MSCI

Index Methodology

MSCI 25/50 Indices Methodology

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Section 1: Introduction to the MSCI 25/50 Indices

Introduction

Under the current US Internal Revenue Code, among other things, a fund needs to satisfy certain tests, such as those relating to asset diversification and sources of income, for qualification as a "regulated investment company" or "RIC". More specifically, one requirement of a RIC is that at the end of each quarter of a RIC’s tax year no more than 25% of the value of the RIC's assets may be invested in a single issuer and the sum of the weights of all issuers representing more than 5% of the fund should not exceed 50% of the fund’s total assets.

The MSCI 25/50 Indices take into account these investment limits, offering a pertinent benchmarking alternative for RIC compliant funds. The indices are calculated and delivered on an index-by-index basis, upon client request.

This document describes the methodology that MSCI uses to calculate the MSCI 25/50 Indices by applying the weight constraints set forth herein to the non-constrained, free-float adjusted market capitalization weighted MSCI Equity Indices (herein, “Parent Indices”).

Section 2: Index Objectives and Guiding Principles

In designing an appropriate methodology for constructing the MSCI 25/50 Indices from underlying non-constrained indices, the following principles have guided MSCI.

2.1 Reflecting the 25% and 50% concentration constraints

Reflecting the 25% and 50% concentration constraints is the primary consideration in terms of both index construction and index maintenance. Ensuring timely and on-going reflection of the constraints requires an MSCI 25/50 Index to be rebalanced periodically. The MSCI 25/50 Indices are rebalanced in February, May, August and November.

MSCI also offers other indices reflecting additional or different constraints. See Appendix II for further details.

2.2 Minimizing tracking error to the Parent Index

Minimizing the tracking error between the MSCI 25/50 Index and the Parent Index, while keeping the index turnover to a reasonable level, is another important objective of the current methodology. This is achieved by rebalancing the MSCI 25/50 Index using an optimization process that aims to minimize the constituent weight differences between the MSCI 25/50 Index and the Parent Index.

Section 3: Index Construction and Maintenance Methodology

3.1 Group Entities

The MSCI 25/50 Indices use the concept of group entities to define the 25% and 50% concentration constraints at the issuer level.

Financial accounts of listed companies holding stakes of 20% or more in other listed companies are analyzed to determine whether these stakes are controlling in nature and, consequently, whether both companies should be considered as belonging to the same group entity. In certain cases, even in the absence of consolidated accounts, MSCI may consider two companies as belonging to the same group entity where there is reasonable evidence of control based on other information.

3.1.1 Maintenance

MSCI will perform an annual review of all group entities, which will coincide with the August Quarterly Index Review. Any change in a group entity resulting from a corporate event will be implemented at the time of the event. Updates triggered by the disclosure of new public information unrelated to corporate events or corrections to existing group entities will be implemented as of the close of the last business day of the month.

3.2 Construction and Rebalancing of the MSCI 25/50 Indices

The MSCI 25/50 Index methodology follows a portfolio optimization framework. The Barra Optimizer is utilized to perform the optimization function which is aimed at minimizing index turnover, tracking error and extreme deviation from the Parent Index.[1]

3.2.1 Constraint targets

The MSCI 25/50 Index has the following constraints:

- No group entity exceeds 25% of index weight
- All group entities with weight above 5% cannot exceed 50% of the index weight

3.2.2 Minimizing tracking error from Parent Index

The index aims at minimizing the tracking error from the pro forma Parent Index. The tracking error of the MSCI 25/50 Index versus the Parent Index is measured as the sum of the squared weight differences between the constituent weights of the MSCI 25/50 Index and Parent Index.

3.2.3 Minimize Transaction Cost

A transaction cost is applied as a proxy for index turnover on rebalancing from the current MSCI 25/50 Index to the pro forma MSCI 25/50 Index.

3.2.4 Minimum weight of constituents

The minimum weight of any MSCI 25/50 Index constituent is equal to the weight of the smallest constituent in the pro forma Parent Index.

[1] See www.barra.com/support/library/optimizer_practical_convex_quadratic_programming.pdf for a detailed description of the Barra Mean-Variance Optimizer.

3.3 Buffer Rules

A buffer of 10% of the value of each constraint is used in order to reduce the risk of non-compliance due to short term market movements between two quarterly rebalancing. As a result, at the point of constructing or rebalancing the MSCI 25/50 Indices, the weight of any single group entity cannot exceed 22.5% of the index weight and all group entities with weight above 4.5% cannot exceed 45% of the index weight.

3.4 Maintenance Rules

3.4.1 Quarterly Index Reviews

The MSCI 25/50 Indices are rebalanced quarterly and the changes resulting from the rebalancing are made as of the close of the last business day of each February, May, August and November, to coincide with the Quarterly Index Reviews of their Parent Indices.

The pro forma MSCI 25/50 Indices are in general rebalanced five business days before the effective date. The changes resulting from the rebalancing are announced on the same day.

In case the pro forma MSCI 25/50 Index violates the 25/50 constraints between the announcement date and the effective date, the previously announced results will be discarded and a newly rebalanced pro forma index will be announced.

There is no index rebalancing due to non-compliance between Quarterly Index Reviews.

At each rebalancing, a constraint factor is calculated for each constituent of the MSCI 25/50 Index. The constraint factor is defined as the weight in the MSCI 25/50 Index at the time of the rebalancing divided by the weight in the Parent Index. The constraint factor as well as the constituents of the index remains constant between index reviews except in case of corporate events as described below.

3.4.2 Ongoing Event Related Changes

A security added to the Parent Index following a corporate event is added to the MSCI 25/50 Index with an estimated capped weight, without rebalancing of the MSCI 25/50 index.

In the event of a merger or an acquisition where an index constituent acquires another index constituent or merges with another index constituent, the remaining company is maintained in the index with a constraint factor calculated as the weighted average of the constraint factors before the corporate event.

If a spun off security of an index constituent is added to the Parent Index, it will be added to the MSCI 25/50 Index with the same constraint factor as the parent security.

The deletion of a constituent from the Parent Index following a corporate event triggers its deletion from the MSCI 25/50 Index without rebalancing of the MSCI 25/50 Index.

The addition of a newly eligible security in the Parent Index -- for example an early inclusion of a large IPO, or a security migrating to the Parent Index from another size segment -- will result in the inclusion of that security in the MSCI 25/50 Index and consequently trigger the full rebalancing of the MSCI 25/50 Index.

Please refer to the MSCI Corporate Events Methodology book available at: http://www.msci.com/products/indices/size/standard/methodology.html for more details.

3.5 Group Entity Concentration Issues

A minimum of 15 group entities in the Parent Index is required at any point in time for an MSCI 25/50 Index to be rebalanced as described in Section 3.1. In the event the number of group entities drops below 15 but remains above 11 following a corporate event or a regular index review, MSCI will apply the following adjustments:

- Number of group entities drops to 14: the buffer mentioned in sub-section 3.2 will be reduced from 10% to 9%. Thus, the weight of any single group entity cannot exceed 22.75% of the index weight and all group entities with weight above 4.55% cannot exceed 45.5% of the index weight.
- Number of group entities drops to 13: the buffer mentioned in sub-section 3.2 will be reduced from 10% to 4%. Thus, the weight of any single group entity cannot exceed 24% of the index weight and all group entities with weight above 4.8% cannot exceed 48% of the index weight.
- Number of group entities drops to 12: the buffer mentioned in sub-section 3.2 will be reduced from 10% to 0%. Thus, the weight of any single group entity cannot exceed 25% of the index weight and all group entities with weight above 5% cannot exceed 50% of the index weight.

The MSCI 25/50 Index will need to be discontinued if the number of group entities drops below 12 as mathematically no solution can satisfy the 25% and 50% constraints. MSCI will however temporarily maintain the MSCI 25/50 Index for a minimum of two months before discontinuation by adding the necessary number of securities to the index. The index discontinuation will coincide with one the subsequent regular index reviews. The securities to be added will be chosen in the following order of priority:

- Securities deleted from the MSCI 25/50 Index, provided they exhibit required liquidity and were not deleted due to financial difficulties, etc.
- Eligible securities of relevant size not included in the Parent Index, e.g., largest small cap size-segment securities if the Parent Index is a MSCI Standard Index.

In the event that no securities are eligible for temporary addition to the MSCI 25/50 Index, MSCI will be providing an index, as close as possible to the 25/50 constraints, for a minimum of two months before discontinuation. The index discontinuation will coincide with one of the subsequent regular index reviews.

MSCI will announce any of these adjustments to all impacted clients ahead of implementation.

Appendix I: Optimization Parameters

The following parameters are used in the optimization process:

- The Parent Index is used as the benchmark.
- The objective is to minimize tracking error to the Parent Index.
- A diagonal covariance matrix is used with the same risk for each constituent (1) and zero for all off-diagonals.
- The minimum weight of capped index constituents is set to the weight of the smallest constituent in the Parent Index. This avoids the situation where the optimized index holds a security with a very small weight.
- The risk aversion parameter is set to default value of 0.0075, which is widely used in mean-variance optimizations.
- One way transaction cost is set to 0.5%, which aims to achieve a balance between minimizing active risk and turnover.

Appendix II: Special Capping Rules

Additional capping rules may be applied to address other investment constraints, such as:

- No group entity can exceed 10% of the weight and all group entities with weight above 5% cannot exceed 25% of the index weight.
- No group entity can exceed 5% of the index weight.

Client Service Information is Available 24 Hours a Day

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About MSCI

MSCI Inc. is a leading provider of investment decision support tools to investors globally, including asset managers, banks, hedge funds and pension funds. MSCI products and services include indices, portfolio risk and performance analytics, and governance tools.

The company's flagship product offerings are: the MSCI indices with close to USD 7 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, indices and analytics; MSCI ESG (environmental, social and governance) Research screening, analysis and ratings; ISS governance research and outsourced proxy voting and reporting services; FEA valuation models and risk management software for the energy and commodities markets; and CFRA forensic accounting risk research, legal/regulatory risk assessment, and due-diligence. MSCI is headquartered in New York, with research and commercial offices around the world.

[1]As of March 31, 2012, as published by eVestment, Lipper and Bloomberg in September 2012

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