INDEX METHODOLOGY



# MSCI MEXICO SELECT MOMENTUM CAPPED INDEX METHODOLOGY

May 2015



CONTENTS	1 In	troduction	3
	2 Co	onstructing the MSCI Mexico Select Momentum Capped Index	4
	2.1	Defining the Applicable Universe	. 4
	2.2	Applying the MSCI Momentum Indexes methodology	. 4
	2.3	Applying the Capping	. 4
	3 Maintaining the MSCI Mexico Select Momentum Capped Index		5
	3.1	Semi-Annual Index Reviews	. 5
	3.2	Ongoing Event Related Changes	. 5
Appendix I: Optimization Parameters		dix I: Optimization Parameters	7



## 1 INTRODUCTION

The MSCI Mexico Select Momentum Capped Index aims to reflect the performance of an Equity Momentum strategy applied on the universe of Mexican Large Cap and Mid Cap companies, excluding Real Estate Investment Trusts (REITs). To do so, the MSCI Momentum 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 MOMENTUM CAPPED 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 as Real Estate Investment Trusts (REITs) as per the Global Industry Classification Standard (GICS<sup>®</sup>).

## 2.2 APPLYING THE MSCI MOMENTUM INDEXES METHODOLOGY

The MSCI Momentum Indexes methodology is applied on the Parent Index.

For more information on the MSCI Momentum Index methodology, please refer to <u>https://www.msci.com/index-methodology</u>

## 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 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

<sup>&</sup>lt;sup>1</sup><u>https://www.msci.com/index-methodology</u>



# 3 MAINTAINING THE MSCI MEXICO SELECT MOMENTUM CAPPED INDEX

### 3.1 SEMI-ANNUAL INDEX REVIEWS

The Index is rebalanced as described in section 2 on a semi-annual basis, coinciding with the May and November Semi-Annual Index Reviews of the MSCI Global Investable Market Indexes.

The pro forma Index is announced nine business days before the effective date.

### 3.2 ONGOING EVENT RELATED CHANGES

Corporate events applied in the Parent Index are applied simultaneously in the Index. For example, changes in number of shares and Foreign Inclusion Factors, as well as Price Adjustment Factors, are applied simultaneously in the Index. Deletions from the Parent Index are also simultaneously reflected in the Index.

In addition, the below table describes the specific impact on the Index of certain corporate events applied in the Parent Index:

Event Type	Examples	Impact	
Securities added to the Parent Index without a link to an existing constituent of the Index	IPO added to the Parent Index Security added to the Parent Index following country reclassification	Security will be considered for inclusion in the Index at the next Semi-Annual Index Review	
	Security added to the Parent Index following the August or February Quarterly Index Review		



Event Type	Examples	Impact
Securities added to the Parent Index as a result of the acquisition of an existing constituent of the Index	Non Index constituent acquires Index constituent and is added to the Parent Index	Acquired security is removed from the Index and acquiring security will be considered for inclusion in the Index at the next Semi-Annual Index Review
Securities added to the Parent Index and linked to an existing constituent of the Index	Index constituent spins off security that is added to the Parent Index Index constituent is converted into another security that is added to the Parent Index	Security is added to the Index with the same constraint factor <sup>2</sup> as the existing security of the Index to which it is linked
Mergers & Acquisitions between existing constituents where the remaining entity is included in the Parent Index	Index constituent acquires another Index constituent and remains in the Parent Index Index constituent merges with another Index constituent and is added to the Parent Index	Remaining entity is included in the Index with a constraint factor <sup>1</sup> that is the weighted average of the constraint factors of the two constituents prior to the event

When a security for which a change (addition, deletion or change in constraint factor) has been announced as part of an Index Review is suspended two business days prior to the effective date of the Index Review, the change is cancelled.

<sup>&</sup>lt;sup>2</sup> Constraint factors are calculated for each Index constituent at each Index Review as the ratio of the security weight in the Index and the security weight in the Parent Index. They remain constant in between Index Reviews, except in cases of corporate events.



## **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 3.2: Deletion of previous Monthly Index Reviews section

Section 2.3: Transition of Index to MSCI 35/65 Capped Indexes methodology



# CONTACT US

### 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
Sao 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 *

#### **ABOUT MSCI**

For more than 40 years, MSCI's researchbased indexes and analytics have helped the world's leading investors build and manage better portfolios. Clients rely on our offerings for deeper insights into the drivers of performance and risk in their portfolios, broad asset class coverage and innovative research.

Our line of products and services includes indexes, analytical models, data, real estate benchmarks and ESG research.

MSCI serves 98 of the top 100 largest money managers, according to the most recent P&I ranking.

For more information, visit us at <u>www.msci.com</u>.

#### 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 *
Токуо	+ 81 3 5290 1555

\* = toll free



# NOTICE AND DISCLAIMER

This document and all of the information contained in it, including without limitation all text, data, graphs, charts (collectively, the "Information") is the property of MSCI Inc. or its subsidiaries (collectively, "MSCI"), or MSCI's licensors, direct or indirect suppliers or any third party involved in making or compiling any Information (collectively, with MSCI, the "Information Providers") and is provided for informational purposes only. The Information may not be modified, reverse-engineered, reproduced or redisseminated in whole or in part without prior written permission from MSCI.

The Information may not be used to create derivative works or to verify or correct other data or information. For example (but without limitation), the Information may not be used to create indexes, databases, risk models, analytics, software, or in connection with the issuing, offering, sponsoring, managing or marketing of any securities, portfolios, financial products or other investment vehicles utilizing or based on, linked to, tracking or otherwise derived from the Information or any other MSCI data, information, products or services.

The user of the Information assumes the entire risk of any use it may make or permit to be made of the Information. NONE OF THE INFORMATION PROVIDERS MAKES ANY EXPRESS OR IMPLIED WARRANTIES OR REPRESENTATIONS WITH RESPECT TO THE INFORMATION (OR THE RESULTS TO BE OBTAINED BY THE USE THEREOF), AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, EACH INFORMATION PROVIDER EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES (INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF ORIGINALITY, ACCURACY, TIMELINESS, NON-INFRINGEMENT, COMPLETENESS, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) WITH RESPECT TO ANY OF THE INFORMATION.

Without limiting any of the foregoing and to the maximum extent permitted by applicable law, in no event shall any Information Provider have any liability regarding any of the Information for any direct, indirect, special, punitive, consequential (including lost profits) or any other damages even if notified of the possibility of such damages. The foregoing shall not exclude or limit any liability that may not by applicable law be excluded or limited, including without limitation (as applicable), any liability for death or personal injury to the extent that such injury results from the negligence or willful default of itself, its servants, agents or sub-contractors.

Information containing any historical information, data or analysis should not be taken as an indication or guarantee of any future performance, analysis, forecast or prediction. Past performance does not guarantee future results.

The Information should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. All Information is impersonal and not tailored to the needs of any person, entity or group of persons.

None of the Information constitutes an offer to sell (or a solicitation of an offer to buy), any security, financial product or other investment vehicle or any trading strategy.

It is not possible to invest directly in an index. Exposure to an asset class or trading strategy or other category represented by an index is only available through third party investable instruments (if any) based on that index. MSCI does not issue, sponsor, endorse, market, offer, review or otherwise express any opinion regarding any fund, ETF, derivative or other security, investment, financial product or trading strategy that is based on, linked to or seeks to provide an investment return related to the performance of any MSCI index (collectively, "Index Linked Investments"). MSCI makes no assurance that any Index Linked Investments will accurately track index performance or provide positive investment returns. MSCI Inc. is not an investment adviser or fiduciary and MSCI makes no representation regarding the advisability of investing in any Index Linked Investments.

Index returns do not represent the results of actual trading of investible assets/securities. MSCI maintains and calculates indexes, but does not manage actual assets. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the index or Index Linked Investments. The imposition of these fees and charges would cause the performance of an Index Linked Investment to be different than the MSCI index performance.

The Information may contain back tested data. Back-tested performance is not actual performance, but is hypothetical. There are frequently material differences between back tested performance results and actual results subsequently achieved by any investment strategy.

Constituents of MSCI equity indexes are listed companies, which are included in or excluded from the indexes according to the application of the relevant index methodologies. Accordingly, constituents in MSCI equity indexes may include MSCI Inc., clients of MSCI or suppliers to MSCI. Inclusion of a security within an MSCI index is not a recommendation by MSCI to buy, sell, or hold such security, nor is it considered to be investment advice.

Data and information produced by various affiliates of MSCI Inc., including MSCI ESG Research Inc. and Barra LLC, may be used in calculating certain MSCI indexes. More information can be found in the relevant index methodologies on www.msci.com.

MSCI receives compensation in connection with licensing its indexes to third parties. MSCI Inc.'s revenue includes fees based on assets in Index Linked Investments. Information can be found in MSCI Inc.'s company filings on the Investor Relations section of www.msci.com.

MSCI ESG Research Inc. is a Registered Investment Adviser under the Investment Advisers Act of 1940 and a subsidiary of MSCI Inc. Except with respect to any applicable products or services from MSCI ESG Research, neither MSCI nor any of its products or services recommends, endorses, approves or otherwise expresses any opinion regarding any issuer, securities, financial products or instruments or trading strategies and MSCI's products or services are not intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such. Issuers mentioned or included in any MSCI ESG Research materials may include MSCI Inc., clients of MSCI or suppliers to MSCI, and may also purchase research or other products or services from MSCI ESG Research. MSCI ESG Research materials, including materials utilized in any MSCI ESG Indexes or other products, have not been submitted to, nor received approval from, the United States Securities and Exchange Commission or any other regulatory body.

Any use of or access to products, services or information of MSCI requires a license from MSCI. MSCI, Barra, RiskMetrics, IPD, FEA, InvestorForce, and other MSCI brands and product names are the trademarks, service marks, or registered trademarks of MSCI or its subsidiaries in the United States and other jurisdictions. The Global Industry Classification Standard (GICS) was developed by and is the exclusive property of MSCI and Standard & Poor's. "Global Industry Classification Standard (GICS)" is a service mark of MSCI and Standard & Poor's.