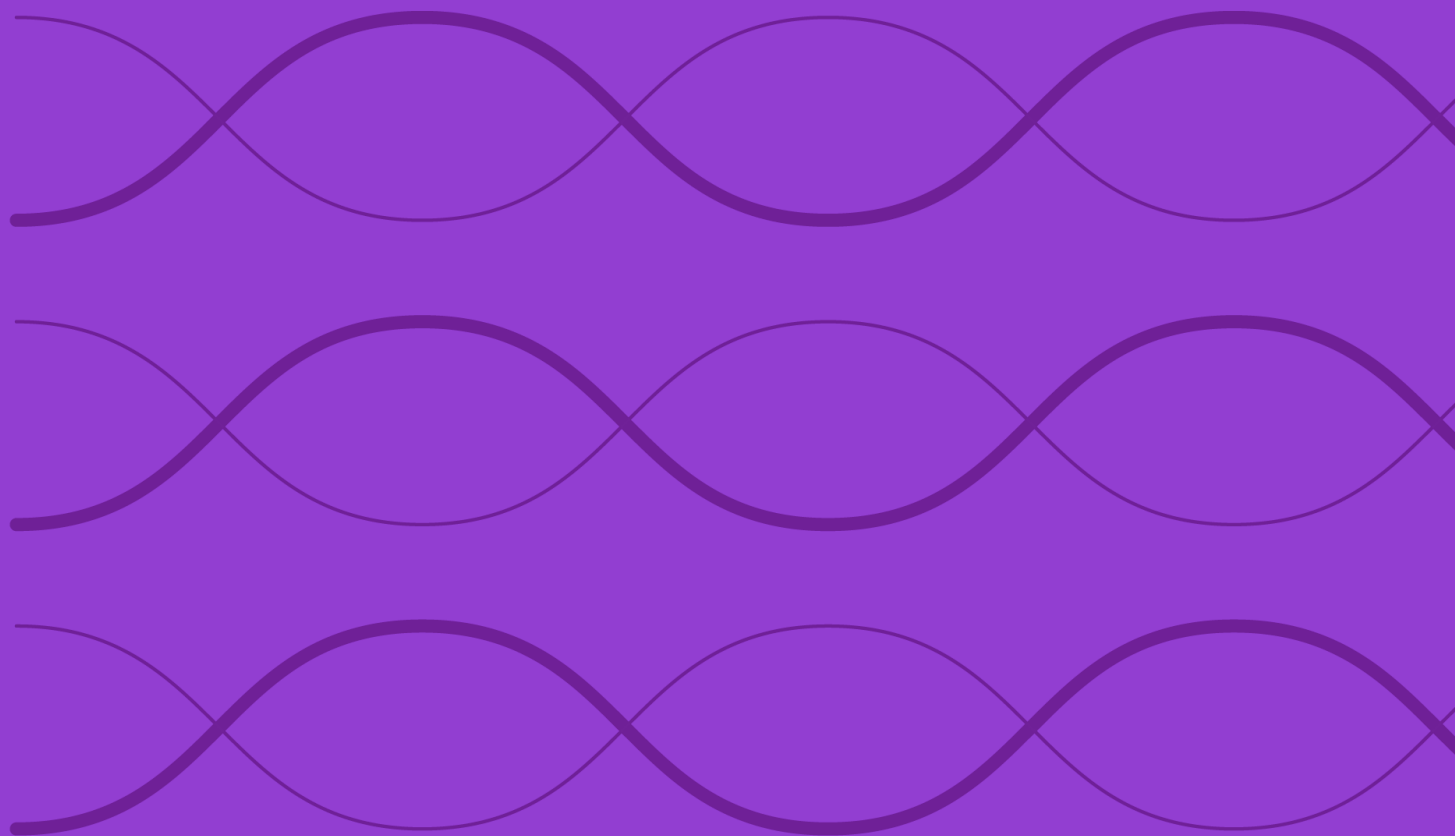


Construction Rules for the Morningstar Singapore REIT Yield Focus Index



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Overview

The Morningstar Singapore REIT Yield Focus Index tracks the performance of a broad-based quality income strategy using the proprietary factors that underpin the Morningstar Global Dividend Yield Focus Index family. The constituents of the index are a subset of stocks in the Morningstar Singapore REIT Index (benchmark).

This index does not incorporate environmental, social, or governance criteria.

Index Inception and Performance Start Date

The inception date of the index is Sept. 25, 2017, and the performance inception date of the index is June 18, 2010, when the first back-tested index value was calculated.

Index Construction

Methodology Summary

Starting Universe	Eligibility	Factor Scores Calculation	Portfolio Construction	Morningstar Singapore REIT Yield Focus Index
<ul style="list-style-type: none">Securities from the Morningstar® Singapore REIT IndexSM	<ul style="list-style-type: none">All benchmark securities are eligible for inclusion in the index	<ul style="list-style-type: none">Assign scores for the following factors:<ul style="list-style-type: none">Quantitative moatDistance to defaultTTM dividend yieldTransform normalized fact scores to tilt factors	<ul style="list-style-type: none">Tilt portfolio weights based on composite tilt factor scoreLiquidity-based adjustment to strategy weights to make investable	

Starting Universe

At each reconstitution, securities for the Morningstar Singapore REIT Yield Focus Index are derived from the Morningstar Singapore REIT Index (benchmark). For more details on benchmark construction, refer to the [Construction Rules for the Morningstar Global REIT Index Family](#).

Eligibility

All benchmark securities are eligible for inclusion in the index.

Portfolio Construction

Factor Construction

Each factor considered below for security weighting is normalized within the defined universe according to the following formula:

$$Z_{ji} = \frac{X_{ji} - \mu_j}{\sigma_j}$$

where:

Z_{ji}	= Normalized Factor value of the i^{th} security and j^{th} factor
X_{ji}	= Factor Value of the i^{th} security and j^{th} factor
μ_j	= Cross-sectional mean of the j^{th} factor
σ_j	= Cross-sectional standard deviation of the j^{th} factor

The factor values (X_{ji}) are winsorized at 5th and 95th percentile, that is, all values below the 5th percentile are set to the 5th percentile, and values above 95th percentile are set to the 95th percentile.

The normalized factor values (Z_{ji}) are then transformed to arrive at the individual tilt factor, or ITF_{ji} .

$$\text{Individual Tilt Factor } (ITF_{ji}) = \begin{cases} (1 - Z_{ji})^{-1}, & \forall Z_{ji} < 0 \\ (1 + Z_{ji}), & \forall Z_{ji} \geq 0 \end{cases}$$

Where ITF_{ji} represents the individual tilt factor of the i^{th} security and j^{th} factor.

The following factors are considered to assign factor scores.

- **Quality:** The quality factor (Z_{mi}) is a normalized value of the quantitative moat score within the global universe. A score of zero can be interpreted as average, and a positive (negative) value implies high (low) quality.
- **Financial health:** The financial health factor (Z_{dti}) is the normalized value of the distance to default, or DtD, score of the given company within its sector and regional classification.¹ Higher scores imply stronger financial health and therefore a lower risk of bankruptcy.
- **Dividend yield:** The dividend yield factor (Z_{yldi}) is the normalized value of the trailing 12-month, or TTM, dividend yield of the companies within the global universe. Higher scores imply attractive dividend yield.

A broad overview of the Morningstar Quantitative Moat Rating score, as well as Morningstar Distance to Default, is provided in Appendix 3.

Security Selection

- Assuming a hypothetical fund with SGD 700 million in assets under management that trades no more than 40% of any security's three-month average daily traded volume, or ADTV, an added security must have less than 10 days to trade, given its weight in the index.

Number of Stocks

The number of stocks in the index is variable, subject to the size of the starting universe and the application of eligibility criteria at the time of reconstitution.

Index Weighting

The weight of each security in the index is calculated as:

$$w_i = \frac{(ITF_{mi} * ITF_{dti} * ITF_{yldi}) * FMC_i}{\sum_i^n ((ITF_{mi} * ITF_{dti} * ITF_{yldi}) * FMC_i)}$$

¹ Please refer to Appendix 3 for sector and region definitions.

Where:

ITF_{mi}	= Individual Moat Tilt Factor of the i^{th} security
ITF_{dtdi}	= Individual Distance to Default Tilt Factor of the i^{th} security
ITF_{yldi}	= Individual TTM Dividend Yield Tilt Factor of the i^{th} security
FMC_i	= Float Market Cap of the i^{th} security

Security Capping Algorithm

- Individual security weights are capped at 10%.
- After individual capping, cap the security weights at their 10% redemption level and redistribute the remaining weights to other securities (for which capped weight is less than 10% redemption level) such that it does not breach the 10% redemption level of any other security and the maximum weight of any security is 10%

$$10\% \text{ redemption level} = \frac{ADTV_i * \%ADTV \text{ being traded in 1 day}}{AUM}$$

- The security weights are adjusted based on their liquidity such that:

$$|w_i - cw_i| \leq \frac{\text{Days to trade} * ADTV_i * \%ADTV \text{ being traded in 1 day}}{AUM}$$

Where:

cw_i	= current weight of the i^{th} security in the index
$ADTV_i$	= Average daily trading volume of the i^{th} security in SGD
Days to trade	= 2 (4 for illiquid security)
AUM	= SGD 700 million
$\%ADTV$ being traded in one day	= 40%

Illiquid security: A security for which weight trade required to achieve capped weight is greater than or equal to 3 times the maximum weight that can be traded in two days.

For additions, the current weight in the portfolio cw_i is 0. Note that if a security is deleted from the benchmark, the same would be deleted from the index, irrespective of its liquidity.

- The residual weights are redistributed to remaining liquid securities.
- Security weights are capped again in case the maximum weight is more than 10%.

For more details, refer to the [Morningstar Indexes Calculation Methodology rulebook](#).

Index Maintenance and Calculation

Scheduled Maintenance

The index is reconstituted, where the membership is reset, and rebalanced semi-annually on the third Friday of June and December. Adjustments are implemented after Friday's market close and reflected the following Monday. If Monday is a holiday, it is effective on the immediately following business day. The market data used for reconstitution and rebalancing is as of the last trading day of May and November.

Refer to Appendix 2 for details on reconstitution and rebalancing.

Corporate Actions

The treatment of corporate actions will be as per the float-adjusted market capitalization-weighted indexes corporate action methodology. For more details, please refer to the [Morningstar Indexes Corporate Actions Methodology](#).

Index Calculation and Price Data

Details about index calculations and price data can be found in their respective rulebooks: [Morningstar Indexes Calculation Methodology](#) and [Morningstar Equity Indexes Price Methodology](#).

Methodology Review and Index Cessation Policy

The index methodology is continually reviewed to ensure it achieves all stated objectives. These reviews consider corporate action treatment, selection, and maintenance procedures. Subscribers to the index will be notified before any methodology changes are made. For more details, refer to the [Morningstar Index Methodology Change Policy](#).

Morningstar Indexes notifies all subscribers and stakeholders of the index that circumstances might arise that require a material change to, or a possible cessation of, the index. These circumstances are generally not within Morningstar's control and may include significant changes to the underlying market structure, inadequate access to necessary data, geo-political events, and regulatory changes. In addition, factors such as low usage or methodology convergence may result in the cessation of an index.

Because the cessation of the index or benchmark index could disrupt subscriber products that reference this index, all subscribers are encouraged to have robust fallback procedures if an index is terminated. For more details, refer to the [Morningstar Index Decommissioning Policy](#).

Data Correction and Precision

Intraday Index Data Corrections

Commercially reasonable efforts are made to ensure the accuracy of data used in real-time index calculations. If incorrect price or corporate action data affects index calculations, corrections are applied prospectively.

Index-Related Data and Divisor Corrections

Incorrect pricing and corporate action data for individual issues in the database will be corrected upon detection. In addition, an incorrect divisor of an index, if discovered if discovered within two days of its occurrence will be fixed retroactively on the day it is discovered to prevent an error from being carried forward. Commercially reasonable efforts are made to correct an older error subject to its significance and feasibility.

For more details, refer to the [Recalculation Guidelines](#).

Exceptions

While Morningstar will seek to apply the methodology as described within this document, the market environment, supervisory, legal, financial, or tax reasons may require an alternative approach to be adopted. A decision to take an alternative approach will be made by the Morningstar Index Methodology Committee, and in all instances, the application of a nonstandard process will be reported to the Morningstar Index Oversight Committee.

Appendixes

Appendix 1: Modifications to the Rulebook

Section	Description of Change	Update Date
Assigning stocks to the Index	<ul style="list-style-type: none"> Hypothetical AUM change from SGD 50 million to SGD 200 million 	December 2018
Assigning stocks to the Index	<ul style="list-style-type: none"> Hypothetical AUM Change from SGD 200 million to SGD 400 million, additional capping at 10% redemption level and DTT assumption change from 2 to 4 for illiquid security 	June 2023
Assigning stocks to the Index	<ul style="list-style-type: none"> Hypothetical AUM change from SGD 400 million to SGD 700 million 	December 2024

Appendix 2: Glossary

Terms	Description
Reconstitution	During each reconstitution, the steps mentioned in the index construction process are performed, resulting in membership reset.
Rebalance	During each rebalancing, the weights are adjusted for updated free-float and shares outstanding data.

Appendix 3: Morningstar Economic Moat Rating

In a free market economy, capital seeks the areas of highest return. Whenever a company develops a profitable product or service, it doesn't take long before competitive forces drive down its economic profits. Only companies with an economic moat—a structural competitive advantage that allows a firm to earn above-average returns on capital over a long period of time—are able to hold competitors at bay.

To help investors identify companies that possess a moat, Morningstar's Equity Research analysts assign one of three Economic Moat Ratings: none, narrow, or wide. There are two major requirements for firms to earn either a narrow or wide rating: 1) The prospect of earning above-average returns on capital; and 2) some competitive edge that prevents these returns from quickly deteriorating.

For more information on the moat rating process performed by Morningstar Equity Research, refer to the [Morningstar Equity Research Methodology](#).

Distance to Default

Distance to default is a structural or contingent claim model that takes advantage of both market information and accounting financial information. The firm's liabilities are viewed as a call option on the value of the firm's assets. If the value of the assets is not sufficient to cover the firm's liabilities (the strike price), default is expected to occur.

For more information on the distance to default, please refer to the [Morningstar's Distance to Default methodology](#).

Morningstar Quantitative Moat Rating

The Quantitative Economic Moat Rating is analogous to Morningstar's Economic Moat Rating in that both are meant to describe the strength of a firm's competitive position. It is calculated using an algorithm designed to predict the Economic Moat Rating a Morningstar analyst would assign to the stock. The quantitative rating is expressed as none, narrow, or wide. If the input data required for the algorithm is not available, a quantitative rating will not be assigned.

For further details on the Morningstar quantitative moat, please refer to the [Morningstar's Quantitative Equity & Credit Ratings methodology](#).

Appendix 4: Sector and Region Definitions

Morningstar Sectors

Each benchmark constituent is considered for one of the 11 industry sectors, which are then consolidated into three Super Sectors that are a broader representation of Morningstar sectors.

- ▶ Cyclical Super Sector
 - ▶ Basic materials
 - ▶ Consumer cyclical
 - ▶ Financial services
 - ▶ Real estate
- ▶ Defensive Super Sector
 - ▶ Consumer defensive
 - ▶ Healthcare
 - ▶ Utilities
- ▶ Sensitive Super Sector
 - ▶ Communication services
 - ▶ Energy
 - ▶ Industrials
 - ▶ Technology

Morningstar Regions

Each benchmark constituent is considered for one of the following eight regions.

- ▶ Developed Markets
 - ▶ Developed Asia-Pacific
 - ▶ Developed Europe

- ▶ Developed Middle East and Africa
- ▶ Developed North America
- ▶ Emerging Markets
 - ▶ Emerging Asia
 - ▶ Emerging Europe
 - ▶ Emerging Latin America
 - ▶ Emerging Middle East and Africa

About Morningstar Indexes

Morningstar Indexes was built to keep up with the evolving needs of investors—and to be a leading-edge advocate for them. Our rich heritage as a transparent, investor-focused leader in data and research uniquely equips us to support individuals, institutions, wealth managers, and advisors in navigating investment opportunities across major asset classes, styles, and strategies. From traditional benchmarks and unique IP-driven indexes to index design, calculation, and distribution services, our solutions span an investment landscape as diverse as investors themselves.

Morningstar Index Methodology Committee

The Morningstar Index Methodology Committee oversees all new index development, index methodology changes, and cessation of indexes for any indexes where Morningstar owns the intellectual property. This committee is also charged with ensuring that indexes align with Morningstar Research principles and values. The group comprises members of the indexes team with index research, product development, product management, client service, index implementation, and operation expertise who provide the first layer of governance over index design and methodology.

Morningstar Index Operations Committee

The Morningstar Index Operations Committee governs the processes, systems, and exception handling of the day-to-day management of all live indexes, including index rebalancing and reconstitution, restatements, market classification, and contingency management. The committee oversees the annual review of index methodology (as required by U.K. and EU benchmark regulations, or BMR), ensuring that methodologies remain fit for purpose and continue to achieve their stated investment objectives. The group comprises members of the indexes team with data, operations, corporate actions, product development, index launch, client service, and index management experience who provide the first layer of governance over index operations.

Morningstar Index Oversight Committee

The Morningstar Index Oversight Committee is responsible for the index oversight function as per the requirements of the U.K. and European BMR, providing independent oversight of all aspects of the governance of benchmark administration as required by the relevant BMR. Its remit extends to all calculation and administration-related business activities of Morningstar Indexes, including administration of Morningstar-owned benchmarks as well as client-owned benchmarks and index calculation. The oversight function is part of the organizational structure of Morningstar but is separate and independent from the index business, index management, and the other index committees.

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