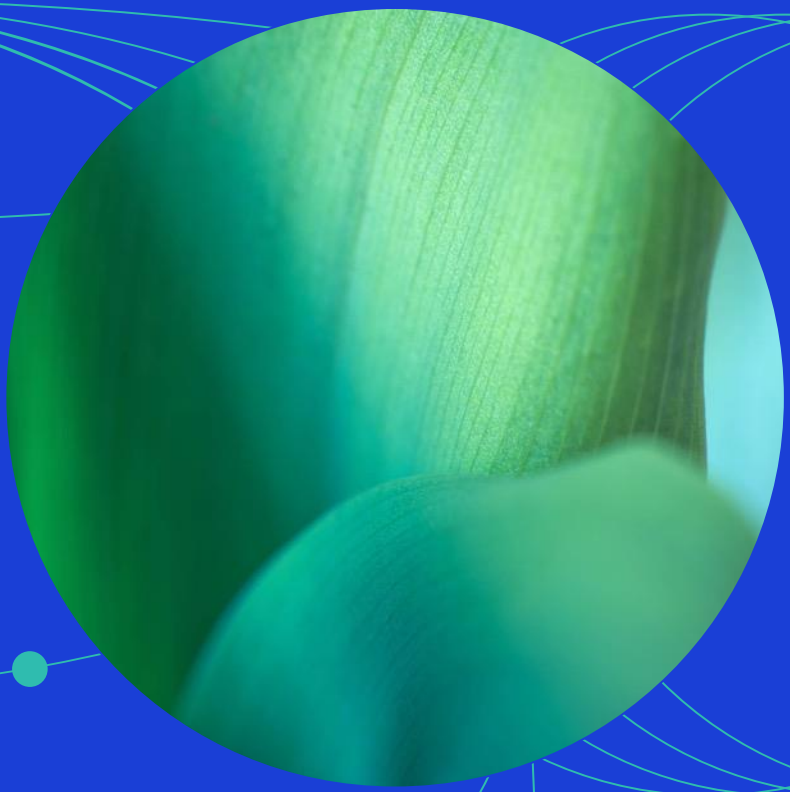
Index Methodology

July 2025

MSCI Momentum Indexes Methodology



© 2025 MSCI Inc. All rights reserved. Please refer to the disclaimer at the end of this document.

Contents

1 Introduction 3
2 Index Construction Methodology 4
2.1 Applicable Universe 4
2.2 Determination of Momentum Score 4
2.2.1 Risk-Adjusted Momentum Value 4
2.2.2 Calculating the Momentum Score 4
2.3 Security Selection 5
2.4 Weighting Scheme 5
3 Maintaining the Index 6
3.1 Index Review 6
3.1.1 Buffer Rules 6
3.1.2 Turnover Buffer 6
3.2 Ongoing Event Related Changes 7
Appendix I: Rules to Determine Fixed Number of Securities at Initial Construction and in Ongoing Rebalancing 9
Algorithm to Determine Fixed Number of Securities at Initial Construction 9
Rounding Off Rules: 10
Algorithm to reevaluate Fixed Number of Securities at Quarterly Rebalancing 10
Appendix II: Issuer Weight Capping 11
Appendix III: Conditional Rebalancing 12
Appendix IV: Short-Term Rates 13
Appendix V: Constructing the MSCI Momentum Tilt Index 15
Appendix VI: Methodology Set 16
Appendix VII: Changes to this Document 17

© 2025 MSCI Inc. All rights reserved. Please refer to the disclaimer at the end of this document.

1 Introduction

The MSCI Momentum Indexes aim to reflect the performance of an Equity Momentum strategy. High Momentum companies are characterized in the literature as companies with high price performance in the recent history, up to 12-months. High Momentum companies tend to continue their high price performance over the near term, typically over a 6 -12-month period. Many active equity strategies emphasize Momentum factor as an important factor in security selection and portfolio construction.

MSCI categorizes the MSCI Momentum Indexes as part of the family of MSCI Factor Indexes (Risk Premia), which reflect the systematic elements of particular investment styles or strategies. While capitalization weighted indexes represent the broad market beta, investors increasingly recognize that there are additional sources of systematic return associated with particular investment styles and strategies, such as value, momentum, volatility, quality etc. that could be represented through alternatively weighted indexes. The Momentum factor is complementary to other systematic factors such as Size, Value and Low Volatility and may provide diversification to a factor portfolio.

The MSCI Momentum Indexes aim to reflect the performance of the Momentum factor with a simple and transparent methodology while maintaining reasonably high investment capacity and liquidity of constituent companies, with moderate Index turnover.

The potential applications of the MSCI Momentum Indexes for institutional investors include:

- Strategic asset allocation: seeking equity market exposure to the Momentum factor
- Portfolio diversification: combined with other systematic factors
- Investment research: tools to study the characteristics of Momentum strategies

The MSCI Momentum Indexes are constructed by selecting a set number of securities from the Parent Index (defined below) with the highest Momentum Scores (defined in section 2). The market capitalization of securities is then weighted based on the Momentum Score.

The MSCI Momentum Tilt Indexes are constructed by including all the constituents in the Parent Index and applying Momentum tilt on the market capitalization weights of securities. Please refer to Appendix V for further details on the methodology of MSCI Momentum Tilt Indexes.[1]

[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 VI for more details.

© 2025 MSCI Inc. All rights reserved. Please refer to the disclaimer at the end of this document.

2 Index Construction Methodology

2.1 Applicable Universe

The applicable universe includes all the existing constituents of an underlying MSCI Parent Index (herein, a "Parent Index"). This approach aims to provide an opportunity set with sufficient liquidity and capacity. The relevant Parent Index would be any country or regional MSCI Index.

2.2 Determination of Momentum Score

The Momentum value for each security is calculated by combining recent 12-month and 6-month local price performance of the security.

6-month Price Momentum = $((P_{T-1}/P_{T-7})-1)$ - (Local Risk - free rate)
12-month Price Momentum = $((P_{T-1}/P_{T-13})-1)$ - (Local Risk - free rate)
Where, P_{T-1} = Security Local Price one month prior to the rebalancing date (T)
P_{T-7} = Security Local Price seven months prior to the rebalancing date (T)
P_{T-13} = Security Local Price thirteen months prior to the rebalancing date (T)

The price performance is computed excluding recent 1-month. If 12-month Price Momentum is missing, only 6-month Price Momentum is used for computation of Momentum value. Momentum value is not computed if 6-month Price Momentum is not available. In the absence of Momentum value, security is not considered for inclusion in the MSCI Momentum Index.

Local risk-free rates are the short-term rates in local currency of the country. The details of the same are provided in Appendix IV.

2.2.1 Risk-Adjusted Momentum Value

A Momentum value computed above is further adjusted with corresponding volatility of the security.

Risk-adjusted Price Momentum$_i$ = Price Momentum$_i$ / σ_i

Where σ_i = Annualized Standard Deviation of weekly local price returns over the period of 3 years

2.2.2 Calculating the Momentum Score

Risk-adjusted Price Momentum (for the 6-month horizon and 12-month horizon) computed above are standardized into z-scores. The z-scores are combined in equal proportion and standardized to arrive at a single Momentum combined score (C).

*C = 6-month Momentum Z-score*0.5 + 12-month Momentum Z-score*0.5*

© 2025 MSCI Inc. All rights reserved. Please refer to the disclaimer at the end of this document.

The single Momentum combined score (C) computed above is then standardized by calculating the z-scores to compute the standardized momentum Z-score(Z). Momentum Z-score is then winsorized at +/- 3 i.e. the Z-scores above 3 are capped at 3 and Z-scores below -3 are capped at -3.

The Momentum Score is then computed from the Momentum Z-Score as follows:

$$\text{Momentum Score} = \begin{cases} 1 + Z & Z > 0 \\ (1 - Z)^{-1}, & Z < 0 \end{cases}$$

2.3 Security Selection

The MSCI Momentum Indexes are constructed with a fixed number of securities approach. All the existing constituents of the relevant Parent Index are ranked in the descending order of their unwinsorized Momentum Z-score. If multiple securities have the same unwinsorized Momentum Z-score, then the security having a higher weight in the Parent Index is given a higher rank. A fixed number of securities with the highest positive Momentum Z-scores are predetermined for every MSCI Momentum Index at initial construction with an aim to attain a high exposure to the Momentum factor while maintaining sufficient index market capitalization and number of securities coverage. Rules for arriving at a fixed number of constituents at initial construction are explained in Appendix I. The fixed number for security selection determined at initial construction is evaluated quarterly to ensure that the Momentum universe has sufficient index market capitalization coverage. Rules for evaluating the fixed number of constituents at every SAIR are explained in Appendix I.

2.4 Weighting Scheme

For a given rebalancing effective date, all the securities eligible for inclusion in the MSCI Momentum Indexes are weighted by the product of their market capitalization weight in the Parent Index and the Momentum Score computed in Sect. 2.2.2 above.

*Momentum Weight = Momentum Score * Market Capitalization Weight in the Parent Index*

The above weights are then normalized to 100%. The final security level inclusion factor is determined as the ratio of the final security level weight and the security level pro forma market capitalization weight in the relevant Parent Index. To mitigate the impact of stock-specific risk, the issuer weight will be capped at a specific level as described in Appendix II.

© 2025 MSCI Inc. All rights reserved. Please refer to the disclaimer at the end of this document.

3 Maintaining the Index

3.1 Index Review

The MSCI Momentum Indexes are rebalanced on a quarterly basis to coincide with the February, May, August and November Index Reviews of the MSCI Global Investable Market Indexes.

In addition to the regular Index Reviews, MSCI Momentum Indexes undergo ad-hoc rebalancing subject to meeting certain trigger criteria. The details of the ad-hoc rebalancing are provided in Appendix III. The trigger condition for ad-hoc rebalancing is checked every month as detailed in Appendix III.

The pro forma MSCI Momentum Indexes are in general announced nine business days before the effective date.

3.1.1 Buffer Rules

To reduce Index turnover and enhance Index stability, buffer rules are applied at 50% of the fixed number of securities in the MSCI Momentum Indexes.

For example, the MSCI ACWI Momentum Index targets 500 securities and the buffers are applied between rank 251 and 750. The securities in the Parent Index with a Momentum rank at or above 250 will be added to the MSCI ACWI Momentum Index on a priority basis. The existing constituents that have a Momentum rank between 251 and 750 are then successively added until the number of securities in the MSCI ACWI Momentum Index reaches 500. If the number of securities is below 500 after this step, the remaining securities in the Parent Index with the highest Momentum rank are added until the number of securities in the MSCI ACWI Momentum Index reaches 500.

3.1.2 Turnover Buffer

A turnover buffer of 50% is applied during the on-going Index Review.

For example, if the on-going rebalancing results is changing the weight of a security from x% to y%, then the effective change in weight will be:

$$\text{Effective pro forma constituent weight} = x + (y-x)/2$$

The turnover buffer is not applied on deletions. After the application of turnover buffer, weights are normalized to 100% then the issuer weight will be capped again at a specific level as described in Appendix II.

© 2025 MSCI Inc. All rights reserved. Please refer to the disclaimer at the end of this document.

3.2 Ongoing Event Related Changes

The general treatment of corporate events in the MSCI Momentum 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 MSCI Momentum Index, the changes made to the Parent Index during intermediate Index Reviews will be neutralized in the MSCI Momentum Index.

The following section briefly describes the treatment of common corporate events within the MSCI Momentum Indexes.

No new securities will be added (except where noted below) to the Index between Index Reviews. Parent Index deletions will be reflected simultaneously.

EVENT TYPE	EVENT DETAILS
New additions to the Parent Index	A new security added to the parent index (such as IPO and other early inclusions) will not be added to the index.
Spin-Offs	All securities created as a result of the spin-off of an existing Index constituent will be added to the Index at the time of event implementation. Reevaluation for continued inclusion in the Index will occur at the subsequent Index Review.
Merger/Acquisition	For Mergers and Acquisitions, the acquirer's post event weight will account for the proportionate amount of shares involved in deal consideration, while cash proceeds will be invested across the Index. If an existing Index constituent is acquired by a non-Index constituent, the existing constituent will be deleted from the Index and the acquiring non-constituent will not be added to the Index.
Changes in Security Characteristics	A security will continue to be an Index constituent if there are changes in characteristics (country, sector, size segment,

© 2025 MSCI Inc. All rights reserved. Please refer to the disclaimer at the end of this document.

etc.) Reevaluation for continued inclusion in the Index will occur at the subsequent Index Review.

Further detail and illustration regarding specific treatment of corporate events relevant to this Index can be found in the MSCI Corporate Events Methodology book under the sections detailing the treatment of events in Capped Weighted and Non-Market Capitalization Weighted indexes.

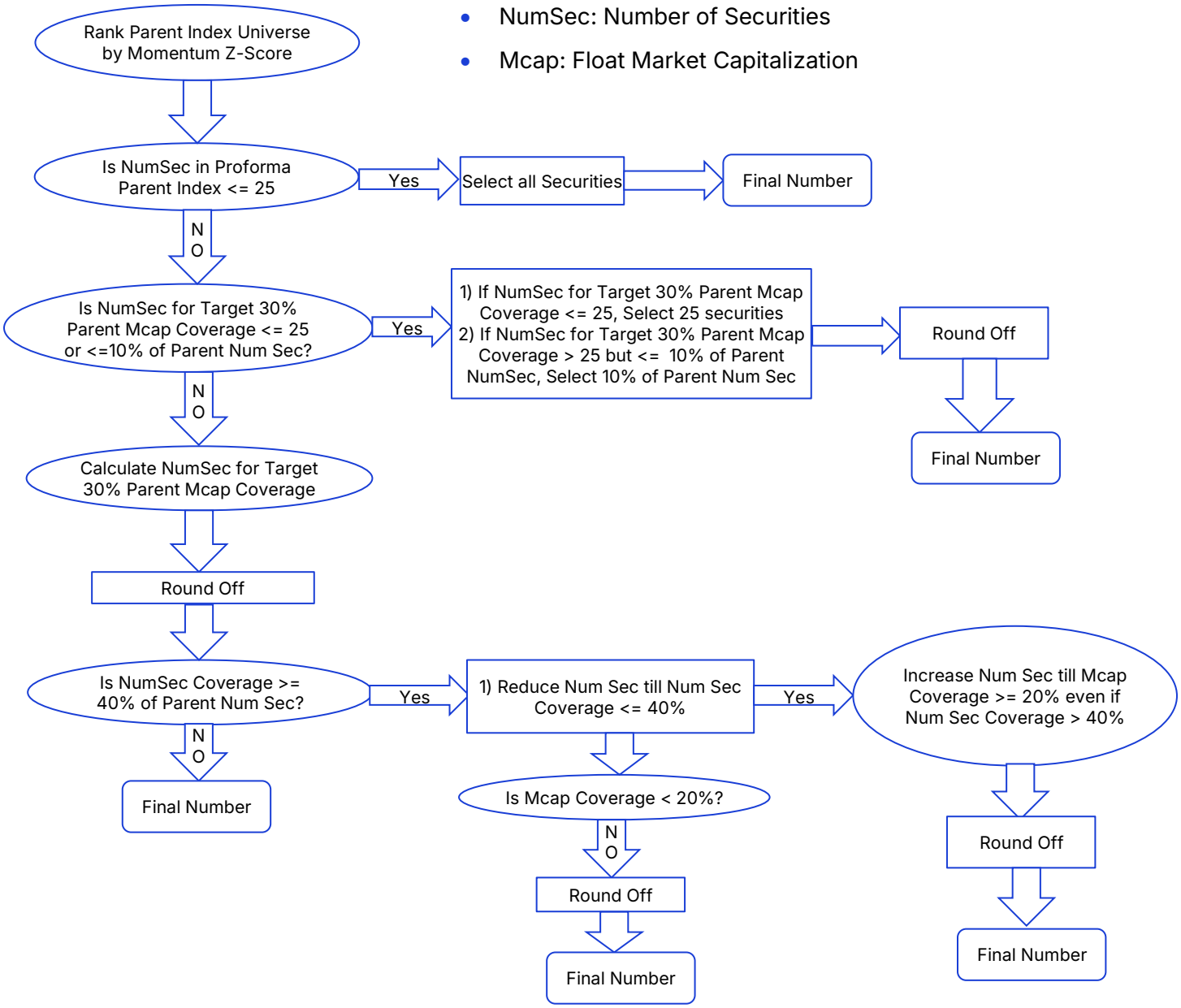
The MSCI Corporate Events methodology book is available at: https://www.msci.com/index/methodology/latest/CE.

© 2025 MSCI Inc. All rights reserved. Please refer to the disclaimer at the end of this document.

Appendix I: Rules to Determine Fixed Number of Securities at Initial Construction and in Ongoing Rebalancing

Algorithm to Determine Fixed Number of Securities at Initial Construction

- NumSec: Number of Securities
- Mcap: Float Market Capitalization



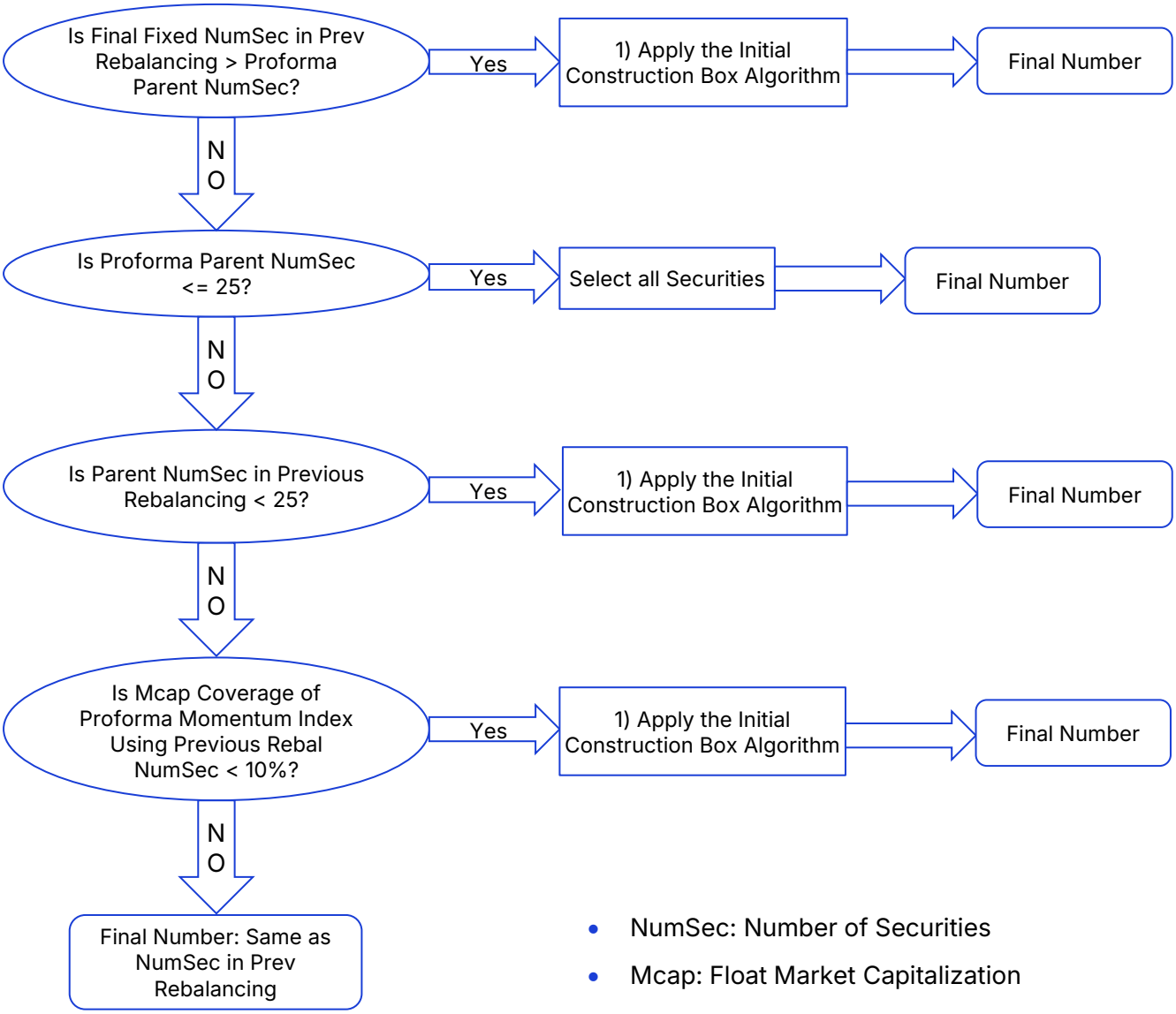
© 2025 MSCI Inc. All rights reserved. Please refer to the disclaimer at the end of this document.

Rounding Off Rules:

Upward rounding off is done depending on NumSec Obtained in the Previous Box Step

- If NumSec in Previous Step < 100, Nearest Rounding = 10 Securities
- If NumSec in Previous Step > = 100 but < 300, Nearest Rounding = 25 Securities
- If NumSec in Previous Step >= 300, Nearest Rounding = 50 Securities

Algorithm to reevaluate Fixed Number of Securities at Quarterly Rebalancing



- NumSec: Number of Securities
- Mcap: Float Market Capitalization

© 2025 MSCI Inc. All rights reserved. Please refer to the disclaimer at the end of this document.

Appendix II: Issuer Weight Capping

For Broad Regional/Country Indexes issuer weight is capped at 5%. For other narrow Country/Regional Indexes issuer weight is capped at maximum issuer weight in the Parent Index.

Narrow Country/Regional Index is defined as an index for which maximum market cap weight in the Parent Index is greater than 10%.

For the following broad regional Momentum Indexes, the issuer weight is capped at 5%:

1. MSCI ACWI Momentum Index
2. MSCI USA Momentum Index

© 2025 MSCI Inc. All rights reserved. Please refer to the disclaimer at the end of this document.

Appendix III: Conditional Rebalancing

In order to mitigate drawdown during periods characterized by spikes in market volatility, MSCI Momentum Indexes are rebalanced on an ad-hoc basis in addition to the scheduled Index Reviews , subject to meeting certain trigger criteria that are described below. The steps for triggering ad-hoc rebalancing are described as follows:

1. At every T-9 date (where T is a month-end date), annualized volatility of the Parent Index (V_t) is computed. The annualized volatility is computed using trailing 3-months daily returns of the index as of month-end date of the previous month.

   Annualized Volatility V_t = √250 * (standard deviation of daily returns over trailing 3 months)

2. The monthly change in volatility is computed as

   $\delta = (V_t / V_{t-1}) - 1$

   where V_{t-1} = Annualized Volatility computed at T-9 of previous month

3. If δ > Threshold, ad-hoc rebalancing is triggered in that month at T-9 date.

4. Threshold is defined as,

   Threshold = 95th percentile of monthly changes in volatility over available history of the Reference Index

   - Reference Index for MSCI Momentum Indexes based on countries/regions categorized as Developed Markets is MSCI World Index.
   - Reference Index for MSCI Momentum Indexes based on countries/regions categorized as Emerging Markets is MSCI Emerging Markets Index
   - Reference Index for MSCI ACWI Momentum Index is MSCI World Index

As the ad-hoc rebalancing is triggered due to recent changes in Momentum, only 6-month Price Momentum value is used to compute Momentum score at the ad-hoc rebalancing date, instead of the combination of 6-month and 12-month Price Momentum that is used in regular Index Review as described in Section 2.

© 2025 MSCI Inc. All rights reserved. Please refer to the disclaimer at the end of this document.

Appendix IV: Short-Term Rates[2]

Country	Short Term Rate Description
AUSTRALIA	Australian Dollar Overnight Cash Rate (AONIA)
AUSTRIA	Euribor 3 Month[3]
BELGIUM	Euribor 3 Month[3]
BRAZIL	Savings Rate, 1 Month
CANADA	Canadian Dollar 3 Month Bank Bill (Yield Curve Constituent)
CHILE	Deposit Rate, 3 Month
CHINA	Shanghai Interbank Offered Rate 3M
COLOMBIA	Deposit Rate
CZECH REPUBLIC	Czech Krona 3 Month Pribor rate
DENMARK	Danish Krone 3 Month Deposit
EGYPT	Discount Rate
EMU	Euribor 3 Month[3]
FINLAND	Euribor 3 Month[3]
FRANCE	Euribor 3 Month[3]
GERMANY	Euribor 3 Month[3]
GREECE	Euribor 3 Month[3]
HONG KONG	Hong Kong Dollar 3 Month HIBOR rate
HUNGARY	Hungarian Forint 3 Month Bubor rate
INDIA	Indian Rupee 3 Month NSE MIBOR rate
INDONESIA	Indonesian Rupiah 1 Month JIBOR rate
IRELAND	Euribor 3 Month[3]
ISRAEL	SHIR
ITALY	Euribor 3 Month[3]
JAPAN	Overnight TONA

[2] In the event that these rates are discontinued, MSCI reserves the right to replace them with alternative rates deemed appropriate.
[3] Prior to the August 2021 Index Review, MSCI Momentum Indexes used 3 Month Euro LIBOR, 3 Month CHF LIBOR and 3 Month GBP LIBOR instead of 3 Month Euribor, Overnight SARON and Overnight SONIA respectively

© 2025 MSCI Inc. All rights reserved. Please refer to the disclaimer at the end of this document.

KOREA	Yield on stabilization bond based on Korea Securities Dealers Association
MALAYSIA	Malaysian Ringgit 3 Month KLIBOR rate
MEXICO	Treasury Bills, 1 Month
MOROCCO	Money Market Rate
NETHERLANDS	Euribor 3 Month[4]
NEW ZEALAND	3 Month Discount Rate
NORWAY	Central Bank Policy Rate
PAKISTAN	Money Market Rate
PERU	Discount Rate
PHILIPPINES	Treasury Bills rate
POLAND	3 Month WIBID
PORTUGAL	Euribor 3 Month[4]
RUSSIA	Discount Rate, 3 Month
SINGAPORE	Overnight SORA
SAUDI ARABIA	Saudi Arabian Riyal 3 Month Deposit rate
SOUTH AFRICA	South African Rand 3 Month Jibar rate
SPAIN	Euribor 3 Month[4]
SWEDEN	Swedish 3 Month Stibor rate
SWITZERLAND	Overnight SARON[4]
TAIWAN	Taiwan Dollar 1 Year Deposit rate
THAILAND	Thai Baht 3 Month BKIBOR rate
TURKEY	Overnight TLREF
UNITED ARAB EMIRATES	UAE Dirham 1 Month EIBOR rate
UNITED KINGDOM	Overnight SONIA[4]
USA	3-month T-Bill rate

[4] Prior to the August 2021 Index Review, MSCI Momentum Indexes used 3 Month Euro LIBOR, 3 Month CHF LIBOR and 3 Month GBP LIBOR instead of 3 Month Euribor, Overnight SARON and Overnight SONIA respectively

© 2025 MSCI Inc. All rights reserved. Please refer to the disclaimer at the end of this document.

Appendix V: Constructing the MSCI Momentum Tilt Index

The MSCI Momentum Tilt Indexes aim to reflect the performance of a Momentum strategy with high investment capacity. The MSCI Momentum Tilt Indexes are created by including all the constituents in the Parent Index and tilting the market capitalization weights of securities, based on Momentum Score. By comparison, the MSCI Momentum Indexes are constructed by selecting a set number of securities from the Parent Index with an aim to emphasize the Momentum factor.

The MSCI Momentum Tilt Index includes all the existing constituents of the Parent Index for which Momentum Scores are available. Please refer to section 2.2 for further details on Momentum Score computation. The MSCI Momentum Tilt Index follows the same weighting scheme as the MSCI Momentum Index. Please refer to section 2.4 for further details on weighting scheme. The MSCI Momentum Tilt Index follows the same rebalancing schedule and corporate events treatment as the MSCI Momentum Index and as described in section 3

© 2025 MSCI Inc. All rights reserved. Please refer to the disclaimer at the end of this document.

Appendix VI: 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:

- Description of methodology set –

  https://www.msci.com/index/methodology/latest/ReadMe
- MSCI Corporate Events Methodology –

  https://www.msci.com/index/methodology/latest/CE
- MSCI Fundamental Data Methodology – https://www.msci.com/index/methodology/latest/FundData
- MSCI Index Calculation Methodology – https://www.msci.com/index/methodology/latest/IndexCalc
- MSCI Index Glossary of Terms – https://www.msci.com/index/methodology/latest/IndexGlossary
- MSCI Index Policies – https://www.msci.com/index/methodology/latest/IndexPolicy
- MSCI Global Industry Classification Standard (GICS) Methodology – https://www.msci.com/index/methodology/latest/GICS
- MSCI Global Investable Market Indexes Methodology – https://www.msci.com/index/methodology/latest/GIMI

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

© 2025 MSCI Inc. All rights reserved. Please refer to the disclaimer at the end of this document.

Appendix VII: Changes to this Document

The following sections have been updated as of March 2013:

- Update of introduction to MSCI Momentum Indexes to include introduction to MSCI Momentum Tilt Indexes
- Addition of appendix V containing the methodology details of MSCI Momentum Tilt Indexes

The following sections have been modified as of June 2014:

- Description of the treatment applied to spun-off securities in Appendix IV: Corporate Events Treatment

The following sections have been modified as of September 2014:

Clarification on the calculation of Momentum Z-score in Section 2.2.2

- Updates to the Short-Term rates and description in Appendix IV: Short-Term Rates

The following sections have been modified as of May 2017:

- Appendix IV in the previous version of the methodology book describing the Corporate Events treatment has been deleted. The details on the Corporate Events treatment are now included in Section 3.2.

The following sections have been modified as of August 2021:

- The methodology book has been updated to reflect the transition to short-term rates from LIBOR.

The following sections have been modified as of November 2023:

- Methodology book was updated to reflect the transition of the MSCI Global Investable Market Indexes (GIMI) to Quarterly Comprehensive Index Reviews.
- All references to “Semi-Annual Index Reviews” and “Quarterly Index Reviews” of the MSCI GIMI were replaced with “Index Reviews”.

Section 1: Introduction

- Added footnote on Methodology Set.

The following sections have been modified as of April 2025:

Appendix IV: Short-Term Rates

- Updated short term rates for few countries in Appendix IV.

Appendix VI: Methodology Set

- Added details on the Methodology Set for the Indexes.

The following sections have been modified as of August 2025:

Section 2.3: Security Selection

- Amendment to security selection frequency from semi-annual to quarterly

Section 3.1: Index Reviews

- Updated to reflect the change in rebalancing frequency from semi-annual to quarterly and application of partial turnover.

Section 3.2: Ongoing Event Related Changes

© 2025 MSCI Inc. All rights reserved. Please refer to the disclaimer at the end of this document.

- Clarification that if the frequency of Index Reviews in the Parent Index is greater than the frequency of Index Reviews in the MSCI Momentum Index, the changes made to the Parent Index during intermediate Index Reviews will be neutralized in the MSCI Momentum Index.

Appendix IV: Short-Term Rates

- Updated short term rates for Israel in Appendix IV.

© 2025 MSCI Inc. All rights reserved. Please refer to the disclaimer at the end of this document.

Contact Us

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.

msci.com/contact-us

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.

AMERICA

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

EUROPE, MIDDLE EAST & AFRICA

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

© 2025 MSCI Inc. All rights reserved. Please refer to the disclaimer at the end of this document.

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. 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 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 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 Dow Jones Indices. "Global Industry Classification Standard (GICS)" is a service mark of MSCI and S&P Dow Jones Indices.

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

© 2025 MSCI Inc. All rights reserved.