

MSCI SRI INDEXES METHODOLOGY

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1 INTRODUCTION

Globally, institutional investors are increasingly seeking to invest in companies that operate in accordance with their values and meet stringent best-of-class criteria for managing their environmental, social and governance (ESG) risks and opportunities.

Examples of values driven investing include the avoidance of companies that sell products that have high negative social impact (for example – alcohol, gambling, and tobacco), a commitment to high human rights standards in a company's supply chain, and general adherence to established international normative standards of corporate behavior as represented by organizations such as the UN Global Compact.

The MSCI SRI Indexes exclude companies that are inconsistent with specific values based criteria focused on products with high negative social or environmental impact. Additionally, these indexes target companies with high Environmental, Social and Governance (ESG) ratings relative to their sector peers, to ensure the inclusion of the best-in-class companies from an ESG perspective. Further, these Indexes aim to target sector weights that reflect the relative sector weights of the underlying MSCI Global Investable Market Indexes to limit the systematic risk introduced by the ESG selection process. Overall the MSCI SRI Indexes target coverage of 25% of the underlying MSCI parent index ("Parent Index").

Currently MSCI constructs MSCI SRI Indexes for the Standard size-segment in all Developed Markets and Emerging Markets.



2 MSCI ESG RESEARCH

The MSCI SRI Indexes use company ratings and research provided by MSCI ESG Research. In particular, these indexes use the following three 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: http://www.msci.com/products/esg/aboutmsci 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 (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



3 CONSTRUCTING THE MSCI SRI INDEXES

3.1 UNDERLYING UNIVERSE

The selection universe for the MSCI SRI Indexes is defined by the constituents of the MSCI Global Investable Market Indexes (GIMI).

3.2 ELIGIBILITY CRITERIA

The MSCI SRI Indexes use company ratings and research provided by MSCI ESG Research to determine eligibility.

3.2.1 VALUES-BASED EXCLUSIONS

The MSCI SRI Indexes use MSCI ESG Business Involvement Screening Research to identify companies that are involved in the following business activities. Companies that meet the business involvement criteria are excluded from the MSCI SRI Indexes. Please refer to Appendix 1 for details on these criteria.

- Alcohol
- Gambling
- Tobacco
- Military Weapons
- Civilian Firearms
- Nuclear Power
- Adult Entertainment
- Genetically Modified Organisms

3.2.2 ESG RATINGS ELIGIBILITY

The MSCI SRI Indexes use MSCI ESG Ratings to identify companies that have demonstrated an ability to manage their ESG risks and opportunities. Existing constituents of the MSCI SRI Indexes are required to have an ESG rating above B to remain in the index, while companies that are currently not constituents of the MSCI SRI Indexes are required to have an ESG rating above BBB to be considered eligible for addition.



3.2.3 ESG CONTROVERSIES SCORE ELIGIBILITY

MSCI SRI Indexes use MSCI ESG Controversies Scores to identify those companies that are involved in very serious controversies involving the environmental, social, or governance impact of their operations and/or products and services. Existing constituents of the MSCI SRI Indexes are required to have an MSCI ESG Controversies Score above 0 to remain in the index, while companies that are currently not constituents of the MSCI SRI Indexes are required to have an MSCI ESG Controversies Score above 3 to be considered eligible for addition.

3.3 INDEX CONSTRUCTION

Currently MSCI constructs MSCI SRI Indexes for the Standard size-segment in all Developed Markets and Emerging Markets.

The MSCI SRI Indexes for the Standard size segment are constructed at a regional level, with the exception of North America which is built separately for Canada and the USA. Each regional SRI index targets 25% of the free float adjusted market capitalization of each Global Industry Classification Standard (GICS®) sector of the underlying MSCI parent index ("Parent Index").

The following regional SRI Indexes are aggregated to construct the MSCI World SRI Index.

MSCI Regional SRI Index	Region	Parent Index
MSCI Pacific SRI Index	Developed Asia Pacific	MSCI Pacific Index
MSCI Europe & Middle East SRI Index	Developed Europe & Middle East	MSCI Europe & Middle East Index
MSCI Canada SRI Index	Canada	MSCI Canada Index
MSCI USA SRI Index	USA	MSCI USA Index



The following regional SRI Indexes are aggregated to construct the MSCI EM SRI Index.

MSCI Regional SRI Index	Region	Parent Index
MSCI Emerging Markets Asia SRI Index	Emerging Asia	MSCI Emerging Markets Asia Index
MSCI Emerging Markets Europe, Middle East & Africa SRI Index	Emerging Europe, Middle East & Africa	MSCI Emerging Markets Europe, Middle East & Africa Index
MSCI Emerging Markets Latin America SRI Index	Emerging Latin America	MSCI Emerging Markets Latin America Index

The MSCI World SRI Index and the MSCI EM SRI Index are aggregated to construct the MSCI ACWI SRI Index.

The Large Cap and Mid Cap size segments of the MSCI SRI Indexes are derived from the Standard size-segment.

The MSCI SRI Indexes for other regions and countries are determined by including securities from the particular region/country from the MSCI ACWI SRI Index and weighting them according to their free-float adjusted market capitalization. For example, the MSCI EAFE SRI Index and the MSCI China SRI Index are constructed by including those securities from the MSCI ACWI SRI Index which are a part of the MSCI EAFE Index and the MSCI China Index respectively and weighting them in the proportion of their free float-adjusted market capitalization.



4 MAINTAINING THE MSCI SRI INDEXES

4.1 ANNUAL INDEX REVIEW

The MSCI SRI Indexes are reconstituted on an annual basis in May to coincide with the May Semi-Annual Index Review of the Parent Index, and the changes are implemented at the end of May. In general, the pro forma indexes are announced nine business days before the effective date.

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 the rebalancing of the MSCI SRI Indexes. 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, for the rebalancing of the MSCI SRI Indexes.

4.1.1 ANNUAL INDEX RECONSTITUTION: RANKING AND SELECTION

At each annual index review, the composition of the index is reassessed in order to target 25% free float-adjusted cumulative market capitalization of each sector of the Parent Index.

4.1.1.1 RANKING

For each sector, eligible companies of the regional Parent Index are ranked based on the following criteria:

- ESG Rating
- Current index membership (existing constituents above non-constituents)
- Industry adjusted ESG scores
- Decreasing free float adjusted market capitalization.

4.1.1.2 SELECTION

Constituents for the regional MSCI SRI Index are then selected from the ranked universe in the following order until 25% coverage by cumulative free-float adjusted market capitalization target is reached:

- Securities in the top 17.5%
- 'AAA' and 'AA' rated securities in the top 25%
- Current index constituents in the top 32.5%



Remaining securities in the eligible universe

Please see Appendix 2 for additional details on the ranking and selection rules.

4.2 QUARTERLY INDEX REVIEWS

The MSCI SRI Indexes are also reviewed on a quarterly basis to coincide with the regular Index Reviews of the Parent Indexes. The changes are implemented at the end of February, August and November. The pro forma indexes are in general announced nine business days before the effective date.

For the Quarterly Index Reviews, MSCI ESG Ratings, MSCI ESG Controversies Score assessments and MSCI BISR data are taken as of the end of the month preceding the Index Reviews, i.e., January, July and October. For some securities, this 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, for the rebalancing of the MSCI SRI Indexes.

At the Quarterly Index Reviews, existing constituents are deleted from the MSCI SRI Indexes if they do not meet the eligibility criteria described in Section 3.2. Existing constituents that meet the eligibility criteria are retained in the index.

Additions, from the eligible securities as per section 3.2, are made only to those sectors where the current market capitalization coverage is less than 22.5%, until the 25% target is reached.

Market price movements may cause small deviations in the sector coverage between two Index Reviews. Therefore, in order to minimize turnover, a buffer of 10% is used on the target coverage of 25% to define under-representation.

4.3 ONGOING EVENT-RELATED MAINTENANCE

The MSCI Corporate Events Methodology is applied for the maintenance of the MSCI SRI Indexes between Index Reviews.

4.3.1 IPOS AND OTHER EARLY INCLUSIONS

IPOs and other newly listed securities that are added to the Parent Index as well as securities added to the Parent Index following a migration from a different size segment, are considered for inclusion to the MSCI SRI Indexes at the time of their inclusion in the Parent Index. These securities are added to the MSCI SRI Indexes only if they meet the eligibility criteria described in Section 3.2 and the market capitalization coverage of the sector to which the security belongs is less than 22.5%.



4.3.2 ADDITIONS AND DELETIONS DUE TO CORPORATE EVENTS

Deletions from the Parent Index following a corporate event will be simultaneously deleted from the MSCI SRI Indexes. Additions to the Parent Index following corporate events related to existing constituents (such as spin-offs) will not be automatically added to the MSCI SRI Indexes. These Parent Index additions will be considered for addition at the next index review according to the rules outlined in sections 4.1 or 4.2.

There are no deletions from the MSCI SRI Indexes between index reviews on account of a security becoming ineligible because of MSCI ESG Rating downgrade and/or decrease in MSCI ESG Controversies Score and/or change in business involvement.



APPENDIX 1: VALUES-BASED EXCLUSION CRITERIA

Companies whose activity is inconsistent with the following values based criteria are excluded from the MSCI SRI Indexes:

Alcohol

 All companies classified as a "Producer" that earn either 5% or more revenue or more than \$500 million in revenue from alcohol-related products.

Gambling

 All companies classified as involved in "Operations" and "Support" that earn 5% or more in revenue, or more than \$500 million in revenue, from gambling-related products

Tobacco

- All companies classified as a "Producer"
- All classified as "Distributor", "Retailer", and "Supplier" that earn 15% or more in revenue from tobacco-related products

Military Weapons

- All companies classified as involved in manufacturing of "Nuclear Weapons", or "Nuclear Weapons Components"
- All companies classified as involved in manufacturing of "Chemical and Biological Weapons" or "Chemical and Biological Weapons Components
- All companies classified as a "Manufacturer of Cluster Bombs"
- All companies classified as a "Manufacturer of Landmines"
- All companies classified as a "Manufacturer of Depleted Uranium Weapons"
- All companies that earn 5% or more in revenue, or more than \$500 million in revenue, from manufacturing of Weapons, Weapons Components, and/or Weapons Support Systems and Services

Civilian Firearms

- 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



Nuclear Power

- All companies classified as a nuclear "Utility"
- All companies classified as involved in uranium mining
- All companies classified as involved in designing nuclear reactors
- All companies classified as involved in enrichment of fuel for nuclear reactors
- All companies classified as a "Supplier" to the nuclear power industry that earn 15% or more in revenue from nuclear-power related products
- All companies with 6000 MW or more of installed capacity attributed to nuclear sources or with 50% or more of installed capacity attributed to nuclear sources

Adult Entertainment

 All companies classified as a "Producer" that earn more than 5% in revenue, or more than \$500 million in revenue, from this adult entertainment materials

• Genetically Modified Organisms (GMO)

- Companies that derive any revenue from activities like genetically modifying plants, such as seeds and crops, and other organisms intended for agricultural use or human consumption
- Companies that are only involved in GMO Research & Development activities are not excluded



APPENDIX 2: GUIDELINES ON ACHIEVING THE TARGET SECTOR COVERAGE OF 25%

The MSCI SRI Indexes target 25% of the free float adjusted market capitalization of each Global Industry Classification Standard (GICS®) sector of the Parent Index. The underlying principle in the construction of the index is to achieve sector coverage closest to 25%, while aiming to maintain index stability.

The following guidelines are used in achieving the target sector coverage of 25%:

- For each sector, the constituents of the Parent Index are first ranked based on the company level ESG Rating and then by decreasing free float adjusted market capitalization.
- In case of two companies with the same ESG Rating, an existing index constituent is
 given preference to maintain index stability. Between two existing constituents with the
 same ESG Rating, the company with the higher ESG Score is given preference. For two
 existing index constituents with the same ESG score, the larger company by free-float
 adjusted market capitalization is given preference.
- The cumulative sector coverage at each rank is calculated.
- In each sector, companies are selected as per the rules mentioned in section 4.1.1.2
 until the cumulative sector coverage of the selected securities crosses 25% or there are
 no eligible securities left to be selected.
- MSCI defines the company that increases the cumulative sector coverage above 25% as the 'marginal company'.
- If the marginal company is a current SRI index constituent, then it is retained in the SRI index even though it may result in a cumulative sector coverage significantly higher compared to the 25% target. This is aimed at ensuring better index stability and lower turnover.
- If the marginal company is a non-index constituent, then the marginal company will be
 included in the SRI index only if the absolute difference between the resulting coverage
 of including the marginal company and the 25% target is lower than the absolute
 difference between the resulting coverage of not including the marginal company and
 the 25% target.
- The minimum cumulative sector coverage is set to 22.5%.
- The marginal company will be added to the SRI index if its non-inclusion would result in cumulative sector coverage of less than 22.5%.



 Securities which are ineligible as per section 3.2 will not be added to increase the sector coverage to 25%



APPENDIX 3: METHODOLOGY TRANSITION

May 2012

Prior to May 2012 Index Review, the MSCI SRI Indexes were constructed using the Global Socrates ESG ratings. Any company that had an ESG rating of 'BB' or lower was not eligible for inclusion in the MSCI SRI Indexes. The underlying universe for the MSCI Global SRI Indexes was defined by the constituents of the MSCI Global ESG Indexes. The MSCI SRI Indexes were constructed by targeting 50% of the free float adjusted market capitalization of each Global Industry Classification Standard (GICS) sector of the underlying MSCI regional ESG Index.

Effective May 2012 Index Review, MSCI SRI Indexes transitioned to MSCI ESG IVA Ratings and using the regional GIMI Indexes as the Parent Index.

June 2016

Effective May 2016 Index Review, the MSCI SRI Indexes transitioned to the methodology described in the methodology book, following enhancements to the MSCI ESG Controversies (formerly known as MSCI Impact Monitor). The details of the changes are as given below.

The changes to MSCI ESG Controversies included adjusting the scoring model to align the scores with individual controversy case levels, including the introduction of an Orange flag, and the removal of specific controversial business involvement (CBI) criteria from the model to refocus the ESG Controversies scores on event-driven controversies.

MSCI implemented the following changes to the MSCI SRI Indexes methodology effective June 1, 2016 to maintain consistency with the existing index construction objectives:

- 1 As per the old MSCI ESG Impact Monitor methodology, securities which had an Impact Monitor score of 0 and 1 had a Red controversy flag. Under the new methodology, only securities with an ESG controversies score of 0 have a Red controversy flag. For indexes where constituents were ineligible to be included in the index if their Impact Monitor score was 0 or 1 (current Red controversy flag), the exclusion criteria was changed to ESG Controversies score = 0 in order to continue to only exclude securities with Red controversy flag in the MSCI SRI Indexes.
- 2 MSCI Impact Monitor earlier incorporated exclusion rules based on controversial business involvement criteria related to alcohol, tobacco, gambling, nuclear power, conventional weapons and controversial weapons. The values based exclusion criteria that were already a part of the MSCI SRI Indexes were more stringent than most of these rules.



Therefore, there is no additional impact, over the existing values-based exclusion criteria, of applying controversial business involvement exclusion related to alcohol, tobacco, gambling, conventional weapons and controversial weapons. Only the 'Nuclear Power' screen was updated to reflect the additional rules that were earlier incorporated in the MSCI Impact Monitor. The details of the exclusion rules are mentioned in Appendix 1.



APPENDIX 4: INITIAL CONSTRUCTION OF THE MSCI EMERGING MARKETS SRI INDEXAT LAUNCH

The MSCI Emerging Markets SRI Index was launched with an initial construction as of the November 2013 Index Review.

In order to achieve free float-adjusted market capitalization coverage close to the target of 25% at launch, the entry rules for the MSCI Emerging Markets SRI Index were slightly relaxed at the initial construction. Specifically, the IVA rating threshold was lowered to a minimum rating of 'BBB' at the initial construction instead of the threshold of a minimum ESG rating of 'A'. The Impact Monitor threshold was not relaxed and was kept at a minimum of '4'.

Note that this relaxation was done only for the initial construction. Since the November 2013 SAIR, the MSCI Emerging Markets SRI Index has been maintained using the same set of rules described in Section 4.



APPENDIX 5: MSCI EXTENDED SRI INDEX

The MSCI Extended SRI Indexes are constructed with an aim to reflect the performance of companies that are consistent with specific values based criteria, have high minimum level of ESG performance. The Index is also designed to more broadly cover the underlying investment universe. Extended SRI Indexes can be constructed on the Standard or the IMI size-segment in Developed and Emerging Markets.

Companies that fail the values based exclusion criteria as described in Section 3 are excluded from the MSCI Extended SRI Indexes. Any company that has an ESG rating of 'BB' or lower or has an MSCI ESG Controversies Score of 0 is not eligible for inclusion in the MSCI Extended SRI Indexes.

The MSCI Extended SRI Indexes target 50% of the free float adjusted market capitalization of each Global Industry Classification Standard (GICS®) sector of the Parent Index. The MSCI Extended Global SRI Indexes follows the same index review cycle and corporate events treatment as the MSCI SRI Indexes as described in section 4.

MSCI currently offers the following Extended SRI Indexes:

1. MSCI UK IMI Extended SRI Index



The following sections have been modified since March 2014:

Appendix 5: MSCI Extended SRI Index

 Addition of appendix 5 containing the methodology details of MSCI Extended SRI Indexes

The following sections have been modified since September 2014:

Section 2: MSCI ESG Research and Section 3: Constructing the MSCI SRI Indexes

Clarification of MSCI SRI Index construction rules

Section 4: Maintaining the MSCI SRI Indexes

• Enhancement of treatment of corporate events

Appendix I: Values Based Exclusion Criterion

Correction to the Values Based Exclusion Criterion

The following sections have been modified since November 2014:

Section 2: MSCI ESG Research

 Updated to include the impact of the change in the MSCI ESG Controversies Scores methodology on MSCI SRI Indexes methodology

Section 3: Constructing the MSCI SRI Indexes

 Changed section 3 to update the eligibility criteria for inclusion in MSCI SRI Indexes and to include clarification on the construction of regional and country level SRI Indexes

Section 4: Maintaining the MSCI SRI Indexes

 Updated to clarify the treatment of ESG Rating downgrade or decrease in ESG Controversies scores between index reviews

Appendix 1: Values-Based Exclusion Criteria

• Updated the screening criteria for companies involved in 'Nuclear Power'

Appendix 2: Guidelines on achieving the target sector coverage of 25%

 Added a clarification to specify that non-eligible securities would not be included to increase the sector coverage to 25%



Appendix 3: Methodology Transition

 Added details which highlight the changes to the MSCI SRI Indexes effective June 2016

The following sections have been updated since May 2016:

Section 4: Maintaining the MSCI SRI Indexes

 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 updated since May 2017:

 Methodology book updated to reflect change in name of MSCI Global Socially Responsible Indexes to MSCI SRI Indexes.

The following sections have been updated since June 2017:

Section 4.2: Quarterly Index Reviews

• Correction of the target coverage percentage in the last paragraph

Appendix 2: Guidelines on achieving the target sector coverage of 25%

• Correction of the sector coverage percentage in the last bullet



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