

MSCI ESG FOCUS INDEX METHODOLOGY

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1 INTRODUCTION

The MSCI ESG Focus Index (the 'Index') is designed to maximize its exposure to positive environmental, social and governance (ESG) factors while exhibiting risk and return characteristics similar to those of the underlying market capitalization weighted index. The index is constructed by selecting constituents of a market capitalization weighted index (the 'Parent Index') through an optimization process that aims to maximize exposure to ESG factors for a target tracking error budget under certain constraints.

The Index is sector-diversified and targets companies with high ESG ratings in each sector. Tobacco and Controversial Weapons companies are not eligible for inclusion in the Index.

2 ESG RESEARCH FRAMEWORK

MSCI ESG Research provides in-depth research, ratings and analysis of the environmental, social and governance-related business practices of thousands of companies worldwide. It consists of an integrated suite of tools and products to efficiently manage research, analysis and compliance tasks across the spectrum of ESG factors.

The MSCI USA ESG Select Index uses company ratings and research provided by MSCI ESG Research. In particular, this index uses the following three MSCI ESG Research products: MSCI ESG Ratings, MSCI ESG Controversies Score, and MSCI ESG Business Involvement Screening Research.

For details on MSCI ESG Research’s full suite of ESG products, please refer to: http://www.msci.com/products/esg/about_msci_esg_research.html

2.1 MSCI ESG RATINGS

MSCI ESG Ratings provides research, analysis and ratings of how well companies manage environmental, social and governance risks and opportunities.

MSCI ESG Ratings provides an overall company ESG rating - a seven point scale from ‘AAA’ to ‘CCC’. In addition, the product provides scores and percentiles indicating how well a company manages each key issue relative to industry peers.

For more details on MSCI ESG Ratings, please refer to

https://www.msci.com/documents/1296102/1636401/MSCI_ESG_Ratings.pdf

2.2 MSCI ESG CONTROVERSIES

MSCI ESG Controversies (earlier known as MSCI Impact Monitor) provides assessments of controversies concerning the negative environmental, social, and/or governance impact of company operations, products and services. The evaluation framework used in MSCI ESG Controversies is designed to be consistent with international norms represented by the UN Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, and the UN Global Compact. MSCI ESG Controversies Score falls on a 0-10 scale, with “0” being the most severe controversy.

For more details on MSCI ESG Controversies Score, please refer to

<https://www.msci.com/documents/10199/acbe7c8a-a4e4-49de-9cf8-5e957245b86b>

2.3 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

3 CONSTRUCTING THE MSCI ESG FOCUS INDEX

Constructing the MSCI ESG Focus Index involves the following steps:

- Defining the underlying Parent Index;
- Defining the exclusion criteria;
- Defining the optimization constraints; and
- Determining the optimized portfolio

3.1 DEFINING THE PARENT INDEX

From the constituents of the Parent Index, securities of companies involved in following businesses are excluded from the Parent Index.

ESG Focus Index	Parent Index	Business Exclusions
MSCI EAFE ESG Focus Index	MSCI EAFE Index	Tobacco and Controversial Weapons Companies
MSCI EM (Emerging Markets) ESG Focus Index	MSCI EM (Emerging Markets) Index	Tobacco and Controversial Weapons Companies
MSCI USA ESG Focus Index	MSCI USA Index	Tobacco and Controversial Weapons Companies
MSCI World ESG Focus Index	MSCI World Index	Tobacco and Controversial Weapons Companies
MSCI Taiwan ESG Focus Index	MSCI Taiwan Index	Tobacco and Controversial Weapons Companies

Please refer to Appendix 1 for more details on exclusions.

3.2 DEFINING THE EXCLUSION CRITERIA

Securities of companies involved in very severe business controversies are not eligible for inclusion in the MSCI ESG Focus Index. This is implemented by excluding constituents of Parent Index with ESG Controversy Score = 0 ('Red Flag' companies).

3.2.1 OTHER EXCLUSION CRITERIA

- Missing Controversy Score – Companies not assessed by MSCI ESG Research on Impact Monitor Controversy Scores are excluded from the Parent Index.
- Missing IVA Rating or ESG Score – Companies which are not rated by MSCI ESG Research on IVA assessment.

3.3 DEFINING THE OPTIMIZATION CONSTRAINTS

Constituents are selected to maximize exposure to higher ESG IVA scores, subject to maintaining risk and return characteristics similar to the Parent Index. ESG IVA scores are normalized and used in the optimization process. Optimization maximizes the Index’s exposure to ESG IVA scores for a given predicted tracking error. The following predicted tracking error targets are used for the construction of MSCI ESG Focus Indexes –

No.	ESG Focus Index	Predicted Tracking Error
1	MSCI EAFE ESG Focus Index	0.5%
2	MSCI EM (Emerging Markets) ESG Focus Index	1.0%
3	MSCI USA ESG Focus Index	0.5%
4	MSCI World ESG Focus Index	0.5%
5	MSCI Taiwan ESG Focus Index	1.0%

Optimization is a quantitative process that considers the market capitalization weights from the Parent Index, ESG scores and additional constraints to select and weight the constituents of the Index.

Normalization of the ESG scores allows the optimization process to assess each score in the context of the overall distribution of the ESG scores.

Please refer to Appendix 2 for the Optimization constraints.

3.4 DETERMINING THE OPTIMIZED PORTFOLIO

The Index is constructed using the Barra Open Optimizer in combination with the relevant Barra Equity Model. The optimization uses universe of eligible securities and the specified optimization objective and constraints to determine the constituents of the MSCI ESG Focus Index.

4 MAINTAINING THE MSCI ESG 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. The 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.

ESG scores used for the Quarterly Index Reviews will be taken as of the end of the month preceding the Index Review, i.e., January, April, July and October.

At each Index Review, the optimization process outlined in Section 3 is implemented. Companies can only be added to the Index only at regular Index Reviews.

In general, MSCI uses MSCI ESG Research data (including MSCI ESG Ratings, MSCI ESG Controversies Scores and MSCI Business Involvement Screening Research) 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 ONGOING EVENT-RELATED MAINTENANCE

The general treatment of corporate events in the MSCI ESG Focus Indexes 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 ESG Focus Index, the changes made to the Parent Index during intermediate Index Reviews will be neutralized in the MSCI ESG Focus Index.

The following section briefly describes the treatment of common corporate events within the MSCI ESG Focus Indexes.

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 Non-Market Capitalization Weighted indexes.

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

APPENDIX 1: TOBACCO AND CONTROVERSIAL WEAPONS EXCLUSION CRITERIA

- Tobacco Involvement

Companies which meet the following Tobacco involvement criteria are excluded from the Index

- All companies classified as “Producer” or “Licensor”
- All companies classified as “Distributor”, “Retailer”, or “Supplier” that earn 15% or more of revenues from tobacco products
- All companies classified as “Ownership by a Tobacco Company” or “Ownership of a Tobacco Company”

- Controversial Weapons Involvement

Companies which meet the following Controversial Weapons criteria are excluded from the Index

- Cluster Bombs
MSCI ESG Research’s cluster bomb research identifies public companies that are involved in the production of cluster bombs and munitions, or the essential components of these products.
- Landmines
MSCI ESG Research’s landmines research identifies public companies that are involved in the production of anti-personnel landmines, anti-vehicle landmines, or the essential components of these products.
- Depleted Uranium Weapons
MSCI ESG Research’s depleted uranium weapons research identifies public companies involved in the production of depleted uranium weapons and armor.
- Chemical and Biological Weapons
MSCI ESG Research’s chemical and biological weapons research identifies public companies that are involved in the production of chemical and biological weapons, or the essential components of these products.

Involvement criteria:

- Producers of the weapons

- Producers of key components of the weapons
- Ownership of 20% or more of a weapons or components producer

The minimum limit is raised to 50% for financial companies having an ownership in a company that manufactures controversial weapons or key components of controversial weapons

- Owned 50% or more by a company involved in weapons or components production

Revenue limits:

- Any identifiable revenues, i.e., zero tolerance

For details please refer to MSCI Global ex Controversial Weapons Indexes Methodology at <https://www.msci.com/index-methodology>.

APPENDIX 2: OPTIMIZATION CONSTRAINTS

At each Quarterly Index Review, the following optimization constraints are used to ensure replicability and investability:

Optimization Constraints

No.	Parameter	EAFE	EM	USA	WORLD	TAIWAN
1	Predicted Tracking Error	0.5%	1.0%	0.5%	0.5%	1.0%
2	Min Constituent Weight	0.1%	0.1%	0.1%	0.1%	0.1%
3	Constituent Active Weight	+/-2%	+/-2%	+/-2%	+/-2%	+/-2%
4	Security Weight as a Multiple of its weight in the Parent Index	20	20	20	20	20
5	Active Sector Weights	+/-5%	+/-5%	+/-5%	+/-5%	+/-5%
6	Active Country Weights	+/-5%	+/-5%	Not Applicable	+/-5%	Not Applicable
7	One Way Turnover during May and November Index Review	10%	10%	10%	10%	10%
8	One Way Turnover during Feb and Aug Index Review	5%	5%	5%	5%	5%
9	Specific Risk Aversion	0.075	0.075	0.075	0.075	0.075
10	Common Factor Risk Aversion	0.0075	0.0075	0.0075	0.0075	0.0075

Infeasible Solution - During the Quarterly and Semi-Annual 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 predicted tracking error is relaxed up to a maximum of 5 times of the original predicted tracking error in steps on 0.1%. In the event that feasible solution is not found for maximum predicted error, the Index will not be rebalanced for that index review.

APPENDIX 3: METHODOLOGY FOR MSCI EXTENDED ESG FOCUS INDEX

The MSCI Extended ESG Focus Index methodology is a variant of the ESG Focus index methodology in respect of the exclusions from the parent index.

From the constituents of the Parent Index, securities of companies involved in following businesses are excluded from the Parent Index.

ESG Focus Index	Parent Index	Business Exclusions
MSCI EAFE Extended ESG Focus Index	MSCI EAFE Index	<ul style="list-style-type: none"> • Tobacco and Controversial Weapons Companies – As explained in Appendix 1. • Producers of or ties with Civilian Firearms (applied from 21st Mar’2018 on USA Small Cap Extended ESG Focus Index) – <ul style="list-style-type: none"> ○ All companies classified as a “Producer”. ○ All companies classified as a “Retailer” that earn 5% or more in revenue or more than \$ 20 million in revenue, from civilian firearms-related products.
MSCI EM (Emerging Markets) Extended ESG Focus Index	MSCI EM (Emerging Markets) Index	
MSCI USA Extended ESG Focus Index	MSCI USA Index	
MSCI USA Small Cap Extended ESG Focus Index	MSCI USA Small Cap Index	

MSCI USA Small Cap Extended ESG Focus Index

In order that the market cap coverage of the index is higher than would otherwise be the case, the Predicted Tracking Error bound of this index is set to 50bps and the minimum constituent weight is set to 5bps.

Optimization Constraints

No.	Parameter	USA Small Cap Extended ESG Focus
1	Predicted Tracking Error	0.5%
2	Min Constituent Weight	0.05%
3	Constituent Active Weight	+/-2%
4	Security Weight as a Multiple of its weight in the Parent Index	20
5	Active Sector Weights	+/-5%
6	Active Country Weights	Not Applicable
7	One Way Turnover during May and Nov Index Reviews	10%
8	One Way Turnover during Feb and Aug Index Reviews	5%
9	Specific Risk Aversion	0.075
10	Common Factor Risk Aversion	0.0075

The following sections have been modified since April 2016:

Section 1: Introduction and other relevant sections

- To implement name change – Index name has been changed from ‘ESG Select’ to ‘ESG Focus’

Section 3.1, 3.3 and Appendix 2:

- Added reference to ‘USA ESG Focus’ Index.

The following sections have been modified since August 2016:

- The details on the Corporate Events treatment are now included in Section 4.2.

The following sections have been modified since June 2017:

Section 3.1, 3.3 and Appendix 2:

- Added reference to ‘MSCI World ESG Focus’ Index and ‘MSCI Taiwan ESG Focus’ Index.

The following sections have been modified since August 2017:

Section 4.1

- Clarification on use of ESG data for securities whose data would be available after the end of the month preceding Index Review.

The following sections have been modified since January 2018:

Appendix 3

- Added details on optimization constraints for MSCI USA Small Cap Extended ESG Focus Index.

The following sections have been modified since March 2018:

Appendix 3

- Added details on exclusion of producers and retailers of civilian firearms from the parent index.

- Updated to include reference to MSCI EAFE Extended ESG Focus Index, MSCI EM (Emerging Markets) Extended ESG Focus Index, MSCI USA Extended ESG Focus Index and MSCI USA Small Cap Extended ESG Focus Index

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