

LIBERTYQ GLOBAL DIVIDEND INDEX

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INTRODUCTION

MSCI Indexes are constructed and maintained in accordance with the MSCI Global Investable Market Indexes Methodology and calculated as per the MSCI Index Calculation Methodology. This methodology book provides a description of the rules and guidelines followed by MSCI for the construction and maintenance of the LibertyQ Global Dividend Index. The LibertyQ Global Dividend Index (“Index”) is designed to represent the performance of a strategy that seeks exposure to securities with high and persistent dividend income along with superior Quality characteristics.

2 INDEX CONSTRUCTION METHODOLOGY

2.1 DEFINING THE ELIGIBLE UNIVERSE

The Parent Index includes all securities belonging to the MSCI ACWI Index, excluding securities classified in the Equity Real Estate Investment Trusts Industry and Mortgage Real Estate Investment Trusts Sub-Industry as per the Global Industry Classification Standard (GICS®). Real Estate Investment Trusts (REITs) have structurally very high dividend yield and, if included, would represent a disproportionate share of the Index. All securities belonging to the Parent Index are eligible for inclusion in the LibertyQ Global Dividend Index.

Dividend yield strategies typically target not only high dividend yield, but also companies where that dividend is persistent. Therefore, the LibertyQ Global Dividend Index also considers the following dividend persistence and yield screens in order to achieve a better representation of the opportunity set of a high dividend yield strategy:

- Dividend Persistence screening
- Dividend Yield screening

2.1.1 APPLYING THE DIVIDEND PERSISTENCE SCREEN

Securities with a negative year-over-year (“YoY”) Dividend per Share (DPS) growth in any of the last five years are excluded from the Index, as this is an indicator of shrinking dividend growth which could be a precursor to lower dividends. Securities which have insufficient data to calculate a YoY DPS growth rate for each of the last 5 years are also excluded from the Index.

2.1.2 APPLYING THE DIVIDEND YIELD SCREEN

Securities with a 5 year average monthly dividend less than 1.2 times the 5 year average monthly dividend yield of the Parent Index are excluded from the Index.

2.2 DETERMINATION OF THE QUALITY FACTOR SCORE

The Quality Factor Score is determined for each security in the eligible universe as follows:

2.2.1 CALCULATING THE QUALITY FACTOR Z-SCORE

In the first step, the z-score for a descriptor for each security is calculated as described below.

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

Where:

- z is the individual descriptor z-score in the eligible universe

- x is the descriptor value for a given security
- μ is the equal weighted mean of the descriptor values of all the securities included in the eligible universe
- σ is the equal weighted standard deviation of the descriptor values of all the securities included in the eligible universe

Z-scores are then winsorized at +/-3 (i.e., the z-scores above 3 are capped at 3 and z-scores below -3 are floored at -3). If a z-score of an individual descriptor is not computed due to the unavailability of the underlying descriptor data, the eligible universe average z-score is used.

A region relative z-score is then computed for a descriptor by standardizing the individual descriptor z-scores within the sector groups for each region.

The three sector groups defined to apply region relative z-scores are:

- Securities belonging to the GICS “Financials” Sector (Sector “40” of the Global Industry Classification Standard (GICS®) respectively)
- Securities belonging to the GICS “Real Estate” Sector (Sector “60” of the Global Industry Classification Standard (GICS®) respectively)
- Securities belonging to all the other GICS sectors except “Financials” and “Real Estate” Sectors

The regions selected to compute region relative z-scores within each sector group are:

- North America
- Europe & Middle East
- Emerging Markets
- Pacific

Please refer to Appendix I for further details on region definitions

$$Z_{\text{reg_rel}} = \frac{(z - \mu_{\text{reg_rel}})}{\sigma_{\text{reg_rel}}}$$

Where:

- $Z_{\text{reg_rel}}$ is the region relative z-score for a descriptor
- z is the individual descriptor z-score for a given security within a sector group for each region
- $\mu_{\text{reg_rel}}$ is the equal weighted mean of the descriptor z-scores of all the securities included in a sector group for each region

- $\sigma_{\text{reg_rel}}$ is the equal weighted standard deviation of the descriptor z-scores of all the securities included a sector group for each region

A region relative z-score for each sector group universe is then winsorized at +/- 3.

Quality factor Z-Score is then computed by equal weighting the region relative z-scores calculated in the previous step for each of the relevant descriptors as follows:

For all the securities in the GICS “Financials” and “Real Estate” Sectors

- Return on Equity (ROE)
- Negative of Earnings Variability
- Cash ROA

For all the securities except for “Financials” and “Real Estate” Sectors

- Return on Equity (ROE)
- Negative of Earnings Variability
- Cash ROA
- Negative of Leverage

Please refer to Appendix III for further details on the calculation of each variable.

2.2.2 CALCULATING THE FINAL FACTOR SCORE

The Final Factor Score is computed from the Quality factor Z-score as follows:

$$\text{Final Factor Score} = \begin{cases} 1 + Z, & Z \geq 0 \\ (1 - Z)^{-1}, & Z < 0 \end{cases}$$

Where Z is the Quality factor Z-Score determined in the previous step.

2.3 SECURITY SELECTION & WEIGHTING SCHEME

The LibertyQ Global Dividend Index is constructed with a fixed number of securities approach. All the constituents of the eligible universe are ranked based on their Quality Factor Z-Score and 100 securities with the highest rank are selected.

The securities included are assigned weights in the proportion of Market Cap Weight*Final Factor Score.

3 MAINTAINING THE INDEX

3.1 SEMI-ANNUAL INDEX REVIEWS

The LibertyQ Global Dividend Index is 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. Descriptor data as of the end of April and October are used respectively. The pro forma Index is typically announced nine business days before the effective date.

At each rebalancing, a constraint factor (CF) is calculated for each constituent in the Index. The constraint factor is defined as the weight in the Index at the time of the rebalancing divided by the weight in the Parent Index. The constraint factor as well as the constituents in the Index remains constant between Index Reviews except in case of corporate events as described in Appendix II.

3.1.1 BUFFER RULES:

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

Dividend Persistence Screening Buffer

If a security is already an Index constituent but it has a negative YoY DPS growth in only one of the last five years, it will still be allowed to remain in the Index. If it has a negative YoY DPS growth in more than one year, it will be excluded from the Index. Securities which have insufficient data to calculate a YoY DPS growth rate for each of the last 5 years are excluded from the Index.

Dividend Yield Screening Buffer

If a security is already an Index constituent, it will remain in the Index as long as its 5 year average monthly dividend is greater than or equal to 1.1 times the 5 year average monthly dividend yield of the Parent Index.

Security Selection Buffer

A security selection buffer of 100% is applied at each Index Review.

For example, the Index targets 100 securities and the buffers are applied between rank 1 and 200. The existing constituents that have a final factor score rank between 1 and 200 are added until the number of securities reaches 100. If the number of securities is below 100 after this step, the remaining securities in the Parent Index with the highest final factor score rank are added until the number of securities in the Index reaches 100.

Turnover Buffer

A turnover buffer of 50% is applied at each Index Review. For example, if the then current rebalancing results in changing the weight of a security from x% to y% in the Index, then the effective change in weight will be:

$$\text{Effective pro forma constituent weight} = x + (y-x)/2$$

The turnover buffer is applied on the uncapped weights of existing and pro forma constituents and is not applied on deletions. After the turnover buffers are applied, weight capping of 2% is applied at the issuer level.

3.2 ONGOING EVENT RELATED CHANGES

The Index follows 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 SAIR, even if they qualify for early inclusion in the Parent Index.

3.2.2 ADDITIONS AND DELETIONS DUE TO CORPORATE EVENTS

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

Additions to the Index are only made at the SAIR.

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

APPENDIX I: REGION/COUNTRY DEFINITIONS

The Parent Index is composed of the developed and emerging market countries. Currently, this includes the following countries, under each defined region

Europe & Middle East	Emerging Markets	Pacific	North America
AUSTRIA	BRAZIL	AUSTRALIA	CANADA
BELGIUM	CHILE	HONG KONG	USA
DENMARK	CHINA	JAPAN	
FINLAND	COLOMBIA	NEW ZEALAND	
FRANCE	CZECH REPUBLIC	SINGAPORE	
GERMANY	EGYPT		
IRELAND	GREECE		
ISRAEL	HUNGARY		
ITALY	INDIA		
NETHERLANDS	INDONESIA		
NORWAY	KOREA		
PORTUGAL	MALAYSIA		
SPAIN	MEXICO		
SWEDEN	PERU		
SWITZERLAND	PHILIPPINES		
UNITED KINGDOM	POLAND		
	QATAR		
	RUSSIA		
	SOUTH AFRICA		
	TAIWAN		
	THAILAND		
	TURKEY		
	UAE		

Whenever MSCI changes the country constituents of the Parent Index, the constituent countries of this Index will change accordingly. Changes in the constituent companies of the MSCI Standard Country Indexes that comprise this Index will also be reflected in this Index.

APPENDIX II: CORPORATE EVENTS TREATMENT

This appendix describes the treatment of the corporate events in the LibertyQ Global Dividend Index. 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

<https://www.msci.com/index-methodology>

In case of merger or acquisition aggregate CF (Constraint Factor) at Index level is calculated using the CF using the following formula:

$$CF = \frac{(CF_{a1} * W_{a1} + CF_{a2} * W_{a2})}{(W_{a1} + W_{a2})}$$

Where, CF_{a1} is the constraint factor of constituent 1 in the Index, W_{a1} is the weight of constituent 1 in the Parent Index, CF_{a2} is the constraint factor of the constituent 2 in the Index, W_{a2} is the weight of the constituent 2 in the Parent Index .

Event	Event details	Action
Acquisition	LibertyQ Global Dividend Index constituent acquires another LibertyQ Global Dividend Index constituent	Maintain acquiring company with a constraint factor that is weighted average of the two constituents as mentioned above.
	LibertyQ Global Dividend Index constituent acquires non constituent. Non constituent is in Parent Index.	Maintain acquiring company with a constraint factor that is weighted average of the two constituents. Constraint factor of acquired non constituent company would be zero.
	LibertyQ Global Dividend Index constituent acquires non constituent. Non constituent is not in the Parent Index.	Maintain acquiring company with a constraint factor that is weighted average of the two constituents. Constraint factor and weight of the acquired non constituent company would be zero.
	Non LibertyQ Global Dividend Index constituent acquires constituent	Acquired constituent would be removed regardless of type of acquisition by non constituent. The acquiring company would not be added to the Index.
Merger	LibertyQ Global Dividend Index constituent merges with another LibertyQ Global Dividend Index constituent	Add new company with a constraint factor that is the weighted average of the two constituents.

Event	Event details	Action
	LibertyQ Global Dividend Index constituent merges with non constituent. Non constituent is in Parent Index. Price history is linked with constituent.	Add new company with a constraint factor that is the weighted average of the two constituents. Constraint factor of non constituent company would be zero.
	LibertyQ Global Dividend Index constituent merges with non constituent. Non constituent is not in the Parent Index. Price history is linked with constituent.	Add new company with a constraint factor that is the weighted average of the two constituents. Constraint factor and weight of non constituent company would be zero.
	LibertyQ Global Dividend Index constituent merges with non constituent. Non constituent is not in the Parent Index. Price history is linked with non constituent.	New company would not be added.
IPO	IPO added to the Parent Index	Security will be considered for the inclusion in the LibertyQ Global Dividend Index at the next SAIR.
Spin-off	LibertyQ Global Dividend Index constituent spins off security	Add spun-off security to the Index with the constraint factor of the spinning security, 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.
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

APPENDIX III: CALCULATION OF VARIABLES

Factor	Descriptor	Computation Details
Quality	Return on Equity (ROE)	<u>Trailing 12 months earnings per share</u> Latest book value per share
	Earnings Variability	Earnings variability is defined as the standard deviation of y-o-y earnings per share growth over the last five fiscal years
	Cash ROA	<u>Latest Fiscal Year Net Operating Cash Flow</u> Latest Fiscal Year Total Assets
	Leverage	Leverage is defined as the average of Market Leverage, Book Leverage and Debt to Assets. Market Leverage = $(ME + PE + LD)/ME$, Book Leverage = $(BE + PE + LD)/BE$, Debt to Assets = TD/TA Where ME = Market Value of Equity on the Last Trading day, PE = Book Value of the Preferred Equity, LD = Most recent Book Value of the Long-Term Debt, BE = Book Value of the Equity, TD = Total Debt, TA is most recent Book Value of Total Assets

The following sections have been modified since May 2016:

- Section 2.1: Excluded GICS Industry and Sub-Industry are updated to reflect changes to the GICS structure effective September 01, 2016
- Section 2.2.1: Included GICS Real Estate Sector in methodology to reflect changes to the GICS structure effective September 01, 2016

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