

MSCI DIVERSIFIED FACTOR MIX INDEXES METHODOLOGY

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1 INTRODUCTION

The MSCI Factor Indexes are designed to represent the performance of long-term risk factors such as quality, value, momentum, size and volatility. The historical performance of these indexes exhibited cyclicality and has varied significantly over time. Portfolios and index-linked products that combine factors aim to create diversification benefits and may have reduced turnover due to potential crossing opportunities among the individual factors. The MSCI Diversified Factor Mix Indexes, described in this methodology book, are designed to represent one specific example of combining individual MSCI Factor Indexes into a single index.

2 CONSTRUCTING THE MSCI DIVERSIFIED FACTOR MIX INDEXES

2.1 DETERMINING THE COMPONENTS OF THE MSCI DIVERSIFIED FACTOR MIX INDEXES

The MSCI Diversified Factor Mix Indexes are constructed using a combination of six MSCI Factor Indexes or variations thereof to align rebalancing schedules (“Component Indexes”):

1. MSCI Quality Index
2. MSCI High Dividend Yield Index
3. MSCI Enhanced Value Index
4. MSCI Minimum Volatility Index
5. MSCI Equal Weighted Index¹
6. MSCI Momentum Index²

Each Component Index in the MSCI Diversified Factor Mix Index is attributed equal weight at each rebalancing. The MSCI Diversified Factor Mix Indexes can be made available with the Component Index, MSCI Minimum Volatility Index, having a different optimization currency. Please refer to Appendix I for the current list of Diversified Factor Mix Indexes offered by MSCI.

2.2 DETERMINING THE CONSTITUENTS OF THE MSCI DIVERSIFIED FACTOR MIX INDEXES

All constituents of each Component Index are included in the MSCI Diversified Factor Mix Index.

2.3 DETERMINING THE WEIGHTS OF THE CONSTITUENTS OF THE MSCI DIVERSIFIED FACTOR MIX INDEXES

The weight of each security in the MSCI Diversified Factor Mix Index is determined based upon:

¹ The MSCI Diversified Factor Mix Index is computed using a variant of the MSCI Equal Weighted Index that is rebalanced semi-annually.

² The MSCI Diversified Factor Mix Index is computed using a variant of the MSCI Momentum Index that does not incorporate a provision for conditional rebalancing.

- the security’s weight in each underlying Component Index;
- the weight of each underlying Component Index in the MSCI Diversified Factor Mix Index.

The weight is calculated as follows:

$$W_{Sec_i}^{DM} = \sum_{C_j} W_{C_j}^{DM} \times W_{Sec_i}^{C_j}$$

Where:

- $W_{Sec_i}^{DM}$ is the weight of security Sec_i in the MSCI Diversified Factor Mix Index
- $W_{C_j}^{DM}$ is the target weight of the Component Index C_j in the MSCI Diversified Factor Mix Index
- $W_{Sec_i}^{C_j}$ is the weight of security Sec_i in the Component Index C_j

For the ongoing maintenance of the Diversified Factor Mix Index a Component Index Constraint Factor and a Full Market Cap Adjustment Factor is calculated for each Component Index and MSCI Diversified Factor Mix Index constituent respectively.

2.3.1 CALCULATION OF THE COMPONENT INDEX CONSTRAINT FACTOR

At each index review, a Component Index Constraint Factor is calculated for each Component Index as follows:

$$CCF_{C_j}^{DM} = W_{C_j}^{DM} / \left(\frac{IndexMcap_{C_j}}{\sum_{C_j} IndexMcap_{C_j}} \right)$$

Where:

- $CCF_{C_j}^{DM}$ is the Component Index Constraint Factor of the Component Index C_j
- $IndexMcap_{C_j}$ is the index market capitalization of the Component Index C_j

The component constraint factor does not change between Index Reviews.

2.3.2 CALCULATION OF THE SECURITY FULL MARKET CAP ADJUSTMENT FACTOR

The Full Market Cap Adjustment Factor for each security in the MSCI Diversified Factor Mix Index is then calculated as follows:

$$FMCAF_{Sec_i}^{DM} = \sum_{C_j} CCF_{C_j}^{DM} \times FMCAF_{Sec_i}^{C_j}$$

Where:

- $FMCAF_{Sec_i}^{DM}$ is the Full Market Cap Adjustment Factor of security Sec_i in the MSCI Diversified Factor Mix Index
- $FMCAF_{Sec_i}^{C_j}$ is the Full Market Cap Adjustment Factor of security Sec_i in the Component Index C_j

3 MAINTAINING THE MSCI DIVERSIFIED FACTOR MIX INDEXES

3.1 SEMI-ANNUAL INDEX REVIEWS FOR THE MSCI DIVERSIFIED FACTOR MIX INDEXES

The MSCI Diversified Factor Mix Indexes are rebalanced semi-annually, generally as of the close of the last business day of May and November, coinciding with the Semi-Annual Index Reviews of the MSCI Global Investable Market Indexes.

The pro forma MSCI Diversified Factor Mix Indexes are announced nine business days before the effective date.

At each rebalancing of the MSCI Diversified Factor Mix Indexes the constituents and weights are determined as per Section 2, based on the underlying pro forma Component Indexes.

3.2 ONGOING EVENT RELATED CHANGES

The maintenance of the MSCI Diversified Factor Mix Indexes follows the event related maintenance of the Component Indexes. The Component Index Constraint Factor remains constant between Index Reviews. The Full Market Cap Adjustment Factor of each constituent security in the MSCI Diversified Factor Mix Index is recalculated every day as per section 2.3.2. This Full Market Cap Adjustment Factor remains constant between Index Reviews, except for changes in the Full Market Adjustment Factors applied to the security in the underlying Component Indexes, as per the maintenance methodology of the Component Index. Any change in number of shares applied in the MSCI Global Investable Market Indexes due to corporate events is also reflected in the MSCI Diversified Factor Mix Indexes.

Any security added to a Component Index is added simultaneously to the MSCI Diversified Factor Mix Index. The addition is included with the Component Index Constraint Factors determined at the previous Index Review for the relevant components. The Full Market Cap Adjustment Factor is then determined as per section 2.3.2.

Any security deleted from all Component Indexes is simultaneously deleted from the MSCI Diversified Factor Mix Index. Deletions from only some but not all of the Component Indexes result in a change in the Full Market Cap Adjustment Factor as per section 2.3.2.

3.3 DAILY TOTAL RETURN INDEXES

Daily Total Return (DTR) Indexes for the MSCI Diversified Factor Mix Indexes are calculated using the MSCI DTR Index Methodology. In particular, dividends from constituents of an MSCI Diversified Factor Mix Index are reinvested in the whole Index (as opposed to being reinvested only in the particular Component Indexes to which the constituent belongs).

APPENDIX I: CURRENT LIST OF MSCI DIVERSIFIED FACTOR MIX INDEXES

MSCI Diversified Factor Mix Index	Components
MSCI World Diversified Factor Mix Index (USD)	<ol style="list-style-type: none"> 1. MSCI World Quality Index 2. MSCI World High Dividend Yield Index 3. MSCI World Enhanced Value Index 4. MSCI World Minimum Volatility Index (USD) 5. MSCI World Equal Weighted Index 6. MSCI World Momentum Index
MSCI Japan Diversified Factor Mix Index (JPY)	<ol style="list-style-type: none"> 1. MSCI Japan Quality Index 2. MSCI Japan High Dividend Yield Index 3. MSCI Japan Enhanced Value Index 4. MSCI Japan Minimum Volatility Index (JPY) 5. MSCI Japan Equal Weighted Index 6. MSCI Japan Momentum Index
MSCI Kokusai Diversified Factor Mix Index (USD)	<ol style="list-style-type: none"> 1. MSCI Kokusai Quality Index 2. MSCI Kokusai High Dividend Yield Index 3. MSCI Kokusai Enhanced Value Index 4. MSCI Kokusai Minimum Volatility Index (USD) 5. MSCI Kokusai Equal Weighted Index 6. MSCI Kokusai Momentum Index
MSCI Japan Diversified Factor Mix ex Momentum Index (JPY)	<ol style="list-style-type: none"> 1. MSCI Japan Quality Index 2. MSCI Japan High Dividend Yield Index 3. MSCI Japan Enhanced Value Index 4. MSCI Japan Minimum Volatility Index (JPY) 5. MSCI Japan Equal Weighted Index

The table above lists some of the existing MSCI Diversified Factor Mix Indexes. The MSCI Diversified Factor Mix Indexes can also be made available with the Component Index, MSCI Minimum Volatility Index, having a different optimization currency.

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
Sao 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 *
Tokyo	+ 81 3 5290 1555

* = toll free

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