

**METHODOLOGY BOOK FOR  
- MSCI GLOBAL SELECT ESG  
MULTIPLE-FACTOR INDEX  
- MSCI GLOBAL SELECT ESG  
MULTIPLE-FACTOR 4%  
DECREMENT INDEX**

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## 1 Introduction

The MSCI Global Select ESG Multiple-Factor Index aims to represent the performance of a basket of 75 stocks that aim to maximise average exposure to Value, Momentum and Quality factors while enhancing ESG characteristics.

The MSCI Global Select ESG Multiple-Factor 4% Decrement Index aims to represent the net performance of the MSCI Global Select ESG Multiple-Factor Index, while applying a constant markdown ('synthetic dividend') of 4% on an annual basis, expressed as a percentage of performance.

## 2 MSCI ESG RESEARCH

The MSCI Global Select ESG Multiple-Factor Index uses company ratings and research provided by MSCI ESG Research. The index uses the following MSCI ESG Research products: MSCI ESG Ratings, MSCI ESG Controversies and MSCI Business Involvement Screening Research.

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 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/esg-ratings>

### 2.2 MSCI ESG CONTROVERSIES

MSCI ESG Controversies (formerly 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, 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](http://www.msci.com/resources/factsheets/MSCI_ESG_BISR.pdf)

### 3 Index Construction

The MSCI Global Select ESG Multiple-Factor Index is constructed as a fixed weight composite from 3 regional MSCI sub-indexes. The three regional sub-indexes are created based on parameters as below:

Regional Sub-Index	Region	Number of Securities Selected	Parent Index
USA Sub-index	USA	30	MSCI USA Index
EMU Sub-Index	EMU	20	MSCI EMU Top 50 Index
Japan Sub-Index	Japan	25	MSCI Japan Index

#### 3.1 REGIONAL SUB-INDEX CALCULATION

##### 3.1.1 ESG CONTROVERSIES SCORE ELIGIBILITY

The regional sub-indexes use MSCI ESG Controversies Scores to identify companies that are involved in very serious controversies involving the environmental, social, or governance impact of their operations and/or products and services. Companies from their respective Parent indexes are required to have an MSCI ESG Controversies Score of 1 or above to be eligible for inclusion in each regional sub-index.

##### 3.1.2 LIQUIDITY SCREEN

The remaining securities from above are subsequently screened for 3-month ADTV to be greater than USD 5 Million to be included in each regional Sub-Index.

ADTV is defined as Average Daily Traded Volume and is calculated as:

$$ADTV_{3M} = \frac{ATV_{3M}^1}{252}$$

##### 3.1.3 SECURITY SELECTION

The securities are subsequently filtered to include a single security per issuer. For issuers having multiple securities which are part of the eligible universe, the security with the highest 3-month ADTV is selected. From the securities remaining post

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<sup>1</sup> MSCI Index Calculation Methodology at

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

MSCI Global Investable Market Indexes Methodology at

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

screenings, the selection for each regional sub-index is made using the optimization process, as defined below.

### 3.1.4 WEIGHTING SCHEME

The weights of the securities in each regional sub-index are an outcome of the optimization process. The optimization process relies on factor exposures for all the securities in the remaining universe and the factor covariance matrix of the relevant Barra Equity Model<sup>2</sup>.

The optimization objective is to maximize risk adjusted portfolio alpha score (representative of the exposure to Barra GEMLT Growth factor<sup>3</sup>) where the portfolio alpha score equals to the weighted average of stock level alpha scores under various optimization constraints.

#### CALCULATION OF THE ALPHA SCORE

$$\alpha(i) = 0.33 * Value(i) + 0.33 * Mom(i) + 0.33 * Quality(i)$$

Where,

$\alpha(i)$  = Combined alpha score for each security i

$Value(i)$  = Exposure of each security i to the Value factor in relevant Barra Equity Model

$Mom(i)$  = Exposure of each security i to the Momentum factor in relevant Barra Equity Model

$Quality(i)$  = Exposure of each security i to the Quality factor in relevant Barra Equity Model

### 3.1.5 OPTIMIZATION CONSTRAINTS

At each quarterly rebalance, the following optimization constraints are applied to each of the 3 regional sub-indexes which aim to ensure investability while achieving higher exposure to value, quality and momentum factors:

#### USA sub-index

No.	Parameter	Constraint
1	Number of Constituents	30

<sup>2</sup> Please Refer to Appendix II

<sup>3</sup> Please refer to Appendix III

2	Maximum weight of a single security <sup>0.7</sup>	10%
3	Maximum Tracking Error against reference Index: MSCI USA	1%
4	Maximum Weight to a GICS sector	50%
5	Minimum Weight to a GICS Sector	0%
6	One Way Turnover	100%
7	The portfolio risk currency	USD
8	Active Exposure to Growth, Beta and Size <sup>4</sup> Barra style factors	(-0.1, 0.1)
9	Target Improvement in basket ESG Score against MSCI USA Index	10%

#### EMU sub-index

No.	Parameter	Constraint
1	Number of Constituents	20
2	Maximum weight of a single security	10%
3	Maximum Tracking Error against reference Index: MSCI EMU Top 50 Index	1%
4	Maximum Weight to a GICS sector	50%
0.25	Minimum Weight to a GICS Sector	0%
6	One Way Turnover	100%
7	The portfolio risk currency	USD
8	Active Exposure to Growth, Beta and Size <sup>5</sup> Barra style factors	(-0.1, 0.1)
9	Target Improvement in basket ESG Score against MSCI EMU Top 50 Index	10%

#### Japan sub-index

No.	Parameter	Constraint
1	Number of Constituents	25

<sup>4</sup> Please refer to Appendix IV

<sup>5</sup> Please refer to Appendix IV



2	Maximum weight of a single security	10%
3	Maximum Tracking Error against reference Index: MSCI Japan Index	1%
4	Maximum Weight to a GICS sector	50%
5	Minimum Weight to a GICS Sector	0%
6	One Way Turnover	100%
7	The portfolio risk currency	USD
8	Active Exposure to Growth, Beta and Size <sup>6</sup> Barra style factors	(-0.1, 0.1)
9	Target Improvement in basket ESG Score against MSCI Japan Index	10%

### 3.2 COMPOSITE CALCULATION

The final MSCI Global Select ESG Multiple-Factor Index is constructed as a fixed weight composite of the three regional sub-indexes. The regional sub-indexes are combined in the following proportion at each quarterly rebalance to achieve the final basket:

Regional Sub-Index	Sub-Index Weight
USA Sub-index	75%
EMU Sub-Index	20%
Japan Sub-Index	5%

## 4 APPLYING THE MSCI DECREMENT INDEXES METHODOLOGY

The MSCI Decrement Indexes Methodology<sup>7</sup> is applied on the MSCI Global Select ESG Multiple-Factor Index to construct the MSCI Global Select ESG Multiple-Factor 4% Decrement Index. The parameters for the application of the decrement methodology in the above index is noted in Appendix 3.

<sup>6</sup> Please refer to Appendix IV

<sup>7</sup> Please refer to the MSCI Decrement Indexes methodology at [www.msci.com/index-methodology](http://www.msci.com/index-methodology)

## **5 Maintenance of the Index**

### **5.1 QUARTERLY INDEX REVIEWS**

The Index is reviewed on a quarterly basis, coinciding with the May and November Semi-Annual Index Reviews and the February and August Quarterly Index Reviews of the Parent Index. The pro forma Index is announced nine business days before the effective date.

### **5.2 ONGOING EVENT RELATED CHANGES**

The following section briefly describes the treatment of common corporate events within the Index.

No new securities will be added (except where noted below) to the Index between Index Reviews. For cases where additions are noted below, securities will be added to the Index only if added to the Parent Index. 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: BARRA® EQUITY MODEL or BARRA® OPTIMIZER**

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

## **APPENDIX 2: HANDLING INFEASIBLE OPTIMIZATIONS**

During the quarterly Index review, in the event that there is no optimal solution that satisfies all the optimization constraints defined in Section 3.1.5, the maximum tracking error against reference index constraint is relaxed automatically by setting maximum allowed tracking error as a Soft Constraint in the Barra Optimizer, to find an optimal solution.

In the event that there is no optimal solution after the above constraints have been relaxed, the Index will not be rebalanced for that Index review.

## Appendix 3: Parameters used for the MSCI Global Select ESG Multiple-Factor 4% Decrement Index

- The following parameters are used for the calculation of MSCI Global Select ESG Multiple-Factor 4% Decrement Index

	<b>MSCI Decrement Indexes Methodology Parameters</b>	<b>Parameters</b>
1	Currency of Calculation	USD
2	Return Variant of the MSCI Global Select ESG Multiple-Factor Index	Daily Net Total Return
3	Decrement Type	Fixed Percentage
4	Decrement Application	Geometric
5	Decrement Value	4%
6	Day-count Convention	Actual / 365
7	Index Floor	0
8	Decrement Frequency	Daily

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The process for submitting a formal index complaint can be found on the index regulation page of MSCI's website at: <https://www.msci.com/index-regulation>.

To learn more, please visit [www.msci.com](http://www.msci.com).

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