MSCI TOTAL SHAREHOLDER YIELD INDEXES METHODOLOGY

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1 INTRODUCTION

The MSCI Total Shareholder Yield Indexes aim to reflect performance of companies that return cash to shareholders either through buybacks or by paying dividends. These Indexes target companies that have returned capital directly to the equity shareholders (as opposed to the debt holders) and seek to minimize their exposure to the companies that have raised debt levels to support inter alia these capital repayments.

MSCI categorizes the MSCI Total Shareholder Yield Indexes as Factor Indexes (Risk Premia), which reflect the systematic elements of particular investment styles or strategies. While capitalization weighted indexes represent 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 represented through alternatively weighted indexes.

2 INDEX CONSTRUCTION METHODOLOGY

2.1 DEFINING THE ELIGIBLE UNIVERSE

The applicable universe includes all the existing constituents of an underlying MSCI Parent Index (herein, a "Parent Index"). MSCI Total Shareholder Yield Indexes also employ the following screens to define the eligible universe with an aim to achieve a better representation of Total Shareholder Yield opportunity set.

- Securities from the Parent Index that have Dividend Yield greater than zero or Buyback Yield greater than 10 bps are included to form the eligible universe. A buyback yield cutoff of 10 bps is used in order to avoid companies buying shares to offset other sources of issuance, for e.g. Employee Stock Options Program.

- Real Estate Investment Trusts (REITS) are excluded. REITs have structurally very high dividend yield and, if included, would represent a disproportionate share of the MSCI Total Shareholder Yield Index. Also, typically, regulatory constraints restrict the inclusion of REITs in meaningful proportions in many institutional portfolios.

- Securities with negative Enterprise Value are excluded.

2.2 DETERMINATION OF TOTAL SHAREHOLDER YIELD SCORE

The Total Shareholder Yield Score is determined for each security in the eligible universe. The Total Shareholder Yield score for each security is calculated by combining Z scores of two fundamental variables, namely the Total Yield (Dividend Yield + Buyback Yield) and the Debt Reduction Yield. Please refer to Appendix I for further details on the calculation of the underlying fundamental variables.

2.2.1 WINSORIZING BUYBACK YIELD, DIVIDEND YIELD AND DEBT REDUCTION YIELD

As part of the standardization process, securities with extremely high Dividend Yield or Buyback Yield values are excluded from the eligible universe to ensure that the average values used to standardize the variables are less affected by extreme values. To do this, for a given variable, the values for all the securities are first ranked in ascending order within the eligible universe. Missing values are excluded from the ranking. Then, the securities with values that lie in the top 99th percentile rank are excluded provided buyback yield or dividend yield values are greater than 15%. Securities whose buyback yield or dividend yield values is less than 15% but still lie in top 99th percentile are not excluded. Debt Reduction Yield values are also winsorized to ensure that the average values used to standardize the variables are less affected by extreme values. To do this, the debt reduction yield values for all securities are first ranked in ascending order within the eligible universe. Missing values

are excluded from the ranking. Then, for values that lie in the bottom 1st percentile rank or in the top 99th percentile rank, their value is set equal to the value of the 1st percentile ranked or 99th percentile ranked security, as applicable.

2.2.2 CALCULATING THE Z-SCORES

The z-score for the two variables for each security is calculated using the mean and standard deviation of the relevant variable within eligible universe as described below. The variables used are as follows:

1. Total Yield = Winsorized Dividend Yield + Winsorized Buyback Yield

2. Winsorized Debt Reduction Yield

$$z = \frac{(x - \mu)}{\sigma}$$

Where:

- x is the variable for a given security

- μ is the mean of the variable in the eligible universe, excluding missing values

- σ is the standard deviation of the variable in the eligible universe, excluding missing values

The Z scores are winsorized at +/-3.

2.2.3 CALCULATING THE TOTAL SHAREHOLDER YIELD SCORE

Total Shareholder Yield Z-Score is then computed by equal weighting the Total Yield Z Score and the Debt Reduction Yield Z Score. The Debt Reduction Yield Z Score is only considered for companies which have a higher debt compared with the previous fiscal year (a negative Debt Reduction Yield) and have a negative Debt Reduction Yield Z-score.

Composite Total Shareholder Yield Z Score =
Mean (Total Yield Z Score, max (Debt Reduction Yield Z Score, 0))

The Composite Total Shareholder Yield Z Score is then translated into a Total Shareholder Yield Score. Total Shareholder Yield Score is computed from the Composite Z Score using the formula mentioned below:

$$Total\ Shareholder\ Yield\ Score = \begin{cases} (1 + Z) & for\ Z > 0 \\ (1 - Z)^{-1} & for\ Z < 0 \end{cases}$$

Where Z is Composite Z Score calculated in the previous step.

2.3   SECURITY INCLUSION

The MSCI Total Shareholder Yield Index is constructed with a fixed number of securities approach. All the existing constituents of the relevant MSCI Parent Index are ranked based on their Total Shareholder Yield Scores. If multiple securities have the same Total Shareholder Yield Score, 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 Total Shareholder Yield Scores are predetermined for every MSCI Total Shareholder Yield Index at initial construction. Rules for arriving at a fixed number of constituents at initial construction are explained in Appendix II. The fixed number for security inclusion determined at initial construction is evaluated at every Index Review to ensure that the Total Shareholder Yield universe has sufficient index market capitalization coverage. Rules for evaluating the fixed number of constituents at every May Annual Index Review are explained in Appendix II.

2.4   WEIGHTING SCHEME

For a given rebalancing effective date, all the securities eligible for inclusion in the MSCI Total Shareholder Yield Indexes are weighted by the product of their market capitalization weight in the Parent Index and the Total Shareholder Yield Score.

Total Shareholder Yield Weight =
Total Shareholder Yield Score * Market Capitalization Weight in the Parent Index

The above weights are then normalized to 100%.

Additionally, constituent weights are capped at issuer level to mitigate concentration risk:

1. Issuers in the MSCI Total Shareholder Yield Indexes based on broad parent MSCI Indexes (e.g. MSCI World Index, MSCI Emerging Markets Index etc.) will be capped at 5%

2. Issuers in the MSCI Total Shareholder Yield Indexes based on narrow parent MSCI Indexes will be capped at the maximum weight in the Parent Index.

Narrow parent MSCI Indexes are defined as those indexes for which the maximum market capitalization weight in the Parent Index is more than 10%.

3 MAINTAINING MSCI TOTAL SHAREHOLDER YIELD INDEXES

3.1 ANNUAL INDEX REVIEWS

The MSCI Total Shareholder Yield Indexes are rebalanced on an annual basis, usually as of the close of the last business day of May, coinciding with May Semi Annual Index Review of the MSCI Global Investable Market Indexes. Fundamental variables as of the end of the April are used. The pro forma MSCI Total Shareholder Yield Indexes are announced nine business days before the effective date.

3.1.1 BUFFER RULES:

To reduce Index turnover and enhance index stability, buffer rules are applied. A security selection buffer of 50% is applied during the on-going index review.

For example, the MSCI World Total Shareholder Yield Index targets 350 securities and the buffers are applied between rank 176 and 525. The securities in the Parent Index with a Total Shareholder Yield rank at or above 175 will be added to the MSCI World Total Shareholder Yield Index on a priority basis. The existing constituents that have a Total Shareholder Yield rank between 176 and 525 are then successively added until the number of securities in the MSCI World Total Shareholder Yield Index reaches 350. If the number of securities is below 350 after this step, the remaining securities in the Parent Index with the highest Total Shareholder Yield score are added until the number of securities in the MSCI World Total Shareholder Yield Index reaches 350.

3.2 ONGOING EVENT RELATED CHANGES

In general, the MSCI Total Shareholder Yield Indexes follow the event maintenance of the 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 annual Index review in the MSCI Total Shareholder Yield Index, even if they qualify for early inclusion in the 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 the turnover in the MSCI Total Shareholder Yield Indexes. A constituent deleted from the Parent Index following a corporate event or during the Quarterly Index Review of

the Parent Index will be simultaneously deleted from the MSCI Total Shareholder Yield Index.

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

APPENDIX I: CALCULATION OF FUNDAMENTAL VARIABLES

Fundamental Variable	Calculation Details
Dividend Yield	Dividend Yield is calculated using the trailing 12 month dividend per share figure and the current security price as per the standard MSCI methodology. $$Dividend\ Yield = \frac{Trailing\ 12\ Month\ Dividend\ Per\ Share}{Current\ Security\ Price}$$ Please refer to MSCI Fundamental Data Methodology books for more details http://www.msci.com/eqb/methodology/meth_docs/MSCI_Nov13_Fundamental_Data.pdf
Buyback Yield	Buyback Yield is calculated at issuer level using trailing 12 month (TTM) number of common shares (NOS) outstanding adjusted for relevant corporate events and the current common number of shares outstanding. Preferred stocks and other sharetypes such as units, warrants etc. are excluded from the buyback yield calculation. $$Net\ Buyback\ Yield = \frac{Change\ in\ TTM\ NOS}{Current\ NOS}$$
Debt Reduction Yield	Debt Reduction Yield is calculated using reduction in debt over the last one fiscal year and the latest Enterprise Value $$Debt\ Reduction\ Yield = \frac{Last\ Fiscal\ Year\ Debt\ Reduction}{Enterprise\ Value}$$ Total debt is utilized for all the sectors except for the financials GICS sector in calculating debt reduction. Long term debt is used for calculating debt reduction for the securities in the financials GICS sector.

APPENDIX II: 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 Total Shareholder Yield Score

- NumSec: Number of Securities
- Mcap: Float Market Capitalization
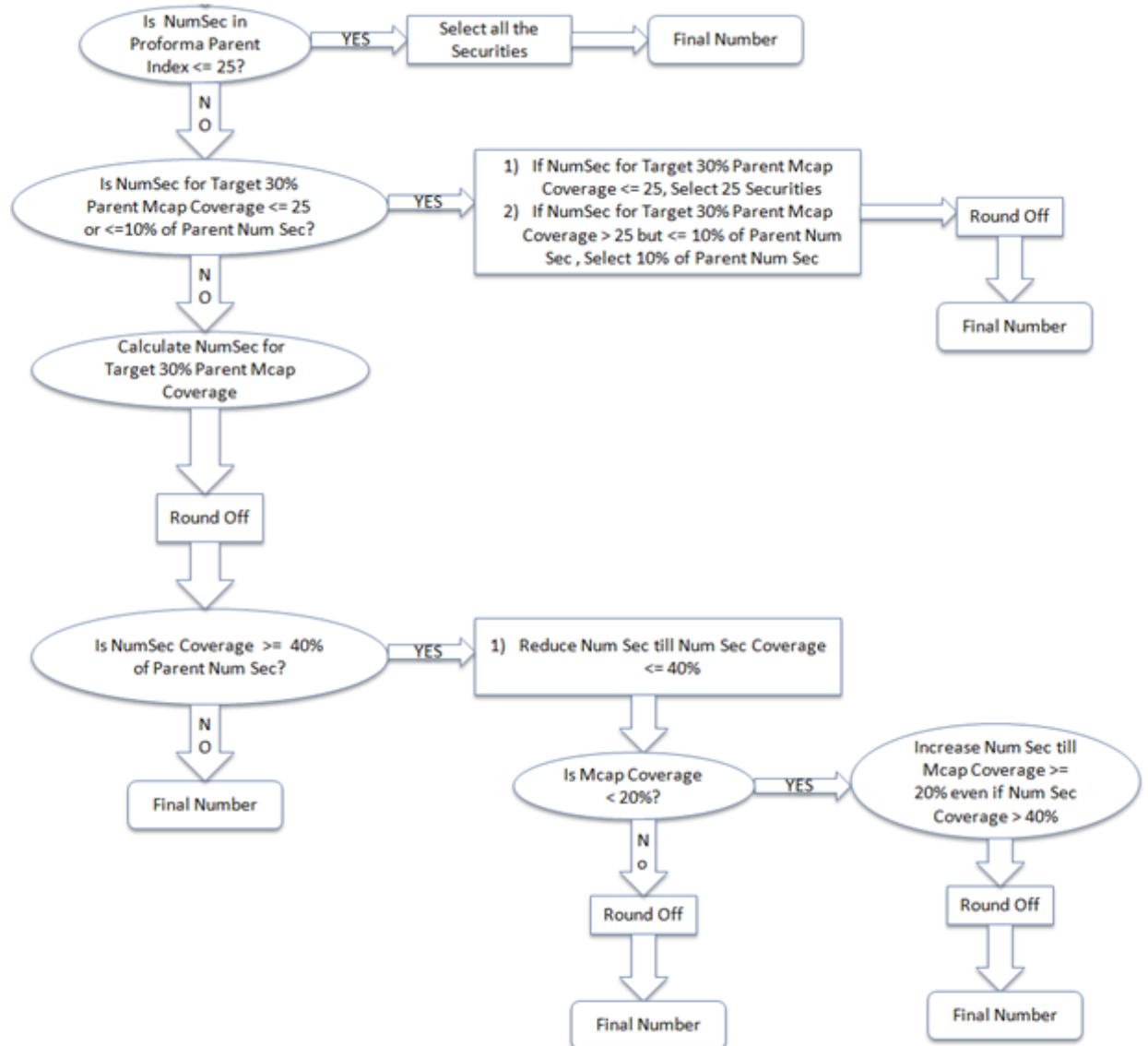
Rounding Off Rules:

Upward rounding off is done depending on NumSec Obtained in the Previous Box Step
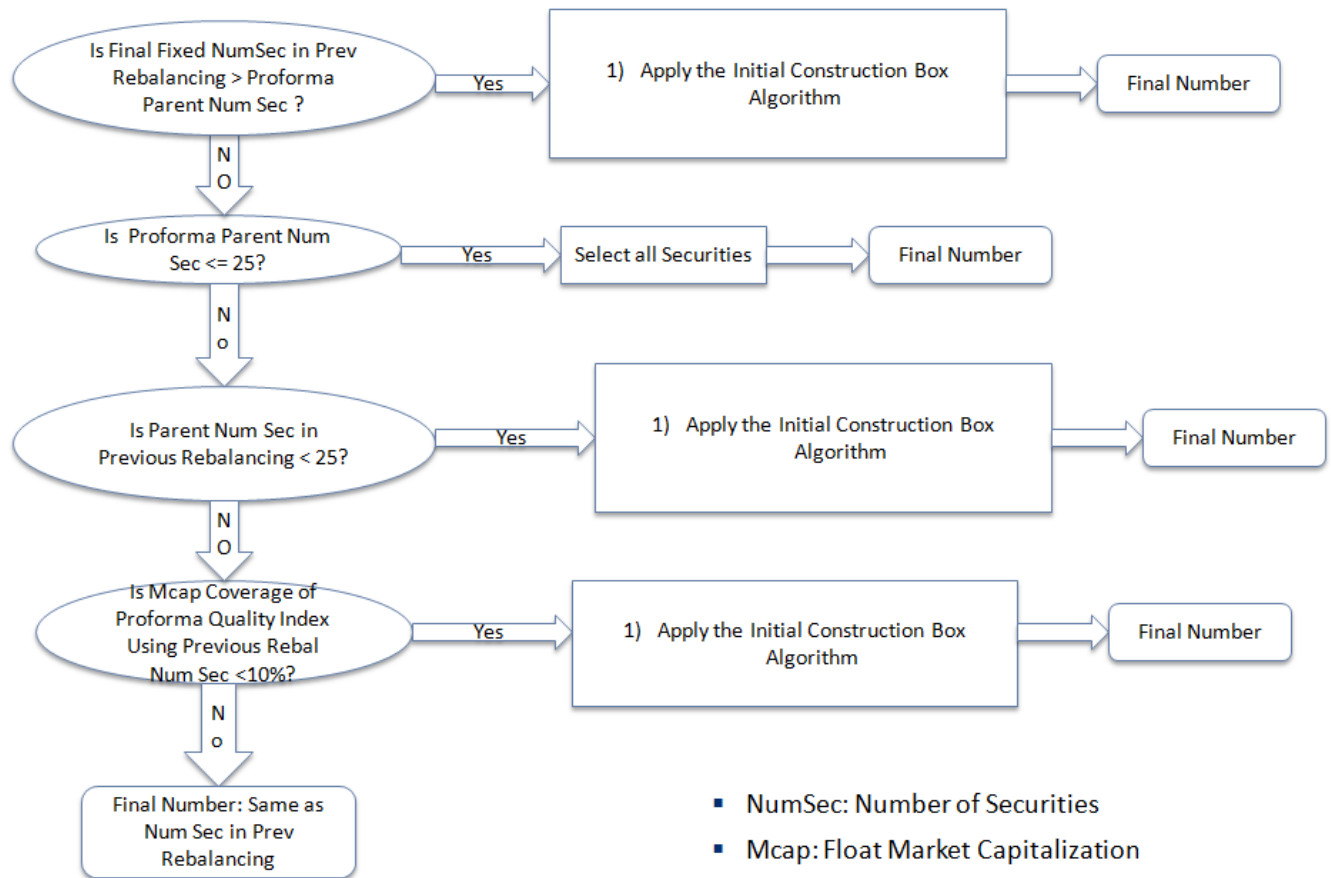
- If NumSec in Previous Step < 100, Nearest Rounding = 10 Securities

- 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 Annual Rebalancing

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

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/size/standard/methodology.html

Event Type	Event details	Action
Acquisition	Total Shareholder Yield Index constituent acquires another Total Shareholder Yield Index constituent	Maintain acquiring company and remove acquired company
	Total Shareholder Yield Index constituent acquires non Total Shareholder Yield Index constituent	Maintain acquiring company
	Non Total Shareholder Yield Index constituent acquires Total Shareholder Yield Index constituent	Remove acquired company without adding acquiring company
Merger	Total Shareholder Yield Index constituent merges with Total Shareholder Yield Index constituent	Add new company with a constraint factor that is the weighted average of the two constituents
	Total Shareholder Yield Index constituent merges with non Total Shareholder Yield Index constituent	Add new company if MSCI links its price history to the Total Shareholder Yield Index constituent. New company not added if price history is linked to the non Total Shareholder Yield Index constituent
IPO	IPO added to Parent Index	Security will be considered for inclusion in the Total Shareholder Yield Index at the next Annual Index Review
Spin-off	Total Shareholder Yield Index constituent spins off security	Add spun-off security to the Total Shareholder Yield Index with the constraint factor of the spinning security, if it is included in the Parent Index

Event Type	Event details	Action
Conversion	Security A converted to B, A deleted from Parent Index, B added	B inherits constraint factors from A
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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