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# Construction Rules for the Morningstar® Brazil Target Momentum Index<sup>SM</sup>

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## Morningstar Indexes

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## Overview

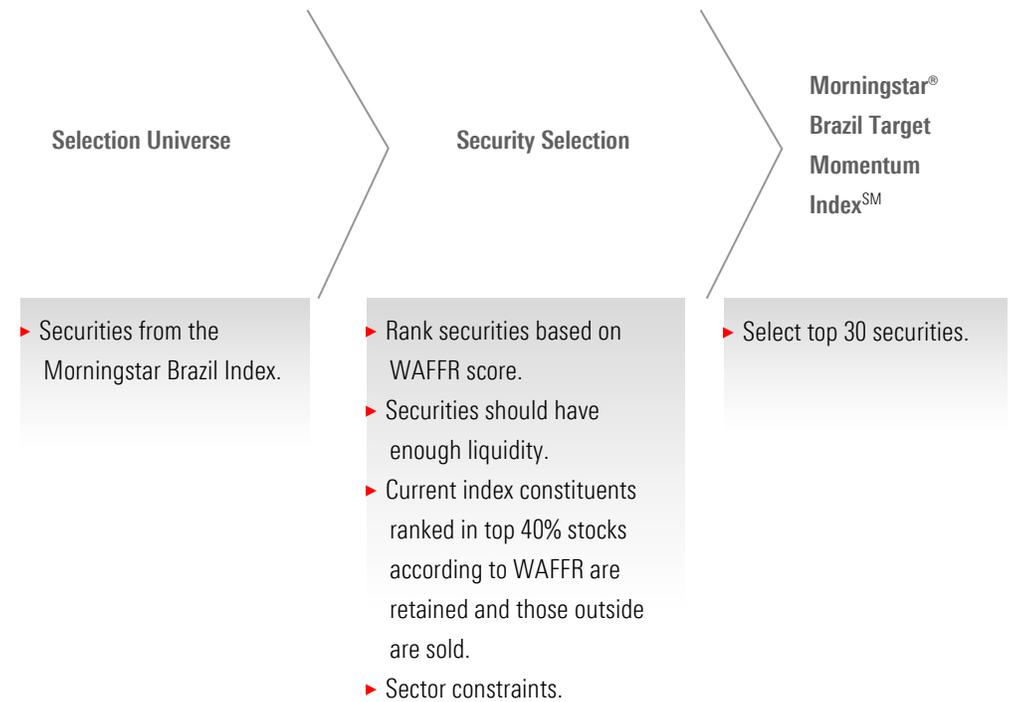
The Morningstar® Brazil Target Momentum Index<sup>SM</sup> tracks the performance of a diversified portfolio of 30 companies that exhibit high momentum exposure. The index is screened for companies that score well across return on equity, technical, and earnings momentum indicators.

### Index Inception Date and Performance Inception Date

The inception date of the index is September 18, 2015, and the performance inception date of the index is June 15, 2007, when the first back-tested index value was calculated.

## Index Construction

**Exhibit 1** Morningstar Brazil Target Momentum Index Construction Process



For additional details, refer to the "Assigning stocks to the Index" section.

## Assigning Stocks to the Index

### Selection Universe

At each reconstitution, securities for the index are derived from the Morningstar Brazil Index (benchmark). For more details on benchmark construction, refer to the [Construction Rules for the Morningstar Global Markets ex-US Index](#).

In addition, to be eligible for the Morningstar Brazil Target Momentum Index, companies must be compliant with Resolution 3792 of the Central Bank of Brazil, which restricts securities in which Brazilian pension funds can invest. Compliance with Resolution 3792 is reviewed quarterly in March, June, September, and December.<sup>1</sup>

<sup>1</sup> Considering the lack of historical data and to avoid the potential forward-looking bias, compliance with Resolution 3792 is not applied for the back-test period.

## Security Selection

To be eligible for the index, all constituents must meet the following criteria in sequence:

### ► Fundamental Factors

At each reconstitution, stocks in the investable universe are assigned a weighted average fundamental factor rank, or WAFFR, based on their weighted average rank of the following six fundamental factors (see Appendix 1 for definitions):

Fundamental Factor	Strategy Weight
Percentage change in price from 12-month high	25%
Price change from month-end 9 months ago	15%
Price change from month-end 3 months ago	15%
3-month fiscal EPS estimate revision	15%
Latest fiscal period earnings surprise	10%
Trailing return on equity	20%

The WAFFR for each stock is determined on each reconstitution date as follows: For each fundamental factor, relative rankings for all stocks are calculated on a scale of 0 (worst value) to 100 (best value). This score is multiplied by the assigned strategy weight and repeated for each variable that has been assigned a weight. A total score is then tabulated for each stock. The stocks are ranked according to their scores, with the highest score getting a WAFFR of 1.

### ► Additional Liquidity Rules

The securities in the index should have enough liquidity such that starting from cash, the hypothetical fund with \$100 million in assets under management that trades no more than 20% of any security's average monthly dollar traded value, or AMDTV, needs fewer than five days to purchase the most illiquid stock in the index (See Appendix 1 for additional details on AMDTV).

### ► Buffer Rules

Current index constituents ranked within the top 40% of all stocks in the selection universe according to WAFFR are retained in the index, while those falling outside the top 40% are sold. Each stock that is sold is replaced by an index-eligible stock with the best WAFFR.

### ► Sector Constraints

The weight of an individual sector in the index is constrained within a band of +/-7.5% of the corresponding weight in the benchmark as of the reconstitution date. If there is an insufficient number of constituents from a particular sector, owing to lack of fundamental data or liquidity, the sector weight may fall below the benchmark weight of 7.5%.

Maximum Sector Weight = Benchmark Sector Weight +/- 7.5%

The sector definitions are based on the [Morningstar Global Equity Classification Structure](#).

### **Number of Stocks**

The index contains 30 stocks based on a transparent ranking system subject to selection and eligibility criteria at reconstitution. However, if securities fall short of the selection and eligibility criteria, or if securities are added or deleted as a result of corporate actions after reconstitution, the index can have more or fewer than 30 securities. During reconstitution, if the number of securities is less than the target, the weight of the constituents will be determined based on the index weighting scheme. The schedule for reconstitution and corporate actions is available in the "Index Maintenance and Calculation" section.

### **Index Weighting**

The index is equal weighted. For more details, refer to the [Morningstar Indexes Calculation Methodology rulebook](#).

## **Index Maintenance and Calculation**

### **Scheduled Maintenance**

The index is reconstituted and rebalanced quarterly and implemented after the close of business on the third Friday of March, June, September, and December and is effective the following Monday. If Monday is a holiday, it is effective on the immediate following business day. The market data used for reconstitution and rebalance is as of the last trading day of February, May, August, and November.

Refer to Appendix 1 for details on reconstitution and rebalancing.

### **Corporate Action**

The treatment of corporate actions can be found in the [Morningstar Indexes Corporate Actions Methodology rulebook](#).

### **Index Calculation and Price Data**

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

## **Methodology Review and Index Cessation Policy**

The index methodology is continually reviewed to ensure it achieves all stated objectives. These reviews take into account 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 Process](#).

Morningstar also notifies all subscribers and stakeholders of the index that circumstances might arise that require a material change to the index, or a possible cessation of the index. Circumstances that could lead to an index cessation include, but are not limited to, market structure change, product definition change, inadequate supply of data, insufficient revenue associated with the index, insufficient

number of clients using the index, and/or other external factors beyond the control of the Morningstar Index Committee.

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 Cessation Process](#).

## **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 affect index daily highs or lows, they are corrected retroactively as soon as is feasible.

### **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 within five days of its occurrence, will always 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](#).

### **Computational and Reporting Precision**

For reporting purposes, index values are rounded to two decimal places and divisors are rounded to appropriate decimal places.

## Appendixes

### Appendix 1: Glossary

Terms	Description
<b>Reconstitution</b>	During each reconstitution, the steps mentioned in the index construction process are performed, resulting in membership reset.
<b>Rebalance</b>	During each rebalancing, the weights are adjusted for updated free-float and shares outstanding data.
<b>Average monthly dollar traded value</b>	A security's AMDTV is calculated over the six calendar months immediately preceding reconstitution. Monthly dollar traded value, or MDTV, is the product of average number of shares traded in a month and closing price as of the last trading day of the month. For corporate entities younger than six months, MDTV is computed on a prorated basis. The days-to-trade rule is applied only at entry, and current constituents may have more than 10 days to trade on account of declining AMDTV.
<b>Trailing return on equity</b>	Trailing return on equity is the ratio of a company's trailing 12 months of operating EPS as a percentage of the company's average shareholders' equity per share over the corresponding period. High values are best.
<b>Latest fiscal period earnings surprise</b>	Earnings surprise is defined as the percentage difference between the actual and expected earnings for the latest reported fiscal period. Earnings surprise is adjusted in two ways: (1) A linear decay factor is used to condense the surprise toward a small value (0.33) as time passes (2) Earnings variability is factored in to ensure that if two companies beat the consensus estimate by the same percentage, the company with the lower historic earnings variability will have the higher earnings surprise. High values are best.
<b>Price change from month-end 3 (9) months ago</b>	Price change from month-end three (nine) months ago takes the current price of the stock and compares it with the price of the stock three (nine) months ago. U.S. dollar prices adjusted for corporate events and dividends are used. High values are best.
<b>Percentage change in price from 12-month high</b>	Most recent price divided by highest price over the past 12 months. U.S. dollar prices adjusted for corporate events and dividends are used. High values are best.
<b>3-month fiscal EPS estimate revision</b>	Three-month fiscal EPS estimate revision measures the percentage change over the past three months in the median analyst earnings estimate for a company's current fiscal year. For example, an estimate revision of 15% means that current-year earnings estimates have been raised by 15% over the past three months.

**About Morningstar, Inc.**

Morningstar, Inc. is a leading provider of independent investment research in North America, Europe, Australia, and Asia. Morningstar offers an extensive line of products and services for individual investors, financial advisors, asset managers, and retirement plan providers and sponsors. Morningstar provides data on approximately 510,000 investment offerings, including stocks, mutual funds, and similar vehicles, along with real-time global market data on more than 17 million equities, indexes, futures, options, commodities, and precious metals, in addition to foreign exchange and Treasury markets. Morningstar also offers investment management services through its investment advisory subsidiaries.

**About Morningstar Indexes**

Morningstar® Indexes combine the science and art of indexing to give investors a clearer view into the world's financial markets. Our indexes are based on transparent, rules-based methodologies that are thoroughly back-tested and supported by original research. Covering all major asset classes, our indexes originate from the Morningstar Investment Research Ecosystem—our network of accomplished analysts and researchers working to interpret and improve the investment landscape. Clients such as exchange-traded fund providers and other asset management firms work with our team of experts to create distinct, investor-focused products based on our indexes. Morningstar Indexes also serve as a precise benchmarking resource.

**Morningstar Index Committee**

The [Morningstar Index Committee](#) is currently comprised of senior officials who possess the appropriate levels of knowledge in relation to Indexes. A wide array of business groups are represented to allow for a broad voice to be heard and for a wider view to be expressed in evaluating all subjects brought up during Committee meetings. The Committee seeks to create indexes of the highest quality that meet the recognized qualities of a good benchmark.

**For More Information**

For any queries, reach out to us via our [communication page](#).



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