

MSCI GLIDEPATH CORPORATE BOND INDEXES METHODOLOGY

June 2024

Contents

1. Introduction	3
2. Constructing the Index.....	4
2.1 Defining the Parent Index	4
2.2 Defining the Factor Score	4
2.3 Defining the Time to Maturity Score	5
2.4 Defining the Composite Score	6
2.5 Defining the Cash Component	6
2.6 Reinvestment of the Cash Component	6
2.7 Treatment of New Additions	7
2.8 Defining the Index Weights.....	7
3. Maintaining the Indexes.....	8
3.1 Monthly Index Review	8
4. MSCI ESG Research.....	9
4.1 MSCI ESG Ratings	9
4.2 MSCI Climate Change Metrics	9
Appendix I: Methodology Set	10

1. Introduction

The MSCI Glidepath Corporate Bond Indexes¹ (the 'Indexes'), employs a combination of target factors to gradually transition the Index from a replica of a Parent Index towards one with characteristics based on the factors described below. The transition process involves the reallocation of cash into securities that are aligned to the target factors. The target factors may encompass a variety of elements such as Environmental, Social, and Governance (ESG) Score, GHG Emissions or a blend of ESG and GHG Emissions.

Within any fixed income index, a cash component is generated on an ongoing basis. This cash component is typically reallocated back into the entire index pro-rata. The MSCI Glidepath Corporate Bond Indexes methodology will allocate this cash component to the issuers that are more aligned with the respective target characteristics.

¹ The Indexes are governed by a set of methodology and policy documents ("Methodology Set"), including the present index methodology document. Please refer to Appendix I for more details.

2. Constructing the Index

The Index uses company ratings and research provided by MSCI ESG Research² for the Index construction.

Constructing the Index involves the following steps:

- Defining the Parent Index
- Defining the Factor Score
- Defining the Time to Maturity Score
- Defining the Composite Score
- Defining the Cash Component
- Reinvestment of Cash Component
- Treatment of New Additions
- Defining the Index Weights

2.1 Defining the Parent Index

The Parent Index is represented by the suite of MSCI's corporate bond indexes. The MSCI Glidepath Corporate Bond Index is identical to the Parent Index as of the base date (defined below) and gradually transitions away from the Parent Index based on the methodology defined in below Sections.

The MSCI Glidepath Corporate Bond Index - Emissions and the MSCI Glidepath Corporate Bond Index – Emissions & ESG index variants have a base date of December 31, 2020, while the MSCI Glidepath Corporate Bond Index - ESG index variant has a base date of December 31, 2014. All three index variants subsequently have a common Base Date of December 29, 2023.

2.2 Defining the Factor Score

- A security-level Factor Score is calculated using a weighted combination of ESG Z-score and Emissions Z-score as follows:

$$FS_i = (ESG\ Z\text{-}score_i \times (wgt_{esg})) + (Emissions\ Z\text{-}score_i \times (wgt_{emissions}))$$

Where:

FS_i :	Factor Score of security i
$ESG\ Z\text{-}score_i$:	ESG Z-score of security i (defined below)

² See section 4 for further information regarding ESG and climate data used in the Indexes that MSCI Limited sources from MSCI ESG Research LLC, a separate subsidiary of MSCI Inc. MSCI ESG Research is solely responsible for the creation, determination and management of such data. MSCI Limited and MSCI Deutschland GmbH are the benchmark administrators for the MSCI indexes.

$Emissions\ Z-score_i$: Emissions Z-score of security i (defined below)

wgt_{esg} : Weight³ assigned to ESG Z-score

$wgt_{emissions}$: Weight⁴ assigned to Emissions Z-score

- A security-level ESG Z-score is calculated by z-scoring the industry-adjusted Environmental, Social, and Governance (ESG) Score of all securities in the Parent Index. The ESG Z-score is winsorized at +/- 3 standard deviations.
- A security-level Emissions Z-score is calculated by z-scoring the Scope 1+2+3 Absolute GHG Emissions of all securities in the Parent Index. The Emissions Z-score is winsorized at +/- 3 standard deviations and further multiplied by -1 such that securities with higher Emissions have lower Emissions Z-scores.
- For Parent Index constituents where the ESG Score / Scope 1+2+3 Absolute GHG Emissions are not available, the average of worst quartile (lowest ESG Scores / highest emitters) of all constituents within each GICS⁵ Industry Group to which the constituent belongs, is used. The average of worst quartile ESG Score / Scope 1+2+3 Absolute GHG Emissions within corresponding GICS Sector is subsequently used if a security still has missing data.
- The Factor Score is further z-scored and winsorized at +/- 3 standard deviations.

2.3 Defining the Time to Maturity Score

- A security-level Time to Maturity Score is calculated for each security in the Parent Index by subtracting the security-level weighted average time to maturity of the Current Index⁶ from the security-level weighted average time to maturity of the Parent Index. The calculation is as follows:

$$TMS_i = (Parent\ Weight_i \times ToM_i) - (Current\ Weight_i \times ToM_i)$$

Where:

TMS_i : Time to Maturity Score of security i

$Parent\ Weight_i$: Parent Index weight of security i

$Current\ Weight_i$: Current Index weight of security i

ToM_i : Time to maturity of security i

³ For ESG considerations only, the wgt_{esg} is 100% and $wgt_{emissions}$ = 0%. For Emissions considerations only, the wgt_{esg} is 0% and $wgt_{emissions}$ = 100%. For combined ESG and Emissions considerations, the wgt_{esg} is 50% and $wgt_{emissions}$ = 50%.

⁴ For ESG considerations only, the wgt_{esg} is 100% and $wgt_{emissions}$ = 0%. For Emissions considerations only, the wgt_{esg} is 0% and $wgt_{emissions}$ = 100%. For combined ESG and Emissions considerations, the wgt_{esg} is 50% and $wgt_{emissions}$ = 50%.

⁵ GICS® the global industry classification system jointly developed by MSCI Inc. and S&P Global Market Intelligence.

⁶ The market value of securities in the Index one day prior to rebalancing (excluding the deletions from the proforma Parent Index) and the market value of new additions in the Parent Index as of rebalancing date are combined and renormalized to determine the Current Index.

- The Time to Maturity Score is further z-scored and winsorized at +/- 3 standard deviations.

2.4 Defining the Composite Score

- A security-level Composite Score is calculated using a weighted combination of the Factor Score and Time to Maturity Score as follows:

$$CS_i = (FS_i \times 80\%) + (TMS_i \times 20\%)$$

Where:

CS_i : Weighted average Composite Score of security i

FS_i : Factor Score of security i

TMS_i : Time to Maturity Score of security i

- The Composite Score is subsequently z-scored.

2.5 Defining the Cash Component

The securities in the Index accrue Cash Balance from regular coupon payments and principal redemptions in between two index reviews. The Cash Balance along with the market value of Parent Deletions⁷ together determine the Total Cash available for redistribution in the Index. The Total Cash as a proportion of the total market value of the Index as of one day prior to the rebalancing date determine the Cash Component of the Index.

2.6 Reinvestment of the Cash Component

The constituents in the Parent Index are ranked⁸ and grouped into Deciles such that Decile 1 corresponds to securities with highest Composite Scores and Decile 10 corresponds to securities with lowest Composite Scores.

The Cash Component is reinvested equally into deciles 1 through 6. This is subsequently re-distributed among securities in the Current Index⁹ (excluding the new additions in Parent Index) in proportion of their weight within each decile. Reinvesting the Cash Component into deciles 1 through 6 effectively underweights the deciles corresponding to the lowest Composite Scores.

The weights of these securities are scaled such that total weight adds up to the weight of the Current Index (excluding the new additions in Parent Index) prior to redistribution of cash.

⁷ Parent Deletions are defined as securities from the Index (one day prior to rebalancing date) which are not part of the Parent Index as of rebalancing date.

⁸ If multiple securities have the same Composite Score, then the security with higher weight in the Current Index is assigned a better rank.

⁹ Current Index is defined in Section 2.3

2.7 Treatment of New Additions

New additions to the Parent Index on the rebalancing date are added to the Index at a multiple of their market values within the Parent Index. The multiples are based on the decile membership of these securities defined in below table:

Decile	Scalar Multiple	Decile	Scalar Multiple
1	1.5	6	1.0
2	1.4	7	0.9
3	1.3	8	0.8
4	1.2	9	0.7
5	1.1	10	0.6

2.8 Defining the Index Weights

The securities defined in Section 2.6 (Reinvestment of Cash component) and Section 2.7 (Treatment of New Additions) are combined and renormalized in proportion of their market values defined in each section to determine the Index Weights.

At any rebalance, if the weighted average score of the Index crosses the defined thresholds, the Index will maintain the Current Index weights applicable at that rebalance:

Weighted average thresholds:

MSCI Glidepath Corporate Bond Index - ESG: If the weighted average ESG Score of the Index reaches 95% of the Maximum possible ESG Score.

MSCI Glidepath Corporate Bond Index - Emissions: If the weighted average Absolute GHG Emission of the Index improves by 95% relative to the weighted average Absolute GHG Emission of the Index as of latest Base Date.

MSCI Glidepath Corporate Bond Index - Emissions & ESG: If either of the thresholds defined for MSCI Glidepath Corporate Bond Index - ESG or MSCI Glidepath Corporate Bond Index - Emissions are breached.

3. Maintaining the Indexes

3.1 Monthly Index Review

- The Indexes undergo a monthly review, with the rebalancing impact taking effect on the first business day of each month (termed as Rebalancing Date). To elaborate, bonds are incorporated into the index at the close of the last business day of every month, but the impact on returns is observed on the first business day of the subsequent month.
- The rebalanced Index composition is determined by the most recent data available three days prior to the Rebalancing Date, termed as the Cut-Off Date. If a security in the universe satisfies any inclusion or exclusion criteria after the Cut-Off Date, it will typically become effective at the next monthly rebalancing, provided conditions remain constant. In extraordinary circumstances, such as cases of input data correction, MSCI has the discretion to shorten the Cut-Off Date for Index rebalancing from T-3 to T-2, T-1, or T. In such scenarios, MSCI will inform Index clients of these changes through an announcement.
- MSCI will disclose proforma index rebalancing results starting the second business day of each month. MSCI will freeze the pro forma index rebalancing results as of the Cut-Off Date.
- Bonds are either added to or removed from the index solely on monthly rebalancing dates, barring an exchange event¹⁰. For existing index components, any changes to index eligibility will only be reflected in the subsequent monthly rebalancing.
- Any cash that accumulates within the index each month is re-invested on the Rebalancing Date according to Section 2.6 of the Methodology.
- Specific variants of the total return calculation of the index on the Rebalancing Date may be adjusted for transaction costs¹¹ as securities are added to the index at the offer price.

For additional information on the index total return calculation and corporate events handling, please refer to the MSCI Fixed Income Index Calculation Methodology¹². For the holiday calendar used in the indexes, please refer to the MSCI Fixed Income Data Methodology¹³.

¹⁰ Refer to the MSCI Fixed Income Index Calculation Methodology for detail. Available at <https://www.msci.com/index-methodology>

¹¹ Refer to the MSCI Fixed Income Index Calculation Methodology for detail. Available at <https://www.msci.com/index-methodology>

¹² Refer to the MSCI Fixed Income Index Calculation Methodology for detail. Available at <https://www.msci.com/index-methodology>

¹³ The methodologies are available at: <https://www.msci.com/index-methodology>.

4. MSCI ESG Research

The Indexes are products of MSCI Inc. that utilize information such as company ratings and research produced and provided by MSCI ESG Research LLC (MSCI ESG Research), a subsidiary of MSCI Inc. In particular, the Indexes use the following MSCI ESG Research products: MSCI ESG Ratings and MSCI Climate Change Metrics. MSCI Indexes are administered by MSCI Limited and MSCI Deutschland GmbH.

4.1 MSCI ESG Ratings

MSCI ESG Ratings aim to measure entities' management of environmental, social and governance risks and opportunities. MSCI ESG Ratings use a weighted average key issue calculation that is normalized by industry to arrive at an industry-adjusted ESG score (0-10), which is then translated to a seven-point scale from 'AAA' to 'CCC', indicating how an entity manages relevant key issues relative to industry peers.

The MSCI ESG Ratings methodology can be found at: <https://www.msci.com/legal/disclosures/esg-disclosures>

4.2 MSCI Climate Change Metrics

MSCI Climate Change Metrics provide climate data & tools to support institutional investors seeking to integrate climate risk & opportunities into their investment strategy and processes. This includes investors seeking to achieve a range of objectives, including measuring and reporting on climate risk exposure, implementing low carbon and fossil fuel-free strategies, alignment with temperature pathways and factoring climate change research into their risk management processes, in particular through climate scenario analysis for both transition and physical risks.

The dataset spans across the four dimensions of a climate strategy: transition risks, green opportunities, physical risks and 1.5° alignment.

For more details on MSCI Climate Change Metrics, please refer to <https://www.msci.com/climate-change-solutions>.

Appendix I: Methodology Set

The Indexes are governed by a set of methodology and policy documents (“Methodology Set”), including the present index methodology document as mentioned below.

- MSCI Fixed Income Data Methodology – [Link](#)
- MSCI Fixed Income Index Calculation Methodology – [Link](#)
- MSCI Fixed Income Index Glossary of Terms - [Link](#)
- MSCI Fixed Income Index Policies – [Link](#)
- MSCI Corporate Bond Indexes Methodology - [Link](#)
- ESG Factors In Methodology*

The Methodology Set for the Indexes can be accessed from MSCI’s webpage <https://www.msci.com/index-methodology> in the section ‘Search Methodology by Index Name or Index Code’.

* ‘ESG Factors in Methodology’ contains the list of environmental, social, and governance factors considered, and how they are applied in the methodology (e.g., selection, weighting or exclusion). It can be accessed in the Methodology Set as described above.

Contact us

msci.com/contact-us

AMERICAS

United States	+ 1 888 588 4567 *
Canada	+ 1 416 687 6270
Brazil	+ 55 11 4040 7830
Mexico	+ 52 81 1253 4020

EUROPE, MIDDLE EAST & AFRICA

South Africa	+ 27 21 673 0103
Germany	+ 49 69 133 859 00
Switzerland	+ 41 22 817 9777
United Kingdom	+ 44 20 7618 2222
Italy	+ 39 02 5849 0415
France	+ 33 17 6769 810

ASIA PACIFIC

China	+ 86 21 61326611
Hong Kong	+ 852 2844 9333
India	+ 91 22 6784 9160
Malaysia	1800818185 *
South Korea	+ 82 70 4769 4231
Singapore	+ 65 67011177
Australia	+ 612 9033 9333
Taiwan	008 0112 7513 *
Thailand	0018 0015 6207 7181 *
Japan	+ 81 3 4579 0333

* 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>.

Notice and disclaimer

This document is research for informational purposes only and is intended for institutional professionals with the analytical resources and tools necessary to interpret any performance information. Nothing herein is intended to promote or recommend any product, tool or service.

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 disseminated in whole or in part without prior written permission from MSCI. All rights in the Information are reserved by MSCI and/or its Information Providers.

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 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 may include "Signals," defined as quantitative attributes or the product of methods or formulas that describe or are derived from calculations using historical data. Neither these Signals nor any description of historical data are intended to provide investment advice or a recommendation to make (or refrain from making) any investment decision or asset allocation and should not be relied upon as such. Signals are inherently backward-looking because of their use of historical data, and they are not intended to predict the future. The relevance, correlations and accuracy of Signals frequently will change materially.

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. The calculation of indexes and index returns may deviate from the stated methodology. 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 msci.com.

MSCI ESG Research LLC is a Registered Investment Adviser under the Investment Advisers Act of 1940 and a subsidiary of MSCI Inc. 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 a recommendation to make (or refrain from making) any kind of investment decision and may not be relied on as such, provided that applicable products or services from MSCI ESG Research may constitute investment advice. 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. MSCI ESG and climate ratings, research and data are produced by MSCI ESG Research LLC, a subsidiary of MSCI Inc. MSCI ESG Indexes, Analytics and Real Estate are products of MSCI Inc. that utilize information from MSCI ESG Research LLC. MSCI Indexes are administered by MSCI Limited (UK) and MSCI Deutschland GmbH.

Please note that the issuers mentioned in MSCI ESG Research materials sometimes have commercial relationships with MSCI ESG Research and/or MSCI Inc. (collectively, "MSCI") and that these relationships create potential conflicts of interest. In some cases, the issuers or their affiliates purchase research or other products or services from one or more MSCI affiliates. In other cases, MSCI ESG Research rates financial products such as mutual funds or ETFs that are managed by MSCI's clients or their affiliates, or are based on MSCI Inc. Indexes. In addition, constituents in MSCI Inc. equity indexes include companies that subscribe to MSCI products or services. In some cases, MSCI clients pay fees based in whole or part on the assets they manage. MSCI ESG Research has taken a number of steps to mitigate potential conflicts of interest and safeguard the integrity and independence of its research and ratings. More information about these conflict mitigation measures is available in our Form ADV, available at <https://adviserinfo.sec.gov/firm/summary/169222>.

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 S&P Global Market Intelligence. "Global Industry Classification Standard (GICS)" is a service mark of MSCI and S&P Global Market Intelligence.

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.

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