MSCI Value Weighted Indexes Methodology

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1   Introduction

The MSCI Value Weighted Indexes are constructed from an underlying MSCI Investable Market Index. The MSCI Value Weighted Indexes add a value tilt to a MSCI Investable Market Index by reweighting all the constituents of the underlying parent index towards stocks with low valuation ratios. **The derived MSCI Value Weighted Index is constructed by reweighting all the constituents of the parent MSCI** Investable Market Index**. There is no security selection based on fundamental data.** The weights of the derived MSCI Value Weighted Index are determined using accounting data such as sales, book value, earnings and cash earnings.

MSCI categorizes the MSCI Value Weighted Indexes as Systematic Indexes, which reflect the systematic elements of particular investment styles or strategies. While capitalization weighted indexes capture 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, etc, that could be captured through alternatively weighted indexes.

The historical performance of portfolios that emphasize securities with low valuation ratios has been studied extensively in the academic finance literature. Many studies have reported that value portfolios have historically outperformed standard benchmark indexes over long time periods. Several theories have been proposed to explain the historical outperformance of value portfolios. Some researchers have argued that value represents a source of systematic risk, therefore portfolios tilted towards value earn a premium in compensation for bearing higher systematic risk. Other researchers have argued that behavioral reasons influence the investment decision making process, leading to imprecision and bias in the pricing of securities that can be exploited systematically by tilting the portfolio towards value stocks. The MSCI Value Weighted Indexes are transparent tools that could be used by investors as a basis to gain exposure to what they perceive as a value risk premium or to capture what they perceive as mispricing of value stocks in a passive, objective, and cost effective manner.

The main potential benefits of the MSCI Value Weighted Indexes include:

- Simple and transparent value tilt methodology
- Low tracking error relative to the MSCI Parent Index
- Historically reasonably high trading liquidity and investment capacity
- Historically moderate index turnover

The main potential applications of the MSCI Value Weighted Indexes include:

- Strategic asset allocation: equity market exposure with a value tilt
- Tactical asset allocation: express view on value factor performance
- Portfolio diversification: combine with other style and strategy betas
- Investment research: tools to study the characteristics of value strategies
- Performance analysis: performance benchmarks for active value portfolios

2 Index Construction Methodology

2.1 Applicable Universe:

The applicable universe includes all the existing constituents of MSCI ACWI IMI Index.

2.2 Reweighting Index constituents:

The MSCI Value Weighted indexes are rebalanced at a regional level for the calculation of the security level inclusion factors. The resulting indexes are then broken down further to construct regional and country sub-indexes. The details of the regions are discussed in Appendix I.

All the existing constituents of the MSCI Parent Index are reweighted by their value weights. The value weights are derived from the respective security level fundamental accounting variables -- namely, sales, earnings, cash earnings and book value. The details of the re-weighting scheme are discussed in sections 2.3 and 2.4.

2.3 Determination of Single Variable weights

For a given rebalancing effective date, the security level fundamental accounting data available as of close of the previous end of month is used in the construction of the MSCI Value Weighted indexes.

2.3.1 Book Value weight:

The security level book value weight is computed as the ratio of the free float adjusted book value to the cumulative sum of the positive free float adjusted book value of all constituent securities in the MSCI Parent Index. The security level book value used in the above calculation is the latest reported book value. In case the book value is negative, the book value weight is set to 0. In case the book value is missing for a security, then the book value weight is set to the pro forma market capitalization weight.

2.3.2 Sales Value weight:

The average value of sales for each security is obtained from the previous three reported fiscal year end sales values. The security level sales value weight is computed as the ratio of the free float adjusted average sales value to the cumulative sum of the positive free float adjusted average sales values of all the constituent securities in the MSCI Parent Index. In case the average sales value is negative, the sales value weight is set to 0.

2.3.3 Earnings Value weight:

The average value of earnings for each security is obtained from the previous three reported fiscal year-end earnings values. The security level earnings value weight is computed as the ratio of the free float adjusted average earnings value to the cumulative sum of the positive free float adjusted average earnings values of all the constituent securities in the MSCI Parent Index. In case the average earnings value is negative, the earnings value weight is set to 0.

2.3.4 Cash Earnings Value weight:

The average value of cash earnings for each security is obtained from the previous three reported fiscal year end cash earnings values. The security level cash earnings value weight is computed as the ratio of the free float adjusted average cash earnings value to the cumulative sum of the positive free float adjusted average cash earnings values of all the constituent securities in the MSCI Parent Index. In case the average cash earnings value is negative, the cash earnings value weight is set to 0.

2.4   Determination of Final Security Level Value weights

The final security level value weight is derived as an average of the four single variable value weights, namely Book Value weight, Sales Value weight, Earnings Value weight and Cash Earnings Value weight, as determined in section 2.3. In the event of all fundamental variables being unavailable for a security, the security level final value weight is set to the pro forma market capitalization weight. The calculation of the final security level value weight in the event of missing one or more single variable weights for a given security is discussed in detail in Appendix II.

The final security level inclusion factor (IF) is computed as the ratio of the final security level value weight and security level pro forma market capitalization weight in the MSCI Parent Index.

2.5   Determination of Final Security Level Value weights in MSCI Country / Regional Indexes

The final security level value weights in the respective MSCI Country / Regional Indexes is determined by applying the security level inclusion factor (IF) derived in section 2.4 on the corresponding market cap weights in the MSCI Country / Regional indexes and renormalizing them accordingly.

3   Maintaining MSCI Value Weighted Indexes

3.1   Semi-Annual Index Reviews

The MSCI Value Weighted Indexes are rebalanced on a semi-annual basis, usually as of the close of the last business day of May and November, coinciding with the May and November Semi-Annual Index Review of the MSCI Investable Market Indexes . The pro forma MSCI Value Weighted Indexes are in general announced nine business days before the effective date.

3.2   Ongoing Event Related changes

In general, the MSCI Value Weighted Indexes follow the event maintenance of the MSCI Parent Index.

3.2.1   IPOs and other early inclusions

IPOs and other newly listed securities will only be considered for inclusion at the next semi-annual index review in the MSCI Value Weighted Index, even if they qualify for early inclusion in the MSCI Parent Index.

3.2.2   Additions and Deletions due to corporate events

The general treatment of additions and deletions due to corporate events aims at minimizing turnover in the MSCI Value Weighted Indexes.

A constituent deleted from the MSCI Parent Index following a corporate event or during the Quarterly Index Review of the Parent Index will be simultaneously deleted from the MSCI Value Weighted Index.

Please refer to Appendix III for more details on the treatment of corporate events.

Appendix I: Regional Indexes

MSCI defines the following six regional reference value weighted indexes which are constructed from the respective regional parent indexes using the methodology as described in this document. Any other country/regional sub-indexes are then derived from the reference indexes as described below:

	MSCI Regional Value Weighted Index	**MSCI Parent index**	**Derived Indexes**
1	MSCI AC Asia Pacific IMI Value Weighted Index	MSCI AC Asia Pacific IMI Index	Any Asian regional/country index
2	MSCI Europe & Middle East IMI Value Weighted Index	MSCI Europe & Middle East IMI Index	Any Europe regional/country index
3	MSCI EM EMEA IMI Value Weighted Index	MSCI EM EMEA IMI Index	Any EMEA regional/country index
4	MSCI AC Americas IMI Value Weighted Index	MSCI AC Americas IMI Index	Developed and Emerging Americas
5	MSCI AC Asia Pacific & Europe & Middle East IMI Value Weighted Index	MSCI AC Asia Pacific & Europe & Middle East IMI Index	Any index that combines countries included in 1 with countries included in 2 (e.g., EAFE)
6	MSCI ACWI IMI Value Weighted Index	MSCI ACWI IMI	Any index that combines countries included in 1,2,3 and/or 4 (e.g., World, World ex USA)

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Appendix II: Determination of Final Security Level Value Weight, in the Event of Missing Security Level Fundamental Data

In case one or more of the security level fundamental data (namely book value, sales, earnings and cash earnings) are unavailable, the final security level value weight is computed using a sequential approach as mentioned below.

1. If book value weight is missing for a security, the pro forma market cap weight is set as its book value weight. The book value weights of the remaining securities are renormalized accordingly.

2. If the earnings weight is missing, the book value weight is set as the earnings weight. The earnings value weights of the remaining securities are renormalized accordingly.

3. If sales weight is missing, then the average of the book value weight and the earnings weight is computed and set as the sales weight. The sales value weights of the remaining securities are renormalized accordingly.

4. If cash earnings is missing, then the average of the book value weight, earnings weight and sales weight determined from steps1,2 and 3 is set to the cash earnings weight. The cash earnings value weights of the remaining securities are renormalized accordingly.

5. The final security level value weight is the average of the four single variable weights determined in the previous steps.

If the final security weight is zero, from step 5 above (as the security level book value is negative and the other values of earnings, sales and cash earnings are either negative or missing), then the final security level weight is set as one-fourth of its market cap weight and the weights of other securities in the index are renormalized accordingly.

Appendix III: Corporate Events Treatment

This appendix describes the treatment of the most common corporate events in the MSCI Indexes. Details regarding the treatment of all other corporate events not covered in this appendix can be found in the MSCI Corporate Events Methodology book, available at http://www.msci.com/products/indexes/country_and_regional/dm/methodology.html

Event Type	Event details	Action
Acquisition	Value Weighted Index constituent acquires another Value Weighted Index constituent	Maintain acquiring company and remove acquired company
	Value Weighted Index constituent acquires non Value Weighted Index constituent	Maintain acquiring company
	Non Value Weighted Index constituent acquires Value Weighted Index constituent	Remove acquired company without adding acquiring company
Merger	Value Weighted Index constituent merges with Value Weighted Index constituent	Add new company with a constraint factor that is the weighted average of the two constituents
	Value Weighted Index constituent merges with non Value Weighted Index constituent	Add new company if MSCI links its price history to the Value Weighted Index constituent. New company not added if price history is linked to the non Value Weighted Index constituent
IPO	IPO added to Parent Index	IPO added to the Value Weighted Index at the next Semi-Annual Index Review.
Spin-off	Value Weighted Index constituent spins off security	Add spun-off security to the Value Weighted index with the constraint factor of the parent constituent, if it is included in the Parent Index
Conversion	Security A converted to B, A deleted from Parent Index, B added	B inherits constraint factors from A

Event Type	Event details	Action
Country Reclassification	Domicile of company reviewed: Security A deleted from country A, security B added to country B	B inherits constraint factors from A if it is added to the Parent Index
Stock exchange reclassification	Stock exchange (price source) of company reviewed: Security A deleted, security B added	B inherits constraint factors from A if it is added to the Parent Index
Other Events Resulting in Changes in Number of Shares and FIFs	Changes in number of shares and subsequent FIF resulting from other events such as share placements and offerings, and debt-to-equity-swaps.	No change in Constraint Factor

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Monterrey	+ 52.81.1253.4020	Milan	+ 39.02.5849.0415	Singapore	800.852.3749 (toll free)
New York	+ 1.212.804.3901	Paris	0800.91.59.17 (toll free)	Sydney	+ 61.2.9033.9333
San Francisco	+ 1.415.836.8800			Taipei	008.0112.7513 (toll free)
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The company's flagship product offerings are: the MSCI indexes with approximately USD 8 trillion estimated to be benchmarked to them on a worldwide basis[1]; Barra multi-asset class factor models, portfolio risk and performance analytics; RiskMetrics multi-asset class market and credit risk analytics; IPD real estate information, indexes and analytics; MSCI ESG (environmental, social and governance) Research screening, analysis and ratings; ISS corporate governance research, data and outsourced proxy voting and reporting services; and FEA valuation models and risk management software for the energy and commodities markets. MSCI is headquartered in New York, with research and commercial offices around the world.

[1] As of September 30, 2013, as reported on January 31, 2014 by eVestment, Lipper and Bloomberg   Feb 2014