MSCI USA ESG UNIVERSAL TOP - BOTTOM 150/50 RETURN SPREAD INDEX METHODOLOGY

February 2020
Contents

1 Introduction ............................................................................................................. 4

2 MSCI ESG Research ................................................................................................. 5
   2.1 MSCI ESG Ratings................................................................................................. 5
   2.2 MSCI ESG Controversies...................................................................................... 5
   2.3 MSCI ESG Business Involvement Screening Research ........................................ 5

3 Constructing the MSCI USA ESG Universal Top - Bottom 150/50 Return Spread Index .................................................................................................................. 6
   3.1 Applying the MSCI Short and Leveraged Daily Indexes Methodology .................... 6

4 Maintaining the MSCI USA ESG Universal Top - Bottom 150/50 Return Spread Index .................................................................................................................. 8
   4.1 Ongoing Events Related Changes ....................................................................... 8

5 Methodology for Component Indexes ...................................................................... 9
   5.1 Constructing the MSCI USA ESG Universal Top 100 5% Issuer Capped Index .................................................................................................................. 9
      5.1.1 Applicable Universe ....................................................................................... 9
      5.1.2 Eligible Universe ............................................................................................. 9
      5.1.3 Security Selection .......................................................................................... 9
      5.1.4 Weighting Scheme ......................................................................................... 10
   5.2 Constructing the MSCI USA ESG Universal Bottom 100 5% Issuer Capped Index .................................................................................................................. 10
      5.2.1 Applicable Universe ....................................................................................... 10
      5.2.2 Eligible Universe ............................................................................................. 10
      5.2.3 Security Selection .......................................................................................... 10
      5.2.4 Weighting Scheme ......................................................................................... 11
   5.3 Maintaining the MSCI USA ESG Universal Top 100 5% Issuer Capped Index and MSCI USA ESG Universal Bottom 100 5% Issuer Capped Index .................................................................................................................. 11
      5.3.1 Quarterly Index Reviews ................................................................................ 11
5.3.2 Ongoing Event-Related Changes ................................................................. 11
1 Introduction

The MSCI USA ESG Universal Top - Bottom 150/50 Return Spread Index ("the Index") aims to represent the performance of a strategy based on the return spread between a long position on constituents of the MSCI USA ESG Universal Top 100 5% Issuer Capped Index and a short position on constituents of the MSCI USA ESG Universal Bottom 100 5% Issuer Capped Index.

This methodology book provides a description of the rules and guidelines followed by MSCI for the construction and maintenance of the Index.
2 MSCI ESG Research

MSCI ESG Research LLC 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 research provided by MSCI ESG Research LLC. In particular, the Index uses the following three MSCI ESG Research products: MSCI ESG Ratings, MSCI ESG Business Involvement Screening Research and MSCI ESG Controversies data.

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/esgratings.

2.2 MSCI ESG CONTROVERSIES

MSCI ESG Controversies provides assessments of controversies concerning the negative environmental, social and 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 USA ESG Universal Top - Bottom 150/50 Return Spread Index

The MSCI USA ESG Universal Top - Bottom 150/50 Return Spread Index is constructed using the MSCI Short and Leveraged Daily Indexes Methodology.

Additionally, a constant index-level reduction is applied to the overall return calculation designed to represent the average financing cost of replicating the index (as noted in Table 1, in Section 3.1).

3.1 APPLYING THE MSCI SHORT AND LEVERAGED DAILY INDEXES METHODOLOGY

The MSCI USA ESG Universal Top - Bottom 150/50 Return Spread Index is designed to represent the performance of a strategy that is long on constituents of the “Long Component Index” and short on constituents of the “Short Component Index”.

The component indexes within the MSCI USA ESG Universal Top - Bottom 150/50 Return Spread Index are reset on a quarterly basis to the pre-defined weights as detailed in Table 1. The weights of component indexes may drift based on the daily performance differential of the respective component indexes during the quarter.

The Index is computed using a variant of the MSCI Short and Leveraged Daily Indexes Methodology\(^1\) that does not apply stock borrowing costs or the overnight risk-free rates.

The Index returns are calculated daily by subtracting the daily return of the Short Component Index from the daily return of the Long Component Index, as per the applicable weights for each component index on a given day.

<table>
<thead>
<tr>
<th>Reset-weighting Frequency</th>
<th>Long Component Weight</th>
<th>Long Component Index</th>
<th>Long Component Variant</th>
<th>Short Component Weight</th>
<th>Short Component Index</th>
<th>Short Component Variant</th>
<th>Annual Return Adjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quarterly</td>
<td>150%</td>
<td>MSCI USA ESG Universal Top 100 5% Issuer Capped Index</td>
<td>Gross Daily Total Return Index</td>
<td>50%</td>
<td>MSCI USA ESG Universal Bottom 100 5% Issuer Capped Index</td>
<td>Gross Daily Total Return Index</td>
<td>0.30%</td>
</tr>
</tbody>
</table>

\(^1\)MSCI Short and Leveraged Daily Indexes methodology is available at https://www.msci.com/index-methodology
Please refer to Section 5 for further details on the component indexes of the MSCI USA ESG Universal Top - Bottom 150/50 Return Spread Index.

The adjustment to the return calculation using the Return Adjustment fixed percentage is made on a daily basis using an actual/360 day count convention.
4 Maintaining the MSCI USA ESG Universal Top - Bottom 150/50 Return Spread Index

4.1 ONGOING EVENTS RELATED CHANGES

The MSCI USA ESG Universal Top - Bottom 150/50 Return Spread Index is derived from the underlying MSCI Indexes. As a result, corporate events are reflected in the Index as they are captured in the underlying MSCI Indexes.
5 Methodology for Component Indexes

The following Component Indexes are used in the construction of the MSCI USA ESG Universal Top - Bottom 150/50 Return Spread Index.

- MSCI USA ESG Universal Top 100 5% Issuer Capped Index
- MSCI USA ESG Universal Bottom 100 5% Issuer Capped Index

5.1 CONSTRUCTING THE MSCI USA ESG UNIVERSAL TOP 100 5% ISSUER CAPPED INDEX

The MSCI USA ESG Universal Top 100 5% Issuer Capped Index is constructed by applying the following steps.

- Applicable Universe
- Eligible Universe
- Security Selection
- Weighting Scheme

5.1.1 APPLICABLE UNIVERSE

The Applicable Universe consists of all constituents of the MSCI USA Index (“the Parent Index”).

5.1.2 ELIGIBLE UNIVERSE

Securities subject to the ESG Red Flag Controversies Screen or Controversial Weapons Screen, as per the MSCI ESG Universal Indexes Methodology\(^2\), are excluded from the Eligible Universe.

5.1.3 SECURITY SELECTION

The 100 securities with the highest Combined ESG Score, calculated as per Section 3.3 of the MSCI ESG Universal Indexes methodology, are included in the Index. In case two or more securities have same Combined ESG Score, then the security with the higher FIF adjusted market capitalization will be given higher priority.

To reduce index turnover and enhance index stability, a 20% buffer on security selection is applied.

---

\(^2\) MSCI ESG Universal Indexes methodology is available at [https://www.msci.com/index-methodology](https://www.msci.com/index-methodology)
5.1.4 **WEIGHTING SCHEME**

At each Index Review, selected securities are weighted as per the MSCI ESG Universal Indexes Methodology.

These weights are then updated to implement sector neutrality i.e. the weight of each sector in the Index is equated with the weight of that sector in the Parent Index at each rebalancing. This is done by normalizing the weights of the constituents within each sector to reflect the Parent Index sector weights.

After the application of sector neutrality, 5% issuer capping is applied to ensure that none of the issuer weights in the index exceeds 5%.

5.2 **CONSTRUCTING THE MSCI USA ESG UNIVERSAL BOTTOM 100 5% ISSUER CAPPED INDEX**

The MSCI USA ESG Universal Bottom 100 5% Issuer Capped Index is constructed by applying the following steps.

- Applicable Universe
- Eligible Universe
- Security Selection
- Weighting Scheme

5.2.1 **APPLICABLE UNIVERSE**

The Applicable Universe consists of all constituents of the MSCI USA Index.

5.2.2 **ELIGIBLE UNIVERSE**

Securities subject to the ESG Red Flag Controversies Screen or Controversial Weapons Screen, as per the MSCI ESG Universal Indexes Methodology, are not excluded from the Eligible Universe.

5.2.3 **SECURITY SELECTION**

The 100 securities with the lowest Combined ESG Score, calculated as per Section 3.3 of the MSCI ESG Universal Indexes methodology, are included in the Index. In case two or more securities have the same Combined ESG Score, then the security with the higher FIF adjusted market capitalization will be given higher priority.

To reduce index turnover and enhance index stability, a 20% buffer on security selection is applied.
5.2.4 **WEIGHTING SCHEME**

At each Index Review, selected securities are weighted as per the MSCI ESG Universal Indexes methodology.

These weights are then updated to implement sector neutrality i.e. the weight of each sector in the Index is equated with the weight of that sector in the Parent Index at each rebalancing. This is done by normalizing the weights of the constituents within each sector to reflect the Parent Index sector weights.

After the application of sector neutrality, 5% issuer capping is applied to ensure that none of the issuer weights in the index exceeds 5%.

5.3 **MAINTAINING THE MSCI USA ESG UNIVERSAL TOP 100 5% ISSUER CAPPED INDEX AND MSCI USA ESG UNIVERSAL BOTTOM 100 5% ISSUER CAPPED INDEX**

5.3.1 **QUARTERLY INDEX REVIEWS**

The MSCI USA ESG Universal Top 100 5% Issuer Capped Index and the MSCI USA ESG Universal Bottom 100 5% Issuer Capped Index are 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.

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 Index. 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 Index.

The pro forma Indexes are typically announced nine business days before the effective date.

5.3.2 **ONGOING EVENT-RELATED CHANGES**

The general treatment of corporate events in the 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 Indexes, the changes made to the Parent Index during intermediate Index Reviews will be neutralized in the MSCI USA ESG Universal Indexes.
Top 100 5% Issuer Capped Index and MSCI USA ESG Universal Bottom 100 5% Issuer Capped Index.

The following section briefly describes the treatment of common corporate events within the MSCI USA ESG Universal Top 100 5% Issuer Capped Index and MSCI USA ESG Universal Bottom 100 5% Issuer Capped Index.

No new securities will be added (except where noted below) to the Indexes 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 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
THE FOLLOWING SECTIONS HAVE BEEN MODIFIED SINCE JANUARY 2020:

- Section 3.1 has been updated to reflect a change in variant type of the component Indexes
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 leader provider of critical decision support tools and services for the global investment community. With over 45 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.
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 redisseminated in whole or in part without prior written permission from MSCI.
- The Information may not be used to create derivative works or to verify or correct other data or information. For example (but without limitation), the Information may not be used to create indexes, databases, risk models, analytics, software, or in connection with the issuing, offering, sponsoring, managing or marketing of any securities, portfolios, financial products or other investment vehicles utilizing or based on, linked to, tracking or otherwise derived from the Information or any other MSCI data, information, products or services.
- 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 (as applicable), any liability for death or personal injury to the extent that such injury results from the negligence or willful default of itself, its servants, agents or sub-contractors.
- Information containing any historical information, data or analysis should not be taken as an indication or guarantee of any future performance, analysis, forecast or prediction. Past performance does not guarantee future results.
- The Information should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. All information is impersonal and not tailored to the needs of any person, entity or group of persons.
- None of the Information constitutes an offer to sell (or a solicitation of an offer to buy), any security, financial product or other investment vehicle or any trading strategy.
- It is not possible to invest directly in an index. Exposure to an asset class or trading strategy or other category represented by an index is only available through third party investable instruments (if any) based on that index. MSCI does not issue, sponsor, endorse, market, offer, review or otherwise express any opinion regarding any fund, ETF, derivative or other security, investment, financial product or trading strategy that is based on, linked to or seeks to provide an investment return related to the performance of any MSCI index (collectively, "Index Linked Investments"). MSCI makes no assurance that any Index Linked Investments will accurately track index performance or provide positive investment returns. MSCI Inc. is not an investment adviser or fiduciary and MSCI makes no representation regarding the advisability of investing in any Index Linked Investments.
- Index returns do not represent the results of actual trading of investible assets/securities. MSCI maintains and calculates indexes but does not manage actual assets. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the index or Index Linked Investments. The imposition of these fees and charges would cause the performance of an Index Linked Investment to be different than the MSCI index performance.
- The Information may contain back tested data. Back tested performance is not actual performance but is hypothetical. There are frequently material differences between back tested performance results and actual results subsequently achieved by any investment strategy.
- Constituents of MSCI equity indexes are listed companies, which are included in or excluded from the indexes according to the application of the relevant index methodologies. Accordingly, constituents in MSCI equity indexes may include MSCI Inc., clients of MSCI or suppliers to MSCI. Inclusion of a security within an MSCI index is not a recommendation by MSCI to buy, sell, or hold such security, nor is it considered to be investment advice.
- Data and information produced by various affiliates of MSCI Inc., including MSCI ESG Research LLC and Barra LLC, may be used in calculating certain MSCI indexes. More information can be found in the relevant index methodologies on www.msci.com.
- MSCI receives compensation in connection with licensing its indexes to third parties. MSCI Inc.'s revenue includes fees based on assets in Index Linked Investments. Information can be found in MSCI Inc.’s company filings on the Investor Relations section of www.msci.com.
- MSCI ESG Research LLC is a Registered Investment Adviser under the Investment Advisers Act of 1940 and a subsidiary of MSCI Inc. Except with respect to any applicable products or services from MSCI ESG Research, neither MSCI nor any of its products or services recommends, endorses, approves or otherwise expresses any opinion regarding any issuer, securities, financial products or instruments or trading strategies and MSCI's products or services are not intended to constitute investment advice or a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such. Issuers mentioned or included in any MSCI ESG Research materials may include MSCI Inc., clients of MSCI or suppliers to MSCI, and may also purchase research or other products or services from MSCI ESG Research. MSCI ESG Research materials, including materials utilized in any MSCI ESG indexes or other products, have not been submitted to, nor received approval from, the United States Securities and Exchange Commission or any other regulatory body.
- Any use of or access to products, services or information of MSCI requires a license from MSCI. MSCI, Barra, RiskMetrics, IPD and other MSCI brands and product names are the trademarks, service marks, or registered trademarks of MSCI or its subsidiaries in the United States and other jurisdictions. The Global Industry Classification Standard (GICS) was developed by and is the exclusive property of MSCI and Standard & Poor's. "Global Industry Classification Standard (GICS)" is a service mark of MSCI and Standard & Poor's.
- MIFID2/MIFIR 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.
- Privacy Notice: For information about how MSCI ESG Research LLC collects and uses personal data concerning officers and directors, please refer to our Privacy Notice at https://www.msci.com/privacy-pledge.