MSCI Mexico ESG Select Focus Index Methodology

December 2022

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1 Introduction

The MSCI Mexico ESG Select Focus Index (the 'Index') is designed to maximize its exposure to positive environmental, social and governance (ESG) factors while keeping the carbon-equivalent exposure to carbon dioxide (CO2) and other greenhouse gases (GHG) as well as the exposure to potential emissions risk of fossil fuel reserves similar to that of the MSCI Mexico Index (the 'Parent Index'). The Index also aims to maintain risk and return characteristics similar to those of the Parent Index.

The Index is constructed by selecting constituents of the MSCI Mexico Index through an optimization process that aims to maximize exposure to ESG factors for a target tracking error budget and maintaining a carbon-equivalent exposure to CO2 and other GHG as well as the exposure to potential emissions risk of fossil fuel reserves comparable to that of the Parent Index under certain under certain constraints.

The Index aims to be sector-diversified and targets companies with high ESG ratings in each sector. Considering 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, MSCI applies constraints on the weights of the Index after the ESG optimization. These constraints are applied in line with the MSCI 35/65 Index Methodology.

2 MSCI ESG Research

The Index uses company ratings and research provided by MSCI ESG Research. In particular, the Index uses the following MSCI ESG Research products: MSCI ESG Ratings, MSCI ESG Business Involvement Screening Research, and MSCI Climate Change Metrics.

For details on MSCI ESG Research's full suite of ESG products, please refer to: https://www.msci.com/esg-investing

2.1 MSCI ESG Ratings

MSCI ESG Ratings aim to measure entities' management of environmental, social and governance risks and opportunities. MSCI ESG Ratings are based on a seven-point scale from 'AAA' to 'CCC', indicating how an entity manages relevant key issues relative to industry peers.

The MSCI ESG Ratings methodology can be found at: https://www.msci.com/esg-and-climate-methodologies

2.2 MSCI ESG Business Involvement Screening Research

MSCI ESG Business Involvement Screening Research (BISR) aims to enable institutional investors to manage environmental, social and governance (ESG) standards and restrictions reliably and efficiently.

For more details on MSCI ESG Business Involvement Screening Research, please refer to http://www.msci.com/resources/factsheets/MSCI_ESG_BISR.pdf

2.3 MSCI Climate Change Metrics

MSCI Climate Change Metrics provide climate data & tools to support institutional investors seeking to integrate climate risk & opportunities into their investment strategy and processes. This includes investors seeking to achieve a range of objectives, including measuring and reporting on climate risk exposure, implementing low carbon and fossil fuel-free strategies, alignment with temperature pathways and factoring climate change research into their risk management processes, in particular through climate scenario analysis for both transition and physical risks.

The dataset spans across the four dimensions of a climate strategy: transition risks, green opportunities, physical risks and 1.5° alignment.

For more details on MSCI Climate Change Metrics, please refer to https://www.msci.com/climate-solutions

3 Constructing the MSCI Mexico ESG Select Focus Index

Constructing the MSCI Mexico ESG Select Focus Index involves the following steps:

- Defining the Security Level Carbon Exposure
- Defining the Business Exclusion Criteria
- Defining the Optimization Constraints
- Determining the Optimized Portfolio
- The steps mentioned above are defined in detail in the subsequent sections.

3.1 Defining the Security Level Carbon Exposure

The carbon exposure of a security is measured in terms of its greenhouse gas emissions and its potential carbon emissions from fossil fuel reserves. The MSCI Mexico ESG Select Focus Index uses MSCI ESG Climate Change Metrics data from MSCI ESG Research.

3.1.1 Greenhouse Gas Emissions

MSCI ESG Research collects company-specific direct (Scope 1) and indirect (Scope 2) greenhouse gas (GHG) emissions data from company public documents and/or the Carbon Disclosure Project. If a company does not report GHG emissions, then MSCI ESG Research uses its proprietary methodology to estimate Scope 1 and Scope 2 GHG emissions. The data is updated on an annual basis. Since the current carbon emissions of a company are directly influenced by its current business activity, MSCI normalizes for size by dividing the annual carbon emissions of the company by the annual sales of the company.

For newly added companies to the Index which do not report emission data and where MSCI ESG Research has not estimated the greenhouse gas emissions yet, MSCI uses the Average Emissions per dollar of issuer market capitalization for the companies in the same industry group, multiplied by the market capitalization of the company as the estimated emission for the company.

3.1.2 Potential Carbon Emissions from Fossil Fuels

MSCI ESG Research collects fossil fuel reserves data where relevant for companies which have reserves, typically in the Oil & Gas, Coal Mining and Electric Utilities industries[1]. Fossil fuel reserves can be used for several applications including energy or industrial (e.g. coking coal used for steel production). For the development of the

[1] For more information on MSCI ESG Climate Change Metrics, please refer to https://www.msci.com/index-carbonfootprint-metrics

MSCI Mexico ESG Select Focus Index, only fossil fuel reserves used for energy are taken into account. The data is updated on an annual basis and based on information disclosed by companies. Sources include company publications, other public records and third-party data providers. For newly added companies to the Index where data is not available yet, MSCI uses zero fossil fuel reserves. The size of reserves of a company typically influences its market valuation, and hence MSCI normalizes for size by dividing the potential carbon emissions of the company by its market capitalization.

To convert reserves data to potential carbon emissions, MSCI ESG Research applies a formula from the Potsdam Institute for Climate Impact Research[2].

3.2 Defining the Business Exclusion Criteria

Companies that are involved in specific businesses which have high potential for negative social and/or environmental impact are ineligible for inclusion in the Index.

- Controversial Weapons
- Civilian Firearms
- Tobacco
- Thermal Coal
- Oil Sands

Other exclusion criteria

- Missing ESG Rating or ESG Score – Companies which are not rated by MSCI ESG Research for an MSCI ESG Rating are excluded from the Index.

3.3 Defining the Optimization Constraints

3.3.1 ESG Optimization

The Optimization process aims to maximize the Index's exposure to ESG Scores and simultaneously ensuring that the carbon emissions intensity, weighted carbon emission intensity, and potential emissions are comparable to that of the MSCI Mexico Index for a tracking error budget of 150 basis points (1.5%).

ESG Scores are normalized and used in the optimization process.

[2] Malte Meinshausen, Nicolai Meinshausen, William Hare, Sarah C. B. Raper, Katja Frieler, Reto Knutti, David J. Frame & Myles R. Allen. Greenhouse-gas emission Target for limiting global warming to 2 °C. Nature 458, 1158-1162 (30 April 2009) | doi: 10.1038/nature08017; Received 25 September 2008; Accepted 25 March 2009. Supplementary Information, p. 7.

Normalization of the ESG Scores is designed to allow the optimization process to assess each score in the context of the overall distribution of the ESG Scores.

3.3.2 Capping Optimization

The MSCI 35/65 Capped Indexes methodology as defined below is applied using a separate optimization process after the ESG Optimized Index construction step to obtain the Final Index.

- The weight of any single security will be constrained at 35%.
- The sum of the largest five securities will be constrained at 65%.
- A buffer of 5% of the value of each constraint is applied at each index review. As a result, at the point of constructing or rebalancing the MSCI 35/65 Capped Index, the weight of any single security cannot exceed 33.25% and the sum of the largest five securities cannot exceed 61.75%

In general, the 35/65 Capped Index follows the event maintenance of the MSCI 35/65 Capped Indexes Methodology.

Please refer to section 4.6 of the MSCI Capped Indexes methodology for additional details on the MSCI 35/65 Capped Indexes Methodology at https://www.msci.com/index-methodology

Please refer to Appendix 2 for the optimization constraints.

3.4 Determining the Optimized Portfolio

The Index is constructed using MSCI's Barra® Open Optimizer in combination with the relevant Barra Equity Model[3]. The optimization uses a universe of eligible securities and the specified optimization objective and constraints to determine the constituents of the MSCI Mexico ESG Select Focus Index.

[3] Please refer to Appendix 3 for the detailed information on model usage

4 Maintaining the MSCI Mexico ESG Select Focus Index

4.1 Quarterly Index Reviews

The Index is rebalanced on a quarterly basis to coincide with the regular Index Reviews (Semi-Annual Index Reviews in May and November and Quarterly Index Reviews in February and August) of the MSCI Global Investable Market Indexes. Changes are implemented at the end of February, May, August and November. The pro forma indexes are in general announced nine business days before the effective date.

At each Index Review, the optimization process outlined in Section 3 is implemented.

In general, MSCI uses MSCI ESG Research data (including MSCI ESG Ratings, MSCI Business Involvement Screening Research, and MSCI ESG Climate Change Metrics) as of the end of the month preceding the Index Reviews. For some securities, such data may not be published by MSCI ESG Research by the end of the month preceding the Index Review. For such securities, MSCI will use ESG data published after the end of month, when available.

4.2 Rebalancing due to non-compliance

The 35/65 Index is also rebalanced on an “as needed” basis. This means that the 35/65 Index is rebalanced at the end of any day on which the constraints as specified in Section 3.3 (without the buffer) are breached. The breach of the constraints can be, for example, triggered by the market performance of one constituent.

The rebalancing will take place as of the close of the day when the Index breaches the constraints, based on closing prices, such that the MSCI 35/65 Index will always be within the constraints before the opening of the following trading day.

Any rebalancing driven due to non-compliance, does not trigger the ESG Optimization (as described in section 3.3.1), and only triggers a capping optimization (as described in section 3.3.2).

4.3 Ongoing event-related maintenance

The general treatment of corporate events in the MSCI Mexico ESG Select Focus Index aims to minimize turnover outside of Index Reviews. The methodology aims to appropriately represent an investor’s participation in an event based on relevant deal terms and pre-event weighting of the Index constituents that are involved. Further, changes in index market capitalization that occur as a result of corporate event implementation will be offset by a corresponding change in the Variable Weighting Factor (VWF) of the constituent.

Additionally, if the frequency of Index Reviews in the Parent Index is greater than the frequency of Index Reviews in the MSCI Mexico ESG Select Focus Index, the changes made to the Parent Index during intermediate Index Reviews will be neutralized in the MSCI Mexico ESG Select Focus Index.

The following section briefly describes the treatment of common corporate events for the MSCI Mexico ESG Select Focus Index.

No new securities will be added (except where noted below) to the Index between Index Reviews. Parent Index deletions will be reflected simultaneously.

EVENT TYPE	EVENT DETAILS
New additions to the Parent Index	A new security added to the Parent Index (such as IPO and other early inclusions) will not be added to the Index.
Spin-Offs	All securities created as a result of the spin-off of an existing Index constituent will be added to the Index at the time of event implementation. Reevaluation for continued inclusion in the Index will occur at the subsequent Index Review.
Merger/Acquisition	For Mergers and Acquisitions, the acquirer's post event weight will account for the proportionate amount of shares involved in deal consideration, while cash proceeds will be invested across the Index. If an existing Index constituent is acquired by a non-Index constituent, the existing constituent will be deleted from the Index and the acquiring non-constituent will not be added to the Index.
Changes in Security Characteristics	A security will continue to be an Index constituent if there are changes in characteristics (country, sector, size segment, etc.) Reevaluation for continued inclusion in the Index will occur at the subsequent Index Review.

Further detail and illustration regarding specific treatment of corporate events relevant to this Index can be found in the MSCI Corporate Events Methodology book under the sections detailing the treatment of events in Capped Weighted and NonMarket Capitalization Weighted indexes.

The MSCI Corporate Events methodology book is available at: https://www.msci.com/index-methodology.

Appendix I: Business Exclusion Criteria

- **Controversial Weapons**
  - All companies with any tie to Controversial Weapons (cluster munitions, landmines, depleted uranium weapons, biological/chemical weapons, blinding lasers, nondetectable fragments and incendiary weapons), as defined by the methodology of the MSCI Global Ex-Controversial Weapons Indexes available at https://www.msci.com/index-methodology.
- **Civilian Firearms**
  - All companies classified as "Producer" of firearms and small arms ammunitions for civilian markets. It does not include companies that cater to the military, government, and law enforcement markets.
- **Tobacco**
  - All companies classified as a "Producer".
- **Thermal Coal**
  - All companies deriving 5% or more revenue (either reported or estimated) from the mining of thermal coal (including lignite, bituminous, anthracite and steam coal) and its sale to external parties. It does not cover: revenue from metallurgical coal; coal mined for internal power generation (e.g. in the case of vertically integrated power producers); intra-company sales of mined thermal coal; and revenue from coal trading.
  - All companies deriving 5% or more revenue (either reported or estimated) from the thermal coal-based power generation.
- **Oil Sands**
  - All companies deriving 5% or more revenue from oil sands extraction, which own oil sands reserves and disclose evidence of deriving revenue from oil sands extraction. Companies that derive revenue from non-extraction activities (e.g. exploration, surveying, processing, refining) or intra-company sales are not excluded. Additionally, companies that own oil sands reserves with no associated revenue are also not excluded.

Appendix II: Optimization Constraints

ESG optimization constraints

At each Quarterly Index Review, the following optimization constraints with the exante tracking error target of 150 basis points (1.5%) are used to ensure replicability and investability for the ESG Optimization

Screened Parent

The Screened Parent is constructed by excluding securities from the Parent Index based on the exclusion criteria as defined in Section 3.2. The security weights are then normalized to 100%.

Optimization Constraints

No.	Parameter	Values
1	Minimum Constituent Weight	Minimum constituent weight in the Screened Parent
2^	Asset Lower Bound	Maximum (Minimum constituent weight in the Screened Parent, 0.5 * Security Weight in the Screened Parent)
3^	Asset Upper Bound	Minimum (3 * Security Weight in the Screened Parent, Security Weight in the Screened Parent +2%)
4^	Active Sector Weights	+/-10%
5^	Carbon Emission Intensity relative to the Parent Index	Target Carbon Emission Intensity of the Parent Index or lower
6^	Potential Emissions per dollar of market capitalization relative to the Parent Index	Target Potential Emissions per dollar of market capitalization of the Parent Index or Lower
7^	Weighted Average Carbon Emission Intensity relative to the Parent Index	Target Weighted Average Carbon Emission Intensity of the Parent Index or lower
8^	One Way Turnover during May and November Index Review	10%
9^	One Way Turnover during Feb and Aug Index Review	5%
10	Specific Risk Aversion	0.075
11	Common Factor Risk Aversion	0.0075

^ The Optimization Constraints are applied relative to the Parent Index.

Infeasible ESG Solution - During the Quarterly Index Reviews, in the event that there is no optimal solution that satisfies all the optimization constraints, first the turnover constraint will be relaxed up to a maximum turnover of 30% in steps of 1% until an optimal solution is found. If a feasible solution is not found at turnover of 30%, the ex-ante tracking error is relaxed up to a maximum of 5 times of the original ex-ante tracking error in steps on 0.1%. In the event that feasible solution is not found for maximum ex-ante tracking error, the Index will not be rebalanced for that index review.

The Carbon Emission Intensity and the Potential Emissions per dollar of market capitalization of the Index are calculated using the formulae defined as -

Index Carbon Emissions –

Parent Index Carbon Emissions –

$$\sum_i \left(\frac{(Float\ Market\ Capitalization\ * Absolute\ Emissions)}{Issuer\ Market\ Capitalization} \right)$$

Derived Index Carbon Emissions –

$$\sum_i \left(\frac{(Derived\ Index\ Market\ Capitalization\ * Absolute\ Emissions)}{Issuer\ Market\ Capitalization} \right)$$

Parent Index Carbon Emission Intensity is defined as Parent Index Carbon Emissions, as defined above, divided by Parent Index Sales –

$$\sum_i \frac{\left(\frac{(Float\ Market\ Capitalization\ * Absolute\ Emissions)}{Issuer\ Market\ Capitalization} \right)}{/ \sum_i \left(\frac{(Float\ Market\ Capitalization\ * Sales)}{Issuer\ Market\ Capitalization} \right)}$$

Derived Index Carbon Emissions Intensity is defined as Derived Index Carbon Emissions, as defined above, divided by Derived Index Sales –

$$\sum_i \frac{\left(\frac{(Derived\ Index\ Market\ Capitalization\ * Absolute\ Emissions)}{Issuer\ Market\ Capitalization} \right)}{/ \sum_i \left(\frac{(Derived\ Index\ Market\ Capitalization\ * Sales)}{Issuer\ Market\ Capitalization} \right)}$$

Derived Index Carbon Emissions Intensity is defined as Derived Index Carbon Emissions, as defined above, divided by Derived Index Sales –

$$\sum_i \frac{\left(\frac{(Derived\ Index\ Market\ Capitalization\ * Absolute\ Emissions)}{Issuer\ Market\ Capitalization} \right)}{/ \sum_i \left(\frac{(Derived\ Index\ Market\ Capitalization\ * Sales)}{Issuer\ Market\ Capitalization} \right)}$$

Index Potential Carbon Emissions from Fossil Fuels –

Parent Index Potential Carbon Emissions from Fossil Fuels–

$$\sum_i \left(\frac{(Float\ Market\ Capitalization\ * Absolute\ Potential\ Emissions)}{Issuer\ Market\ Capitalization} \right)$$

Derived Index Potential Carbon Emissions from Fossil Fuels–

$$\sum_i \left(\frac{(Derived\ Index\ Market\ Capitalization\ * Absolute\ Potential\ Emissions)}{Issuer\ Market\ Capitalization} \right)$$

The Weighted Average Carbon Emission Intensity of the Index is achieved by calculating the Carbon Emission Intensity for each security in the Index and calculating the weighted average by index weight.

At the security level, the Carbon Emission Intensity is defined as –

$$Security\ Carbon\ Emission\ Intensity = \frac{Carbon\ Emissions}{Sales}$$

Where $Carbon\ Emissions$ is calculated as defined in the Section 3.1.1

35/65 capping optimization constraints

No.	Parameter	Values
1	Buffer for Maximum Security Weight and Sum of Top 5 Securities Weight at Index Review	5%
3	Maximum Security Weight as a Multiple of its weight in the Parent Index	3

Infeasible Capping Solution - During the Quarterly Index Reviews, in the event that there is no optimal solution that satisfies all the optimization constraints, the following constraints will be relaxed one by one, until an optimal solution is found:

- Relax the maximum security weight multiple in steps of 1 up to a maximum value of 5.
- Reduce the Top 5 security weight constraint buffer in steps of 2.5% up to a buffer value of 0.
- Reduce the Top security weight constraint buffer in steps of 2.5% up to a buffer value of 0.

In the event that no optimal solution is found after the above constraints have been relaxed, after a total of 50 iterations, the Index will not be rebalanced for that index review.

Appendix III: New release of Barra® Equity Model or Barra® Optimizer

The methodology presently uses MSCI Barra Global Equity Model for Long-Term Investors (“GEMLTL”) for the optimization. A new release of the relevant Barra Equity Model or Barra Optimizer may replace the former version within a suitable timeframe.

The following sections have been modified effective December 2022:

- Appendix II: Added formulae used for Carbon Emissions Intensity and Potential Emissions per dollar of market capitalization calculation

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