MSCI ACWI Semiconductors & Semiconductor Equipment ESG Filtered Index

July 2021
Contents

1 Introduction 3
2 MSCI ESG Research 4
   2.1 MSCI ESG Ratings 4
   2.2 MSCI ESG Controversies Score 4
   2.3 MSCI ESG Business Involvement Screening Research 5
3 Constructing the Index 6
   3.1 Eligible universe 6
   3.2 Selected universe 7
   3.3 Weighting scheme 7
   3.4 ESG Profile Check 8
   3.5 20/35 Capping 8
4 Maintaining the Index 9
   4.1 Semi-Annual Index Review 9
   4.2 Ongoing Event-Related Maintenance 9
Appendix 1: Controversial Business Exclusion Criteria 11
Appendix 2: Calculation of 3-Month Average Daily Traded Value (ADTV) 13
Appendix 3: ESG Profile Check 14
1 Introduction

The MSCI ACWI Semiconductors & Semiconductor Equipment ESG Filtered Index (the ‘Index’) aims to represent the performance of a select set of companies from the semiconductors and semiconductor equipment industries that excludes companies involved in certain controversial businesses or have low ESG Controversies and Ratings scores relative to a reference universe.
2 MSCI ESG Research

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 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: 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 Score

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 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 Index

The Index is constructed by selecting stocks from the MSCI ACWI Semiconductors and Semiconductor Equipment Index (‘Parent Index’\(^1\)) based on rules explained in the following sections.

3.1 Eligible universe

The eligible universe of the Index is constructed in the following steps.

3.1.1 ESG exclusion criteria

Controversial business exclusion criteria

Securities of companies involved in the following businesses are excluded from the eligible universe:

- Controversial Weapons
- Conventional Weapons
- Nuclear Weapons
- Civilian Firearms
- Tobacco
- Thermal Coal
- Oil Sands
- UN Global Compact Violators

Please refer to Appendix 1 for more details on these criteria.

ESG Controversy Score

- ESG Controversy Score = 0 (‘Red Flag’ companies) – Companies involved in very severe business controversies as defined by the MSCI ESG Controversies Methodology are excluded from the eligible universe.
- Missing Controversy Score – Companies not assessed by MSCI ESG Research’s MSCI ESG Controversy Scores are excluded from the eligible universe.

\(^1\)MSCI ACWI Semiconductors and Semiconductor Equipment Index

Please refer to the MSCI Global Investable Market Indexes Methodology, May 2021, here - https://www.msci.com/index-methodology
ESG Rating

- Missing ESG Rating – Companies which are not rated by MSCI ESG Research for an MSCI ESG Rating are excluded from the eligible universe.

3.1.2 Emerging Markets (EM) country filter

Emerging Markets (EM) securities from only the below select countries are eligible for inclusion in the eligible universe:

- China
- Taiwan
- South Korea
- South Africa
- Brazil
- Thailand
- Malaysia
- Mexico

3.2 Selected universe

3.2.1 ESG Industry Adjusted Score

The Selected universe is constructed by excluding securities from the eligible universe which are in the bottom quartile by ESG Industry Adjusted Score.

3.2.2 Liquidity screening criteria

Securities that have a 3-month average daily trading value (3M ADTV) less than 3 million USD are excluded from the Selected universe. For the calculation of ADTV, please refer to Appendix 2.

3.2.3 Size screening criteria

Securities that have a free-float market capitalization less than 200 million USD are excluded from the selected universe.

3.3 Weighting scheme

At each rebalancing, securities in the selected universe are weighted in proportion to their float-adj market capitalization. Further capping is applied as described below.
3.4 ESG Profile Check

The selected universe calculated in Section 3.2 is assessed against the minimum requirements detailed in the table below.

In case the selected universe is found deficient on any of the minimum requirements, then the weights of the securities in the selected universe are determined through an iterative process as described in Appendix 3.

<table>
<thead>
<tr>
<th>Minimum Requirements</th>
<th>Values</th>
<th>Reference Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Emission Intensity relative to the Reference Index</td>
<td>Target Carbon Emission Intensity lower than the Reference Index</td>
<td>MSCI ACWI Semiconductors and Semiconductor Equipment Index²</td>
</tr>
<tr>
<td>Weighted Average Board Independence relative to the Reference Index</td>
<td>Target Weighted Average Board Independence higher than the Reference Index</td>
<td>MSCI ACWI Semiconductors and Semiconductor Equipment Index³</td>
</tr>
</tbody>
</table>

3.5 20/35 Capping

The Index constrains the weight of the largest group entity at 35%, and all other group entities⁴ at 20%, with a buffer of 10% applied on these limits at each semi-annual index rebalancing, in accordance with section 4.4 of the MSCI Capped Index Methodology.

The Index is also rebalanced on an “as needed” basis. This means that the Index is rebalanced at the end of any day on which the constraints as specified above (without the buffer) are breached. The rebalancing will take place as of the close of the day when the Index breaches the constraints, so that the Index will always be within the constraints before the opening of the following trading day.

---

² MSCI ACWI Semiconductors and Semiconductor Equipment Index [GICS:453010]
³ MSCI ACWI Semiconductors and Semiconductor Equipment Index [GICS:453010]
⁴ For a definition and a description of the maintenance of Group Entities, please refer to the MSCI 10/40 methodology at https://www.msci.com/index-methodology
4 Maintaining the Index

4.1 Semi-Annual Index Review

The Index is reviewed on a Semi-Annual basis in May and November to coincide with the May and November Semi-Annual Index Reviews of the Parent Index, and the changes are implemented at the end of May and November. In general, the pro forma index is announced nine business days before the effective date.

During the Semi-Annual Index Review, the eligible universe and selected universe are updated.

In general, MSCI uses MSCI ESG Research data (including MSCI ESG Ratings, MSCI Climate Change Metrics, 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. This approach aims to capture timely updates to ESG Ratings of the constituents and coincides with the rebalancing of the relevant MSCI Parent Indexes.

As an exception, the Index will not be reviewed at the November 2021 Semi-Annual Index Review. The index constituents will not be updated as per the rules described in section 3 (Constructing the Index). Treatment of Parent Index deletions will be as described in section 4.2 (Ongoing event-related maintenance).

4.2 Ongoing Event-Related Maintenance

The general treatment of corporate events in the 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.

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. Parent Index deletions will be reflected simultaneously.
<table>
<thead>
<tr>
<th>EVENT TYPE</th>
<th>EVENT DETAILS</th>
</tr>
</thead>
<tbody>
<tr>
<td>New additions to the Parent Index</td>
<td>A new security added to the parent index (such as IPO and other early inclusions) will not be added to the index.</td>
</tr>
<tr>
<td>Spin-Offs</td>
<td>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.</td>
</tr>
<tr>
<td>Merger/Acquisition</td>
<td>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.</td>
</tr>
<tr>
<td>Changes in Security Characteristics</td>
<td>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.</td>
</tr>
</tbody>
</table>

Further detail and illustration regarding specific treatment of corporate events relevant to this Index can be found in the MSCI Corporate Events Methodology.

The MSCI Corporate Events methodology book is available at: https://www.msci.com/index-methodology
Appendix 1: Controversial Business Exclusion Criteria

Companies whose activities meet the following values and climate change-based criteria, as evaluated by MSCI ESG Research, are excluded from the Index.

Values-based Exclusions Criteria:

- **Controversial Weapons**
  - All companies with any tie to Controversial Weapons (cluster munitions, landmines, depleted uranium weapons, biological/chemical weapons, blinding lasers, non-detectable fragments and incendiary weapons), as defined by the methodology of the MSCI Ex-Controversial Weapons Indexes available at [https://www.msci.com/index-methodology](https://www.msci.com/index-methodology).

- **Nuclear Weapons**
  - All companies that manufacture nuclear warheads and/or whole nuclear missiles.
  - All companies that manufacture components that were developed or are significantly modified for exclusive use in nuclear weapons (warheads and missiles).
  - All companies that manufacture or assemble delivery platforms that were developed or significantly modified for the exclusive delivery of nuclear weapons.
  - All companies that provide auxiliary services related to nuclear weapons.
  - All companies that manufacture components that were not developed or not significantly modified for exclusive use in nuclear weapons (warheads and missiles).
  - All companies that manufacture or assemble delivery platforms that were not developed or not significantly modified for the exclusive delivery of nuclear weapons.
  - All companies that manufacture components for nuclear-exclusive delivery platforms.
- **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.
  - All companies deriving 5% or more revenue from the distribution (wholesale or retail) of firearms or small arms ammunition intended for civilian use.

- **Tobacco**
  - All companies classified as a “Producer”
  - All companies deriving 5% or more aggregate revenue from the production, distribution, retail and supply of tobacco-related products.

- **Conventional Weapons**
  - All companies deriving 10% or more revenue from the production of conventional weapons and components

**Climate Change-based Exclusions Criteria:**

- **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 excludes: 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.

- **Global Norms – United Nations Global Compact Compliance**
All companies that fail to comply with the United Nations Global Compact principles.

Appendix 2: Calculation of 3-Month Average Daily Traded Value (ADTV)

\[ ADTV = \frac{ATV}{252} \]

Where:

- ADTV = 3-month Average Daily Traded Value
- ATV = 3-month Annualized Traded Value

For details on the calculation of ATV, please refer to the MSCI Index Calculation Methodology (https://www.msci.com/index-methodology).
Appendix 3: ESG Profile Check

The ESG Profile Check is applied on the securities of the selected universe with the objective of meeting all the minimum requirements detailed in the table in Section 3.4.

Starting with the selected universe, an iterative down weighting process is applied in order to meet with the minimum requirements for the Indexes. The iterative down weighting stops when all the requirements defined in above are met. The steps followed in the iterative downweighting are outlined below:

Step 1. Check whether all targets for the Index are met. If all targets are met, then no downweighting is required.

Step 2. Identify stocks that are either in bottom quartile by Board Independence (%) (i.e. with lowest scores) or are in the top quartile by Carbon Emissions Intensity (i.e. with highest carbon intensity). These stocks form the “downweighting group”. Rest of the stocks from the selected universe form the “upweighting group”.

Step 3. Select the worst-scoring stock in the “downweighting group” and reduce its weight in steps of 25% (free weight) and distribute the free weight among the stocks of the “upweighting group” in proportion of their weight at Step 2. A stock cannot be down weighted by more than 75% of its weight in Step 2.

Step 4. If the targets are still not met, then select the next worst-scoring stock and repeat Step 3.

Step 5. Relaxation Steps:
   a. If all stocks in the “downweighting group” have been down weighted by 75% and targets are still not met, then repeat Step 3 and 4 by down weighting the worst-scoring stock by 90% of its weight from Step 2.
   b. If targets are not met at Step 5a, then repeat Step 3 and 4 by excluding the worst-scoring stock – down weighting the worst-scoring stock by 100%.

Worst-scoring Stocks:
   a. In Step 1, if targets are not met on Carbon Emissions Intensity, then the worst-scoring stock is the stock with largest Carbon Emissions Intensity.
   b. If in Step 1, the target on Carbon Emissions Intensity is met, and the target on Weighted Average Board Independence is not met, then the worst-scoring stock is the stock with lowest Board Independence (%).
Contact us

clientservice@msci.com

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
São 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 *

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 *
Thailand 0018 0015 6207 7181 *
Tokyo + 81 3 5290 1555

* = toll free

About MSCI

MSCI is a leading provider of critical decision support tools and services for the global investment community. With over 50 years of expertise in research, data and technology, we power better investment decisions by enabling clients to understand and analyze key drivers of risk and return and confidently build more effective portfolios. We create industry-leading research-enhanced solutions that clients use to gain insight into and improve transparency across the investment process.

To learn more, please visit www.msci.com.

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.

* = 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 re disseminated in whole or in part without prior written permission from MSCI and/or its suppliers. All of the Information is provided "as is" and "as available," and none of MSCI, its suppliers or any of the Information Providers make any express or implied warranties, representations, or guarantees of any kind, either express or implied, for any purpose, including but not limited to, the accuracy, reliability, completeness, or suitability of any Information for a particular purpose. None of MSCI, its suppliers, MSCI's licensors, or any of the Information Providers shall have any liability regarding any of the Information or for any action taken (or not taken) in reliance thereon. MSCI and its suppliers reserve the right to make changes to any Information at any time and without notice. The Internet may be subject to transmission interruptions or losses. Neither MSCI, its suppliers or any of the Information Providers shall have any liability for interruptions of Internet service or for any interruption in the transmission of information through the Internet. None of MSCI, its suppliers or any of the Information Providers shall be liable for any loss or damage whether direct, indirect, special, punitive, consequential (including lost profits) or any other damages even if notified of the possibility of such damages. For any liability that may not by applicable law be excluded or limited, including without limitation, any liability for death or personal injury to the extent that such injury results from negligence or willful default of itself, its servants, agents or sub-contractors.

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, any liability for death or personal injury to the extent that such injury results from negligence or willful default of itself, its servants, agents or sub-contractors.

MISFIT notice: MSCI ESG Research LLC does not distribute or act as an intermediary for financial instruments or structured deposits, nor does it deal on its own account, provide execution services for others or manage client accounts. No MSCI ESG Research product or service supports, promotes or is intended to support or promote any such activity. MSCI ESG Research is an independent provider of ESG data, reports and ratings based on published methodologies and available to clients on a subscription basis. We do not provide custom or one-off ratings or recommendations of securities or other financial instruments upon request.

For information about how MSCI collects and uses personal data, please refer to our Privacy Notice at https://www.msci.com/privacy-pledge.