

**METHODOLOGY BOOK FOR:
- MSCI WORLD THEMATIC
ROTATION SELECT INDEX
-MSCI WORLD THEMATIC
ROTATION SELECT 10% RISK
CONTROL INDEX**

March 2023

Contents

- 1 Introduction 3
- 2 Index Construction 4
 - 2.1 Applicable Universe 4
 - 2.2 Eligible Universe Screening 5
 - 2.2.1 Security Selection 5
 - 2.2.2 Liquidity Criteria 6
 - 2.3 Security Weighting 6
- 3 Constructing the MSCI World Thematic Rotation Select 10% Risk Control Index 7
 - 3.1 Applying the MSCI Excess Return Indexes Methodology 9
 - 3.2 Constructing the Volatility Target Index 9
- 4 Maintenance of the Index 9
 - 4.1 Monthly Index Reviews 9
 - 4.2 Ongoing Event Related Changes 9
- Appendix 1: MediaStats Megatrend Scores 11
- Appendix 2: Volatility Calculation 12

1 Introduction

The MSCI World Thematic Rotation Select Index (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 MKT MediaStats¹.

The MSCI World Thematic Rotation Select Index 10% Risk Control Index aims to represent the performance of MSCI World Thematic Rotation Select Index while targeting an annualized volatility of 10%.

¹ MKT 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 1 for details.

2 Index Construction

The Index is constructed from MSCI ACWI IMI Index (the 'Parent Index'). The following steps are applied at initial construction and at each Index Review (as described in Section 3) of the Index:

- Determine the Applicable Universe
- Eligible Universe Screening
- Security Weighting

2.1 APPLICABLE UNIVERSE

The Applicable Universe for the Index is constructed from the following twenty-two MSCI Thematic Indexes² (the 'Component Indexes'):

1. MSCI ACWI IMI Ageing Society Opportunities Index
2. MSCI ACWI IMI Autonomous Technology & Industrial Innovation Index
3. MSCI ACWI IMI Digital Health Index
4. MSCI ACWI IMI Efficient Energy Index
5. MSCI ACWI IMI Fintech Innovation Index
6. MSCI ACWI IMI Future Education Index
7. MSCI ACWI IMI Future Mobility Index
8. MSCI ACWI IMI Genomic Innovation Index
9. MSCI ACWI IMI Millennials Index
10. MSCI ACWI IMI Next Generation Internet Innovation Index
11. MSCI ACWI IMI Robotics Index
12. MSCI ACWI IMI Smart Cities Index
13. MSCI ACWI IMI Blockchain Economy Index
14. MSCI ACWI IMI Clean Energy Infrastructure Index
15. MSCI ACWI IMI Cybersecurity Index

² Prior to March 2017, due to lack of relevant data, the first twelve MSCI Thematic Indexes were used. Please refer to <https://www.msci.com/index-methodology> for the methodology of the Component Indexes.

16. MSCI ACWI IMI Food Revolution Index
17. MSCI ACWI IMI Natural Resources Stewardship Index
18. MSCI ACWI IMI Plastics Transition Index
19. MSCI ACWI IMI Renewables and Energy Efficiency Index
20. MSCI ACWI IMI Sharing Economy Index
21. MSCI ACWI IMI Space Exploration Index
22. MSCI ACWI IMI Sustainable Water Transition Index

At each Monthly Index Review and at initial construction, the Component Indexes are ranked in the descending order of the MediaStats Megatrend Scores for each corresponding theme. The top four Component Indexes are selected and combined with the following weights based on their rankings:

- Rank 1 – 25%
- Rank 2 – 25%
- Rank 3 – 25%
- Rank 4 – 25%

The weight of each security after combining the four selected Component Indexes can be calculated as follows:

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

Where:

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

W_{C_j} is the target weight of the Component Index C_j

$W_{Sec_i}^{C_j}$ is the weight of security Sec_i in the Component Index C_j

C_j is the selected Component Index

2.2 ELIGIBLE UNIVERSE SCREENING

2.2.1 SECURITY SELECTION

From the Applicable Universe the securities from the MSCI World index are selected for inclusion in the Index.

2.2.2 LIQUIDITY CRITERIA

Securities with 3-month ADTV (Average Daily Traded Value) greater than or equal to USD 10 Million are eligible for inclusion in the Index.

ADTV is calculated as:

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

Where ATV_{3M} is 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 Index.

2.3 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 and are normalized to sum to 100%.

Additionally, constituent weights are capped to mitigate concentration risk in the Index. The individual security weights in the Index are capped at 5%.

Subsequently, the minimum values are selected as adjusted weights as follows:

$$W_i^{adj} = \text{Min}(W_i, 0.25 \times a)$$

where:

W_i is the weight after applying the capping at 5%

$$a = \frac{ADTV_i^{1M}}{USD\ 1\ bn}$$

where:

$ADTV_i^{1M}$ is the 1-month Average Daily Traded Value of the security

Finally, the weights W_i^{adj} are normalized to sum to 100%.

³ MSCI Index Calculation Methodology at <https://www.msci.com/index-methodology>

MSCI Global Investable Market Indexes Methodology at <https://www.msci.com/index-methodology>

3 **Constructing the MSCI World Thematic Rotation Select 10% Risk Control Index**

The MSCI World Thematic Rotation Select 10% Risk Control Index is constructed by applying the following steps to the MSCI World Thematic Rotation Select Index:

- Applying the MSCI Excess Return Indexes methodology
- Constructing the Volatility Target Index

3.1 **APPLYING THE MSCI EXCESS RETURN INDEXES METHODOLOGY**

The MSCI Excess Return Indexes Methodology⁴ is applied on the Standard Daily Net Return variant of the MSCI World Thematic Rotation Select Index in USD currency to construct the Excess Return Variant Index⁵.

3.2 **CONSTRUCTING THE VOLATILITY TARGET INDEX**

The objective of the Volatility Target Index is to replicate the performance of a strategy that targets 10% of volatility by adjusting the weight of the Excess Return Variant Index calculated in 3.1

The Volatility Target Index is calculated in accordance with the below formula:

$$IL_t = IL_{t-1} \times (1 + IR_t)$$

Where:

IL_t is the Volatility Target Index levels on calculation day⁶ t

IR_t is the Volatility Target Index return on calculation day t , calculated in accordance with the following formula:

$$IR_t = (W_t \times E_t) - IndexFee \times \frac{ACT(t - 1, t)}{360}$$

Where:

⁴ Please refer to the MSCI Excess Return Indexes methodology at www.msci.com/index-methodology

⁵ The short-term rate used for the application of the Excess Return Indexes methodology is Fed Fund overnight until December 31st 2018, and SOFR overnight from January 1st 2019.

⁶ All trading days except full holidays in New York Stock Exchange, London Stock Exchange, Deutsche Börse Xetra, Tokyo Stock Exchange, SIX Swiss Exchange, Toronto Stock Exchange, or Euronext Amsterdam.

$$E_t = \frac{\text{Excess Return Variant Index}_t}{\text{Excess Return Variant Index}_{t-1}} - 1$$

$$\text{IndexFee} = 0.75\%$$

$ACT(t - 1, t)$ = number of actual calendar days between calculation day $t - 1$ and t

$$W_t = \begin{cases} W_{t-1}, & \text{ABS}\left(\frac{W_{t^*} - W_{t-1}}{W_{t-1}}\right) \leq 5\% \\ W_{t^*}, & \text{ABS}\left(\frac{W_{t^*} - W_{t-1}}{W_{t-1}}\right) > 5\% \end{cases}$$

Where:

$$W_{t^*} = \text{Minimum}\left(1.5, \frac{\text{TargetRiskLevel}}{\sigma_t}\right)$$

Where:

$$\text{TargetRiskLevel} = 10\%$$

σ_t = Volatility⁷ of the Excess Return Variant Index

⁷ Please refer to the Appendix II for details

4 Maintenance of the Index

4.1 INDEX REVIEWS

The MSCI World Thematic Rotation Select Index is reviewed on a monthly basis and rebalanced at the beginning of each month. The pro forma Index is announced nine business days before the effective date.

The MSCI World Thematic Rotation Select 10% Risk Control Index is reviewed on a daily basis as per steps described in Section 3.

4.2 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: 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 business descriptions from each of the indexes methodology document to capture time series and cross-sectional shifts of investor attention and sentiment towards megatrends by analyzing media articles sourced from approximately 100 thousand individual sources.

For further details on the calculation methodology, please refer to <https://www.mktmediastats.com/post/dynamic-megatrend-rotation>.

Appendix 2: Volatility Calculation

The volatility of the Excess Return Variant Index σ_t , on date t is the maximum of the long-term and short-term volatilities of the Excess Return Variant Index on date t determined using the exponentially weighted volatility calculation methodology as follows:

$$\sigma_t = \text{Max}(\sqrt{252} \sigma_{ST,t}, \sqrt{252} \sigma_{LT,t})$$

where:

$$\sigma_{ST,t} = \sqrt{\lambda_{ST} \times (\sigma_{ST,t-1})^2 + (1 - \lambda_{ST}) \times (r_{t-i})^2}$$

$$\sigma_{LT,t} = \sqrt{\lambda_{LT} \times (\sigma_{LT,t-1})^2 + (1 - \lambda_{LT}) \times (r_{t-i})^2}$$

where:

$\sigma_{ST,t}$ and $\sigma_{LT,t}$ are the short-term and long-term realized volatilities respectively for day t

$\sigma_{ST,t-1}$ and $\sigma_{LT,t-1}$ are short-term and long-term realized volatilities respectively for day $t - 1$

λ_{ST} and λ_{LT} are the short-term and long-term decay factors respectively, 0.94 and 0.97

i is the number of “days lag” in the return calculation used for computing volatility (i.e., the lag between the return date and the volatility calculation date), 3 days.

r_{t-i} is the logarithmic daily return of the index component on $t - i$ day

The volatility on day t is dependent on the initial estimate of volatility, the initial estimate of the short-term volatility is 11.23% and the long-term volatility is 11.66%.

Changes to the Methodology Book

The following sections have been modified as of March 2023:

Index name

- The Index name has been changed, prior to the change the Index was named the MSCI World Thematic Sentiment Choice Index Methodology

Section 3: Constructing the MSCI World Thematic Rotation Select 10% Risk Control Index

- Added new section

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 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.

The process for submitting a formal index complaint can be found on the index regulation page of MSCI's website at:

www.msci.com/index-regulation

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 disseminated 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 collects and uses personal data concerning officers and directors, please refer to our Privacy Notice at <https://www.msci.com/privacy-pledge>.