

MSCI World Select Thematic Rotation Top 32 Index Methodology Book

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Introduction

The MSCI World Thematic Rotation Select 32 Index¹ (the 'Index') aims to represent the performance of the four highest ranked MSCI Thematic Indexes, selected monthly from a set of twenty-two MSCI Thematic Indexes, based on a theme specific media sentiment (MediaStats Megatrend Scores) score calculated for each of the respective themes by MediaStats². The securities for the MSCI World Thematic Rotation Select 32 Index are filtered at each rebalance to be a part of MSCI World IMI Index.

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

²MKT MediaStats is a big-data information technology company specializing in financial markets which generates theme level Megatrend Scores on a monthly basis <https://www.mktmediastats.com/>. Please refer to Appendix 2 for details.

Index Construction

The Index is constructed from the MSCI World IMI Index (the ‘Parent Index’). The following steps are applied at initial construction and at each Index Review of the Index:

- Eligible Universe Screening
- Security Weighting

MSCI World Select Thematic Rotation Top 32 Index

Eligible Universe Screening

The Eligible Universe for the Index is constructed by combining the securities from a set of MSCI Thematic Indexes³ (the ‘Eligible Indexes’) and subsequently applying the steps described in the sub-sections below.

1.1.1.1 Thematic Subset Security Screening

For each of the respective Eligible Indexes, a corresponding Thematic Subset (‘Subset’) is created by selecting only those securities that belong to the MSCI World IMI Index and that also have a 3-month ADTV (Average Daily Traded Value) greater than or equal to USD 10 Million.

ADTV is calculated as:

$$ADTV_{3M} = \frac{ATV_{3M}^4}{252}$$

where ATV_{3M} is the annualized 3-month Average Traded Value of the security.

To avoid multiple securities of the same company in the final Index, only the most liquid security for each issuer per its 3-month ADTV, is eligible for inclusion in the Subset.

Securities that belong to the indexes MSCI Israel IMI and MSCI New Zealand IMI are excluded from the Subset.

Subsequently, the securities within each Subset are ranked by descending order of their weights within the respective MSCI Thematic Index. The top 8 securities, with highest weights, are selected for inclusion in each Subset. If the number of securities in any Subset is less than 8, then all the securities are selected from the Subset.

1.1.1.2 Subsets Selection

At each rebalance, the Subsets are then ranked in descending order of the MediaStats Megatrend Scores of the Eligible Index from which each Subset is constructed. The four Subsets with the highest MediaStats Megatrend Scores are selected and a weight of 25% is allocated to each of the selected Subsets.

The weight of each security after combining the four Subsets can be calculated as follows:

³Please refer to Appendix 3 for details.

⁴MSCI Index Calculation Methodology at www.msci.com/index/methodology/latest/IndexCalc

$$W_{Sec_i}^{CI} = \sum_j W_{C_j} W_{Sec_i}^{C_j}$$

Where:

$W_{Sec_i}^{CI}$ is the weight of security Sec_i in the combined Subsets CI

W_{C_j} is the target weight of the Subset C_j

$W_{Sec_i}^{C_j}$ is the weight of security Sec_i in the corresponding Subset C_j

C_j is the selected Subset.

Security Weighting

At each Index Review and at initial construction, the securities selected for inclusion in the Index are assigned the weights $W_{Sec_i}^{CI}$ from the Section 2.1.1.2 and are then normalized to sum to 100%.

Additionally, the constituent weights are capped to mitigate concentration risk in the Index. The individual security weights in the final Index are capped at 5%. In case it is not feasible to cap the security weights at 5%, the capping will be relaxed to 10%. In case it is still not feasible to cap the security weights at 10%, the capping will be relaxed to nearest 1% in steps of 1%.

Input Data Fallback Mechanism

If, at an Index Review, the MediaStats Megatrend Scores required for the Index rebalance are not available from MKT MediaStats, dated as of the month-end prior to the Index Review, then the latest available MediaStats Megatrend Scores prior to the Index Review date will be used.

If, at an Index Review, MSCI determines that the primary source data from MKT MediaStats is stale for the last 4 months or is not reflective of current market conditions, the Eligible Indexes then will be ranked in descending order of their 3-month price momentum score and the four highest ranked Eligible Index would be selected. In the case that two Eligible Indexes have same 3-month price momentum score, the index with higher 6-month price momentum score will be selected.

The 3-month price momentum score and 6-month price momentum score will be calculated as follows:

At each index review date, the 3-month price momentum score will be calculated by dividing the last 3-month price return of the individual Eligible Index as of Index review date by standard deviation of the daily price returns of the Eligible Index over the same period. The 6-month price momentum score will be calculated by dividing the last 6-month price return of the individual Eligible Index as of Index review date by standard deviation of the daily price returns of the index over the same period.

Subsequently, a review of alternative data for the MediaStats Megatrend Scores would be conducted. The adoption of an alternative data source and any amendments to the methodology to reflect this will be announced to all clients simultaneously. MSCI may consult with clients to gather their feedback on the choice of alternative sources in line with MSCI Index Consultation Policy⁵.

⁵ Please refer to MSCI Index Policies document at: <https://www.msci.com/index-methodology>

Maintenance of the Index

Monthly Index Reviews

The Index is reviewed on a monthly basis and rebalanced on the 1st business day of each month. The pro forma Index is announced nine business days before the effective date.

Ongoing Event Related Changes

The following section briefly describes the treatment of common corporate events within the Index. Changes in index market capitalization that occur because of corporate event implementation will be offset by a corresponding change in the Variable Weighting Factor (VWF) of the constituent.

No new securities will be added (except where noted below) to the Index between Index Reviews. For cases where additions are noted below, securities will be added to the Index only if added to the Parent Index. 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, 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>.

Appendix 1: Methodology Set

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

- Description of methodology set – www.msci.com/index/methodology/latest/ReadMe
- MSCI Corporate Events Methodology – www.msci.com/index/methodology/latest/CE
- MSCI Index Calculation Methodology – www.msci.com/index/methodology/latest/IndexCalc
- MSCI Index Glossary of Terms – www.msci.com/index/methodology/latest/IndexGlossary
- MSCI Index Policies – www.msci.com/index/methodology/latest/IndexPolicy
- MSCI Global Investable Market Indexes Methodology – www.msci.com/index/methodology/latest/GIMI

The Methodology Set for the Indexes can also be accessed from MSCI’s webpage [Index methodology - MSCI](http://www.msci.com/index/methodology) in the section ‘Search Methodology by Index Name or Index Code’.

Appendix 2: MediaStats Megatrend Scores

The MediaStats Megatrend Score is calculated by MKT MediaStats for each thematic Index at the end of every calendar month.

For each thematic index, MKT MediaStats uses the business descriptions⁶ from each of the indexes methodology document to capture time series⁷ and cross-sectional shifts of investor attention and sentiment towards megatrends by analyzing media articles sourced from approximately 100 thousand individual sources. The MediaStats Megatrend Score⁸ is calculated based on an average positive sentiment intensity change over the most recent three months period compared to the preceding three months.

To remove outliers, the Mediastats Megatrend Score is winsorized at +/- 3 i.e., the scores above 3 are capped at 3 and scores below -3 are capped at -3. This score is then rounded to the first decimal. For the Subsets ranking in Section 2.1.1.2, in case two or more scores have the same rounded value, the ranks from the previous rebalancing are applied.

For further details on the calculation methodology, please refer to:

<https://www.mktmediastats.com/post/dynamic-megatrend-rotation>.

⁶ Any update in Thematic Index business descriptions will be communicated to MKT Mediastats such that they can implement the changes at their end as soon as it is practicable. The updated Mediastats Megatrend scores shall take effect at the end of the respective month following the acknowledgement of the receipt of the updated descriptions from MKT Mediastats

⁷ The business descriptions of some of the Thematic Indexes may overlap. For example, the descriptive terms of the MSCI ACWI IMI Robotics Index are also part of the descriptive terms for the MSCI ACWI IMI Autonomous Technology & Industrial Innovation Index. Consequently, a fraction of the articles covering these two themes are also shared. The overlap in articles can potentially lead to correlated MediaStats Megatrend Scores.

⁸MediaStat Megatrend Scores may behave differently for broader themes that include narrower themes in comparison to separate narrow themes. The relative change in positive intensity for a broader theme that may cover more articles in general could be lower than for a narrow theme that may cover fewer articles. For instance, an absolute change of 1 article would be a 100% change for a theme that had 1 article in the previous period but only a 1% change for the theme that had 100 articles in the previous period.

Appendix 3: Eligible Indexes

The Eligible Indexes list⁹ comprises the following twenty-two MSCI Thematic Indexes¹⁰:

	Index Code	Index Name
1	727807	MSCI ACWI IMI Smart Cities
2	723025	MSCI ACWI IMI Efficient Energy
3	732041	MSCI ACWI IMI Next Generation Internet Innovation
4	732037	MSCI ACWI IMI Autonomous Technology and Industrial Innovation
5	731769	MSCI ACWI IMI Genomic Innovation
6	723011	MSCI ACWI IMI Robotics
7	727806	MSCI ACWI IMI Future Mobility
8	731771	MSCI ACWI IMI Fintech Innovation
9	737057	MSCI ACWI IMI Digital Health
10	734559	MSCI ACWI IMI Future Education
11	723013	MSCI ACWI IMI Ageing Society Opportunities
12	727804	MSCI ACWI IMI Millennials
13	747286	MSCI ACWI IMI Natural Resources Stewardship
14	747093	MSCI ACWI IMI Blockchain Economy
15	746832	MSCI ACWI IMI Clean Energy Infrastructure
16	723027	MSCI ACWI IMI Cybersecurity
17	737018	MSCI ACWI IMI Food Revolution
18	747122	MSCI ACWI IMI Plastics Transition
19	746884	MSCI ACWI IMI Renewables and Energy Efficiency
20	746885	MSCI ACWI IMI Sharing Economy
21	746738	MSCI ACWI IMI Space Exploration
22	747270	MSCI ACWI IMI Sustainable Water Transition

The Eligible Indexes list may reduce should any of them cease to be calculated temporarily or are terminated in the future.

⁹ The Eligible Indexes list may reduce should any of the MSCI Thematic Indexes cease to be calculated temporarily or are terminated in the future.

¹⁰Please refer to <https://www.msci.com/index-methodology> for the methodology of the MSCI Thematic Indexes.

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