.1: Excluded GICS Industry and Sub-Industry are updated to reflect changes to the GICS structure effective September 01, 2016

**The following sections have been modified since August 2016:**

Section 2.3: Applying the Capping

- Updated link to the description of Barra Optimizer.

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