MSCI

MSCI Enhanced Value Indexes Methodology

August 2014

Contents

1 Introduction

The MSCI Enhanced Value Indexes are designed to represent the performance of companies that exhibit relatively higher value characteristics within the parent universe of securities.

MSCI categorizes the MSCI Enhanced Value Indexes as part of the family of MSCI Factor Indexes, which are designed to reflect the systematic elements of particular investment styles or strategies. While capitalization weighted indexes aim to represent the broad market beta, additional sources of systematic return associated with particular investment styles and strategies, such as value, momentum, volatility, etc. could be represented through alternatively weighted indexes.

2 Index Construction Methodology

Section 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 MSCI Regional or Country Index.

Section 2.2: Determination of Value Score

The value score for each security is calculated by combining the z-scores of three valuation descriptors, namely Forward Price to Earnings (Fwd P/E), Enterprise Value/Operating Cash Flows (EV/CFO) and Price to Book Value (P/B).

1. Calculating the z-score for each individual variable

The z-score for each of the three variables for each security is calculated using the mean and standard deviation of the inverse of the corresponding variable. The z-score for each individual variable is computed within the MSCI Parent Index. The variables used are as follows:

1. Fwd P/E, P/B, EV/CFO for all securities except for "Financials" (Sector "40" of the Global Industry Classification Standard (GICS®))
2. Fwd P/E, P/B for all securities in the GICS Financials Sector

The latest available data at the time of rebalancing is used for the individual value descriptors

2. Calculating the sector relative value z-score

After calculating individual variable z-scores, a composite value z-score for each security is computed by taking the weighted average of individual variable z-scores for each security. Each individual variable z-score is assigned an equal weight (e.g. 1/3 weight is assigned when 3 variables are used).
A sector relative score is then derived from the composite value z-score. It is arrived at by standardizing the composite value z-score within each sector. A sector relative score is winsorized at +/- 3.

3. Calculating the Final Value Score

The Final Value Score is computed from sector relative z-score as follows:

$$Final\,Value\,Score = \begin{cases} 1 + Z\_rel_T^i\,, & Z\_rel_T^i \geq 0 \\ \left(1 - Z\_rel_T^i\right)^{-1}, & Z\_rel_T^i < 0 \end{cases}$$

Where Z_rel is the sector relative z-score determined in the previous step.

Section 2.3: Security Selection

The MSCI Enhanced Value Indexes are constructed with a fixed number of securities approach. All the existing constituents of the relevant Parent Index are ranked based on their Final Value Scores. If multiple securities have the same Final Value Scores, 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 Final Value Scores are predetermined for every MSCI Enhanced Value Index at initial construction with an aim to attain a greater weight in the Value 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 III. The fixed number for security selection determined at initial construction is evaluated at every Semi-Annual Index Review (SAIR). Rules for evaluating the fixed number of constituents at every SAIR are also explained in Appendix III

Section 2.4: Weighting Scheme

The securities selected in the previous step are assigned weights in the proportion of market cap weight* Final Value Score.

These weights are then updated to implement sector neutrality i.e. the weight of each sector in the MSCI Enhanced Value Index is equated with the weight of that sector in the Parent Index. This is done by normalizing the weights of the constituents within each sector to reflect the effective Parent Index sector weight.

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.

3 Maintaining the Indexes

Section 3.1: Semi-Annual Index Reviews

The MSCI Enhanced Value 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 Reviews (SAIRs) of the MSCI Global Investable Market Indexes. Fundamental variables as of the end of April and October are used respectively. This approach aims to capture timely updates to the Value characteristics of the companies and coincide with the rebalancing frequency of the relevant Parent Index. The pro forma MSCI Enhanced Value Indexes are in general announced nine business days before the effective date.

Buffer Rules:

To reduce Index turnover and enhance index stability, buffer rules are applied as follows:

1: Security Selection Buffer

A security selection buffer of 50% is applied during the on-going index review.

For example, the MSCI World Enhanced Value Index targets 400 securities and the buffers are applied between rank 201 and 600. The securities in the Parent Index with a value score rank at or above 200 will be added to the MSCI World Enhanced Value Index on a priority basis. The existing constituents that have a value score rank between 201 and 600 are then successively added until the number of securities in the MSCI World Enhanced Value Index reaches 400. If the number of securities is below 400 after this step, the remaining securities in the Parent Index with the highest value score rank are added until the number of securities in the MSCI World Enhanced Value Index reaches 400.

2: Turnover Buffer

A turnover buffer of 50% is applied during the on-going index review.

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

Effective pro forma constituent weight = x + (y-x)/2

The turnover buffer is not applied on deletions.

Section 3.2: Ongoing Event Related changes

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

1: IPOs and other early inclusions

IPOs and other newly listed securities will only be considered for inclusion at the next MSCI Enhanced Value Index SAIR, even if they qualify for early inclusion in the Parent Index.

2: Additions and Deletions due to corporate events

A constituent deleted from Parent Index following a corporate event will be simultaneously deleted from the MSCI Enhanced Value Index.

Additions to the Index are only made at the SAIR.

Appendix I: Calculation of the Fundamental Variables

This appendix specifies the fundamental variables for the MSCI Enhanced Value Indexes

Fundamental Variable	Calculation Details
Enterprise Value (EV)	Market capitalization at fiscal yearend date + Preferred Stock + Minority Interest + Total Debt - Cash and cash equivalents
Cash Flow from Operations (CFO)	Net cash receipts and disbursements resulting from the operations of the company

For more details on the fundamental data, please refer to the MSCI Fundamental Data Methodology (http://www.msci.com/products/indexes/country_and_regional/all_country/methodology.html)

Appendix II: Value Z-Score Computation

If the value for variable EV/CFO is missing for any security, it is substituted by the value of ratio price-to-cash earnings (P/CE) for that security. Similarly, if the value for variable Fwd P/E is missing for any security, it is substituted by the value of trailing price-to-earnings (P/E) for that security. After the substitution, the value z-score is computed as mentioned in the table below.

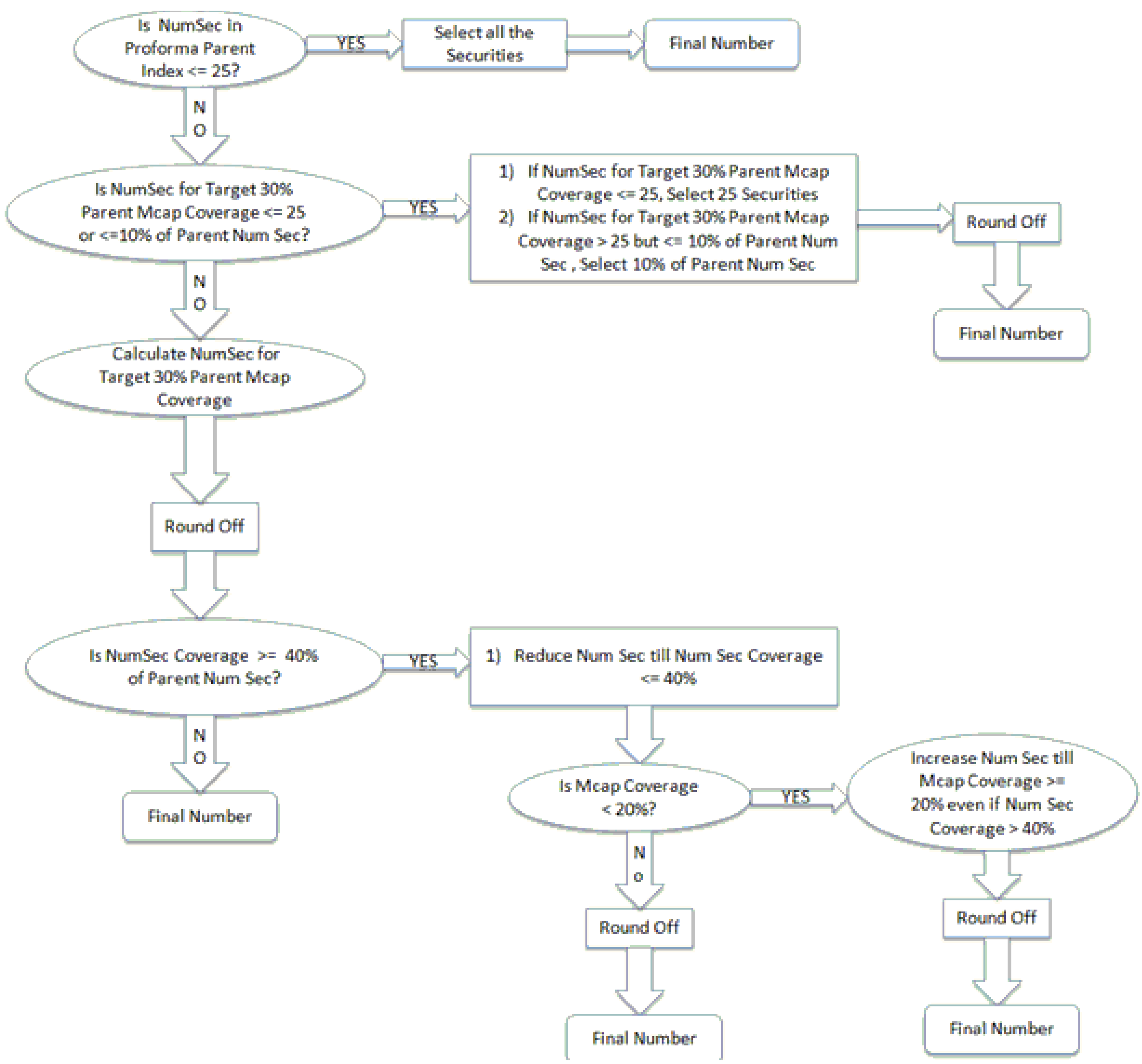
Case	Detail	Action
Case 1	Security does not belong to "Financials" sector and all variables are available	Value z-score = (1/3)*z1 + (1/3)*z2 + (1/3)*z3
Case 2	Security does not belong to "Financials" sector and one variable(e.g., z3) is missing	Value z-score = (1/3)*z1 + (1/3)*z2
Case 3	Security does not belong to "Financials" sector and two variables(e.g., z2 & z3) are missing	Value z-score = (1/3)*z1
Case 4	Security belongs to "Financials" sector and all variables are available	Value z-score = 0.5*z1 + 0.5*z2
Case 5	Security belongs to "Financials" sector and one variable(e.g., z2) is missing	Value z-score = 0.5*z1
Case 6	All three variables are missing (for non-Financials) Both variables are missing (for Financials)	Value z-score = 0

The z1, z2 & z3 represent the individual variable z-scores

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

Algorithm to Determine Fixed Number of Securities at Initial Construction

Rank the securities in the proforma parent universe in the descending order of final value score



NumSec: Number of securities

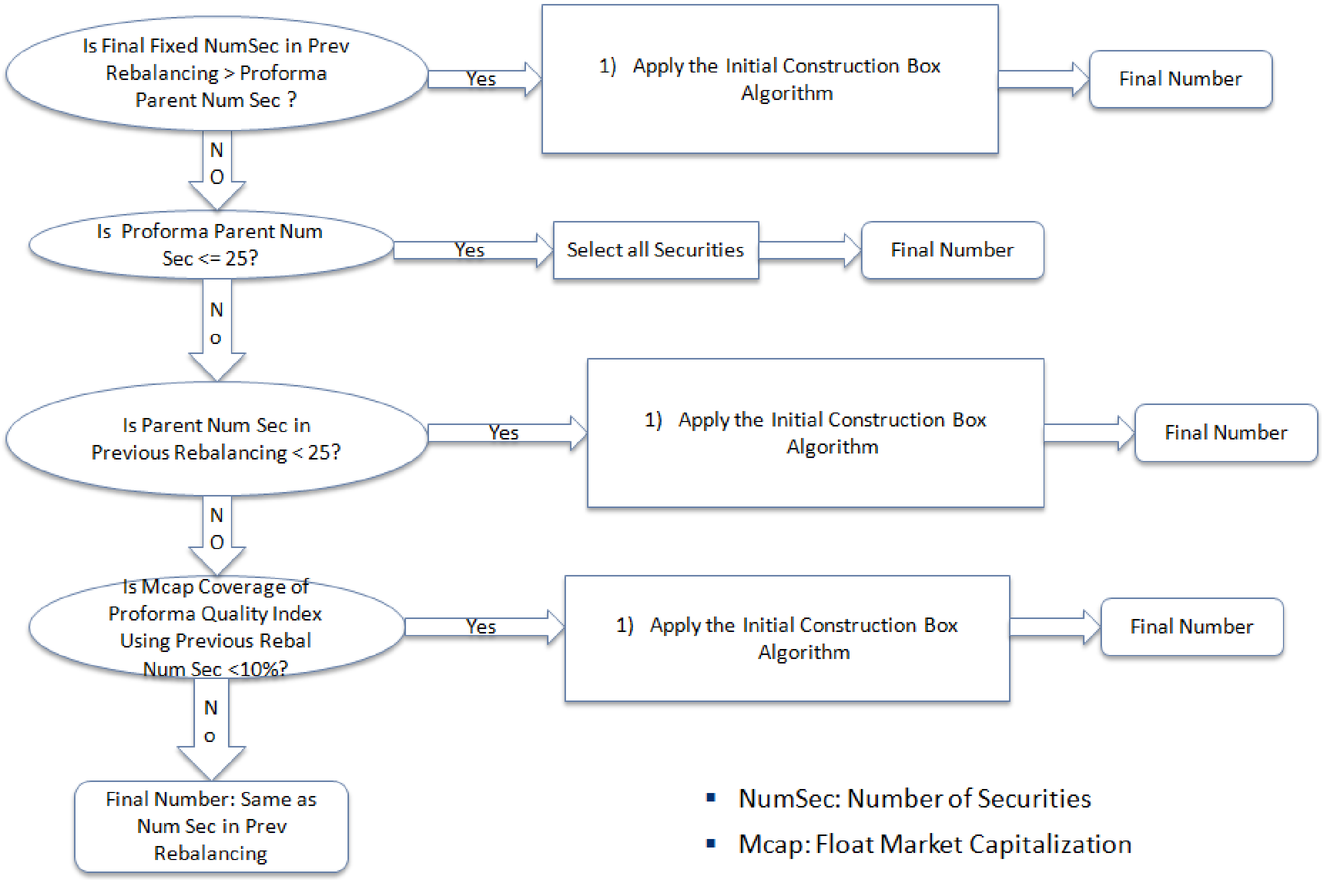
Mcap: Float market capitalization

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 Semi Annual Rebalancing



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

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- The company's flagship product offerings are: the MSCI indexes with over USD 9 trillion estimated to be benchmarked to them on a worldwide basis1; 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; 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 March 31, 2014, as reported on June 25, 2014, by eVestment, Lipper and Bloomberg *July 2014*