

Construction Rules for the Morningstar[®] Brazil Target Momentum IndexSM



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Overview

The Morningstar® Brazil Target Momentum Index tracks the performance of 30 stocks that exhibit strong momentum characteristics. The index targets stocks that score well across price and earnings momentum indicators, as well as return on equity. These screens are designed to deliver exposure to stocks with strong momentum and solid fundamental underpinnings.

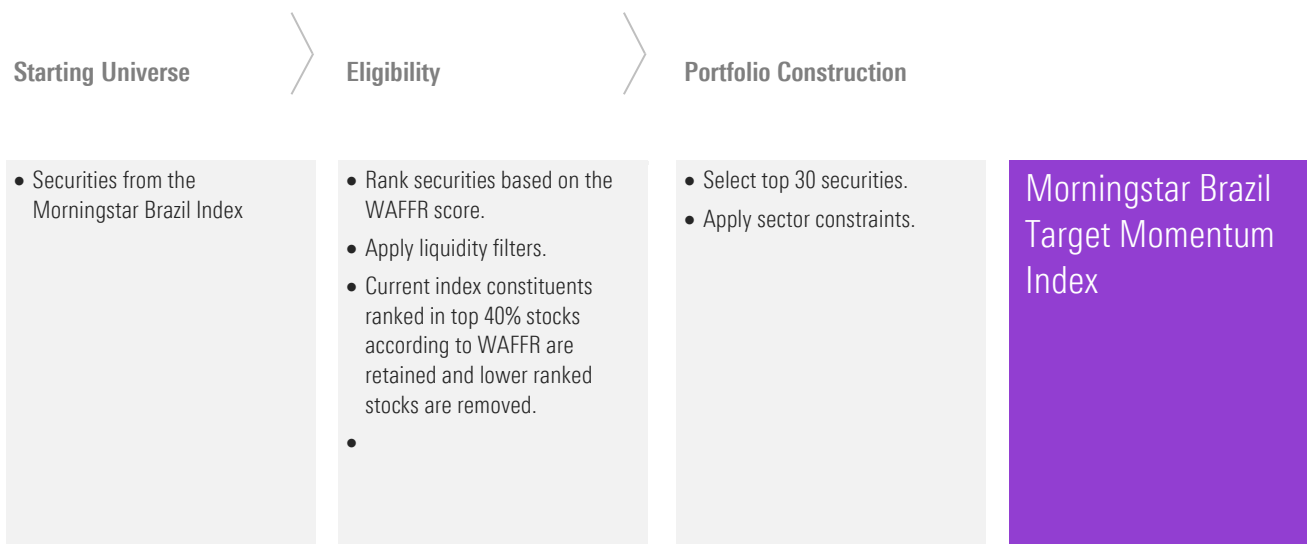
This index does not incorporate environmental, social, or governance criteria.

Index Inception and Performance Start Date

The index inception date is September 21, 2015, and the performance start date, when the first back-tested index value was calculated, is June 15, 2007.

Index Construction

Methodology Summary



Starting Universe

At each reconstitution, securities for the Morningstar Brazil Target Momentum Index are derived from the Morningstar Brazil Index (benchmark), which targets stocks representing the top 97% of the investable market. 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.¹

Eligibility

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

- 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 2 for definitions):

¹ 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.

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 2 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. These constraints are enforced through security selection. 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 targets 30 stocks at reconstitution based on a transparent ranking system subject to selection and eligibility criteria. 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, where the membership is reset, and rebalanced quarterly. Adjustments are made on the Monday following the third Friday of March, June, September, and December. If the Monday is a holiday, reconstitution occurs on the next business day. The market data used for reconstitution is as of the last trading day of February, May, August, and November.

Index files are published according to the global calendar schedule, meaning index files will be published every day from Monday to Friday throughout the year, even on local market holidays.

Corporate Actions

The treatment of corporate actions will be as per the alternatively-weighted indexes. For more details, please refer to 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 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 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 Methodology 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 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 generally be corrected upon detection. In addition, an incorrect divisor of an index, 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](#).

Computational and Reporting Precision

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

Exceptions

While Morningstar will seek to apply the method described above, 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 relevant Morningstar Indexes Methodology Committee, and in all instances, the application of a nonstandard process will be reported to the Morningstar Indexes Oversight Committee.

Appendixes

Appendix 1: Modifications to the Rulebook

Section	Description of Change	Update Date
Entire Rulebook	Updated to the new format	July 2023
Index Maintenance and Calculation	Updated Calendar from Brazil to Global	February 2024
Appendix 4	Addition of Earnings (EPS) Surprise description	March 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.
Average monthly dollar traded value	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.
Trailing return on equity	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.
Latest fiscal period earnings surprise	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.
Price change from month-end 3 (9) months ago	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. These values are measured in local currency terms.
Percentage change in price from 12-month high	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. These values are measured in local currency terms.
3-month fiscal EPS estimate revision	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.

Appendix 4: Earnings (EPS) Surprise

Earnings (EPS) Surprise measures the difference between how a company has performed with respect to its Earnings for a particular period compared to Analyst estimates.

Earnings Surprise is calculated from:

- EPS Volatility: This is measured over the past 5 years.
- Time Decay Factor: Time Decay Factor provides weight to the EPS estimate, based on how far the EPS Estimate Date is from the actual EPS date.

EPS Surprise =

If $(\text{EPS Volatility} * (\text{FX_EPS_Volatility}/\text{FX_Estimate})) > 0.01$

EPS Surprise = $((\text{EPS} * (\text{FX_EPS}/\text{FX_Estimate}) - \text{EPS Estimate}) * \text{TimeDecayFactor} * \text{ReportingFrequencyFactor}) / (\text{EPSVolatility} * (\text{FX_EPS_Volatility}/\text{FX_Estimate}))$

Otherwise

EPS Surprise = $((\text{EPS} * (\text{FX_EPS}/\text{FX_Estimate}) - \text{EPS Estimate}) * \text{TimeDecayFactor} * \text{ReportingFrequencyFactor}) / 0.01$

Where,

- FX_EPS_Volatility is the foreign exchange rate from EPS Volatility currency to USD
- FX_EPS is the foreign exchange rate from EPS currency to USD
- FX_Estimate is the foreign exchange rate from EPS Estimate currency to USD.
- Where available, 7 years of data is used for both EPS and EPS Estimate data.
- **TimeDecayFactor** = $1 - \text{Difference in days between (EPS Date, EPS Estimate Date)} * \text{ReportingFrequencyFactor} / 360$, where EPS Date is the **Fiscal Period End date**, and EPS Estimate Date is the **EPS estimation date**.
 - TimeDecayFactor
 - If TimeDecayFactor > 1.00, TimeDecayFactor = 1.00
 - If TimeDecayFactor < 0.33, TimeDecayFactor = 0.33
 - ReportingFrequencyFactor
 - ReportingFrequencyFactor = 1, if ReportingFrequency = 1 (Annual)
 - ReportingFrequencyFactor = 2, if ReportingFrequency = 2 (Semi-annual)
 - ReportingFrequencyFactor = 4, if ReportingFrequency = 3 (Quarterly)

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 Indexes Methodology Committee

The Morningstar Indexes 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 index 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 Indexes Operations Committee

The Morningstar Indexes 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 index 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 Indexes Oversight Committee

The Morningstar Indexes 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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