# Bloomberg Brazil Equity Factor Focus Indices Methodology

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## Introduction

The Bloomberg Brazil Factor Focus Indices are designed to represent the performance of companies that exhibit higher factor exposure to the specific factors: Momentum, Quality and Value factors within the Brazil investable universe. The Bloomberg Brazil Factor Focus Indices are constructed based on a weighted combination of factor specific descriptors.

**Objectives and key features**

## Section 1: Index Overview

| | |
|---|---|
| Name | Bloomberg Brazil Momentum Focus Index |
| Ticker(s) | BRMF (Price Return)<br>BRMFT (Total Return)<br>BRMFN (Net Total Return) |
| Name | Bloomberg Brazil Quality Focus Index |
| | BRQF (Price Return)<br>BRQFT (Total Return)<br>BRQFN (Net Total Return) |
| Name | Bloomberg Brazil Value Focus Index |
| | BRVF (Price Return)<br>BRVFT (Total Return)<br>BRVFN (Net Total Return) |
| Currency | BRL |
| Inception Date | 03/30/2015 |
| Publication | Weekdays |

## Section 2: Index Eligibility Process

### Parent Index

To be eligible for the Bloomberg Brazil Factor Focus Indices, a security must be a member of the Bloomberg Brazil Large Mid Small universe on the Selection Date (Bloomberg Ticker: BRLSPL Index). Refer to the Bloomberg Global Equity Indices Methodology for additional details.

### Eligibility

Securities with a Price equal or higher than 3 BRL and 90 day average trading volume greater than two million R$ are included as Eligible Securities. For companies with multiple listings, the security with highest 90 day average trading volume on the Selection Date is retained as Eligible Security.

## Section 3: Index Construction Process

### Factor Descriptions

#### *Determination of Momentum Factors*

Each security's measure of Momentum is determined as a weighted sum of four Momentum attributes.

On each Selection Date (t), and for a given security (i), each signal is calculated using historical adjusted end of month prices as follows:

$$Price\ Momentum(i,t,tmin,tmax,ccy) = \frac{Price(i,t,tmin,ccy)}{Price(i,t,tmax,ccy)} - 1, \qquad with\ tmin < tmax$$

$Price(i,t,tmin,ccy)$ is, in relation to each security (i), the adjusted price on the last Business Day of the month expressed in the Share Denomination Currency (ccy) with an *offset of tmin* periods compared to the Weight Determination day t.

$Price(i,t,tmax,ccy)$ is, in relation to each security (i), the adjusted price on the last Business Day of the month expressed in the Share Denomination Currency (ccy) with an *offset of tmax* periods compared to the Weight Determination day t.

- M2: Long Term Price Momentum: Price Momentum (i, t, 1M, 12M, $BRL)
- M3: Medium Term Price Momentum: Price Momentum (i, t, 1M, 6M, $BRL)
- M4: Short Term Price Momentum: Price Momentum (i, t, 0M, 3M, $BRL)
- M1: Residual Long Term Price Momentum: Price Momentum (i, t, 1M, 12M, $BRL).

For M1, for each security passing the Eligibility criteria, a regression is run without an intercept of the daily returns of each security against the daily returns of the Parent Index. The residuals from that regression are extracted and used to rebuild a price series for those residuals. This new residual price series becomes the input in computing the residual momentum indicator.

We further multiply each momentum signal accordingly:

- $M1 = M1 \times 0.20$
- $M2 = M2 \times 0.20$
- $M3 = M3 \times 0.20$
- $M4 = M2 \times 0.40$

#### *Determination of Quality Factors*

On each Selection Date (t), and for a given security (i), each security's measure of Quality is determined as an average of three attributes: Normalized ROE, Normalized ROA, Operating Leverage as defined below and further specified in Appendix A:

$$ROE = \frac{T12M\_NORMALIZED\_INCOME_t}{TOT\_COMMON\_EQY_t}$$

$$ROA = \frac{T12M\_NORMALIZED\_INCOME_t}{BS\_TOT\_ASSET_t}$$

$$OPER\_LEV = \frac{SALES\_GROWTH_t}{EBIT\_YR\_GROWTH_t}$$

***Determination of Value Factors***

On each Selection Date (t), and for a given security (i), each security's measure of Value exposure is determined as an average of three attributes: Soft Value (FCFY Free Cash Flow Yield), Base Value (EY Earnings Yield, STP Sales to Price), Deep Value (BTP Book to Price), calculated in accordance with the formulae below, and further specified in Appendix A:

$$BTP_{(i,t)} = \frac{BOOK\_VAL\_PER\_SH_t}{PX\_LAST_t}$$

$$STP_{(i,t)} = \frac{TRAIL\_12M\_NET\_REVENUE\_PER\_SHARE_t}{PX\_LAST_t}$$

$$EY_{(i,t)} = \frac{TRAIL\_12M\_EPS\_BEF\_XO\_ITEM_t}{PX\_LAST_t}$$

$$FCFY_{(i,t)} = \frac{TRAIL\_12M\_FREE\_CASH\_FLOW\_PER\_SH_t}{PX\_LAST_t}$$

***Winsorization***

To reduce the effect of outliers, the factor attributes are winsorized at the 1.5$^{th}$ and 98.5$^{th}$ percentile to obtain a new dataset called S.

***Uniformization and Normalization***

The next step is to **apply per Sector** a Probability Integral Transform to the previously winsorized S values. This transforms a given distribution into a perfect Uniform distribution. For a discrete distribution, this is achieved by means of an algorithm called Rank Transformation. With a perfect uniformly distributed sample, we can easily further transform the data into a Standard Normal distribution. This is implemented with the following steps:

1. Assign a rank to each value in S: we obtain a data set of ranks called R with $R \sim U(0,1)$. We can overwrite extreme values as:

$$R = \begin{cases} 0.00000001 & if\ R_{i,t} \leq 0 \\ R_{i,t} & if\ 0 < R_{i,t} < 1 \\ 0.99999999 & if\ R_{i,t} \geq 1 \end{cases}$$

2. Transform the ranks into Normally distributed values with location and scale parameters respectively equal to 0 and 1. This leads to a new series: $Z \sim N(0,1)$. Numerically this can be achieved efficiently using the Inverse Error Function (often available in numerical packages as "erfinv"). We obtain:

$$Z_{i,t} = erfinv(2 \times R_{i,t} - 1) \times \sqrt{2}$$

***Standardization***

The next step is to **standardize per Sector** the newly created Z values. This is achieved by applying the following formula:

$$Zi, t = \frac{Z_{i,t} - Mean(Z)}{Std(Z)}$$

Where Mean() and Std() represent the arithmetic mean and standard deviation of the dataset Z.

***Aggregation of the Factor Scores***

On each Selection Date (t), and for a given security (i), the aggregated Momentum Factor Score is given by the sum of all the transformed attributes. Missing values are set to 0.

$$MOM(i,t) = \mathrm{Z}(\mathrm{M1}_{(\mathrm{i,t})}) + \mathrm{Z}(\mathrm{M2}_{(\mathrm{i,t})}) + \mathrm{Z}(\mathrm{M3}_{(\mathrm{i,t})}) + \mathrm{Z}(\mathrm{M4}_{(\mathrm{i,t})})$$

The aggregated Quality Factor Score for a given security (i) at time (t) is given by average of all transformed attributes.

$$QUALITY(i,t) = 0.33 \times \mathrm{Z}(\mathrm{ROE}_{(\mathrm{i,t})}) + 0.33 \times \mathrm{Z}(\mathrm{ROA}_{(\mathrm{i,t})}) + 0.33 \times \mathrm{Z}(\mathrm{LEV}_{(\mathrm{i,t})})$$

The aggregated Value Factor Score for a given security (i) at time (t) is given by average of all transformed attributes.

$$VALUE(i,t) = 0.25 \times \mathrm{Z}\left(\mathrm{BTP}_{(\mathrm{i,t})}\right) + 0.25 \times \mathrm{Z}\left(\mathrm{STP}_{(\mathrm{i,t})}\right) + 0.25 \times \mathrm{Z}\left(\mathrm{EY}_{(\mathrm{i,t})}\right) + 0.25 \times \mathrm{Z}(\mathrm{FCFY}_{(\mathrm{i,t})})$$

***Robust Scaling***

The final step to calculate the aggregate score for a given Factor is to reduce the tails of the created z-scores to further reduce large deviations among values. This is done to add robustness and reduce turnover.

If F represents an aggregate factor score, the modified F values are obtained by removing the median and standardizing the values by their inter-quartile range, according to the following formula:

$$F_{i,t} = \frac{F_{i,t} - Median(F)}{Quantile(F, 0.75) - Quantile(F, 0.25)}$$

**Selection Process**

The Eligible Securities are sorted from highest to lowest according to the aggregate Factor Scores. The securities in the top 33% ranked by the aggregate factor Scores are selected to be included in the index.

### Index Weighting

The index securities are modified market capitalization weighted. The initial weight of each issuer is determined by dividing the Factor exposure of each issuer by the sum of the Factor exposure of all the issuers in the index.
The securities are weighted based on its factor scores "score weighted" according to the following formulae:

Momentum: $$w_{i,t} = \frac{Momo_{i,t}}{\sum_i Momo_{i,t}}$$

Quality: $$w_{i,t} = \frac{Quality_{i,t}}{\sum_i Quality_{i,t}}$$

Value: $$w_{i,t} = \frac{Value_{i,t}}{\sum_i Value_{i,t}}$$

### Index Rebalance and Reconstitution

The Index is rebalanced and reconstituted quarterly in March, June, September, and December. The Index Eligibility Process and Index Construction Process are applied using data as of five business day's prior to the effective date. The Index rebalance and reconstitutions then go effective on the 2nd Wednesday in March, June, September, and December, respectively (Effective Date).

| | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | |
| **Selection Date** | 5 Business Day prior to effective date | | | X | | | X | | | X | | | X |
| **Effective Date** | 2nd Wed | | | X | | | X | | | X | | | X |

## Section 4: Index Maintenance

To ensure that the Index accurately reflects the aggregate performance of its constituent members, the Index must be rebalanced and reconstituted periodically and maintained daily for corporate actions, corporate events, any restatements, data integrity, and changes to the methodology.

### Index Calculation

Refer to the Bloomberg Global Equity Indices Methodology for index calculation details.

### Deletion Policy

Index securities are not deleted outside of the quarterly reconstitution unless a security has a fundamental alteration, such as a merger, acquisition, delisting, or other major corporate event, that would make it ineligible for inclusion in the Index.

### Addition Policy

Index securities are not added outside of the quarterly reconstitution.

### Replacement Policy

Index securities are not replaced outside of the quarterly reconstitution.

### Corporate Actions

Refer to Bloomberg Global Equity Indices Non-Market Cap Corporate Action Methodology for the treatment of corporate actions.

## Section 5: Stakeholder engagement, risks, and limitations

### Stakeholder engagement

BISL is in regular and ongoing engagement with its users through various channels, including via help desks, sales personnel, and direct communication with product personnel. To help ensure that the Index remains an accurate representation of Global Equities defined in the methodology, BISL endeavors to meaningfully incorporate these engagements into improvements in processes and service. Prior to any change that might meaningfully impact users, BISL consults more broadly with stakeholders, where appropriate, before a recommendation is presented to the Product, Risk & Operations Committee ("PROC") for approval. This concept of shared ownership enables BISL to produce the most relevant Index and helps ensure responsiveness to user needs.

### Risks

The following is a summary of certain risks associated with the Index but is not meant to be an exhaustive list of all risks associated with the Index. Although the Index is designed to be representative of the markets it is measuring, it may not be representative of every use case. There is also inherent, though transparent, judgment in its construction, as outlined in this Methodology. The Index is designed for general applicability and not to address the individual circumstances and needs of users. BISL does not advise about the usefulness of the Index to a particular circumstance; users are therefore encouraged to seek their own counsel for such matters. This Methodology is subject to change, which may impact its usefulness to users. Although efforts will be made to alert users of any change, every individual user may not be aware of them. Such changes may also significantly impact the usefulness of the Index. BISL may also decide to cease publication of this Index. BISL maintains internal policies regarding user transitions, but no guarantee is given that an adequate alternative is available generally or for a particular use case. Markets for stocks, as with all markets, can be volatile. As the Index is designed to measure this market, it could be materially impacted by market movements, thus significantly affecting the use or usefulness of the Index for some or all users. Also, certain equity markets are less liquid than others – even the most liquid markets may suffer periods of illiquidity. Illiquidity can have an impact on the quality or amount of data available to BISL for calculation and may cause the Index to produce unpredictable results.

**Limitations of the index**

Though the Index is designed to be representative of the markets it measures or otherwise aligns with its stated objective, it may not be representative in every case or achieve its stated objective in all instances. It is designed and calculated strictly to follow the rules of this Methodology, and any Index level or other output is limited in its usefulness to such design and calculation. Markets can be volatile, including those market interests that the Index measures or upon which the Index is dependent to achieve its stated objective. For example, illiquidity can have an impact on the quality or amount of data available to the administrator for calculation and may cause the Index to produce unpredictable or unanticipated results.

In addition, market trends and changes to market structure may render the objective of the Index unachievable or to become impractical to replicate by investors.

In particular, the Index measures global equity markets. As with all equity investing, the Index is exposed to market risk. The value of equities fluctuates with the changes in economic forecasts, interest rate policies established by central banks and perceived geo-political risk. The Index does not take into account the cost of replication and as a result a tracking portfolio's return will underperform the Index with all else equal. As the Index is designed to measure those markets, it could be materially impacted by market movements, thus significantly impacting the use or usefulness of the fixings for some or all users.

In addition, certain sub-indices may be designed to measure smaller subsets of the Index such as specific styles, size, and sector. Some of these sub-indices have very few qualifying constituents and may have none for a period of time. During such period, the sub-index will continue to be published at its last value, effectively reporting a 0% return, until new constituents qualify. If no constituents are expected to qualify (due to changes in market structure and other factors), the sub-index may be discontinued. In such an event, this discontinuation will be announced to index users.

## Section 6: Benchmark oversight and governance

**Benchmark governance, audit, and review structure**

BISL uses two primary committees to provide overall governance and effective oversight of its benchmark administration activities:

- The PROC provides direct governance and is responsible for the first line of controls over the creation, design, production and dissemination of benchmark indices, strategy indices and fixings administered by BISL, including the Index. The PROC is composed of the personnel with significant experience or relevant expertise in relation to financial benchmarks. Meetings are attended by Legal & Compliance personnel. Nominations and removals are subject to review by the BOC, discussed below.
- The oversight function is provided by BISL's Benchmark Oversight Committee ("BOC"). The BOC is independent of the PROC and is responsible for reviewing and challenging the activities carried out by the PROC. In carrying out its oversight duties, the BOC receives reports of management information from members of the PROC as well as Legal & Compliance members engaged in second level controls.
- In addition, the BISL board of directors is composed of senior executives a majority of which are independent of BISL and is empowered to set the strategy, objectives, and overall direction of BISL, and oversees and monitors BISL's decision-making.

On a quarterly basis, the PROC reports to the BOC on governance matters, including but not limited to client complaints, the launch of new benchmarks, operational incidents (including errors & restatements), major announcements and material changes concerning the benchmarks, the results of any reviews of the benchmarks (internal or external) and material stakeholder engagements.

**Index and data reviews**

BISL reviews the Methodology on a periodic basis, and at least annually, to determine whether it continues to:

- (i) be robust and reliable
- (ii) have clear rules, including regarding discretion
- (iii) be rigorous, continuous, and capable of validation
- (iv) be resilient and ensures the Index can be calculated in the widest range of possible circumstances, without compromising its integrity; and
- (v) be traceable and verifiable.

In doing so, BISL will assess whether the Index continues to represent the market that it is intended to measure. More frequent reviews may result from extreme market events and/or material changes to the underlying market. Non-exhaustive examples of extreme market events include trading events such as trading interruptions or unexpected market closures, resulting in unusual market illiquidity or market volatility; exchange closures, government interventions, a pandemic or a natural catastrophe resulting in exceptional periods of stress.

Criteria for data inputs include reliable delivery and active underlying markets. Whether an applicable market is active depends on whether there are sufficient number of transactions (or other indications of price, such as indicative quotes) in the applicable constituents (or similar underlying constituent elements) that a price (or other value, as applicable) may be supplied for such constituent(s).

Other than as set forth in this Methodology (read in conjunction with the Bloomberg Global Equity Index Methodology), there are no minimum liquidity requirement for Index constituents and/or minimum requirements or standards for the quantity or quality of the input data. The review will be conducted by product managers of the Index in connection with the periodic rebalancing of the Index or as otherwise appropriate. Please see the Bloomberg Global Equity Index Methodology for further information on calculation of the Index in the event of market disruption.

Any resulting change to this Methodology will be subject to the review of the PROC under the oversight of the BOC, each of which committees shall be provided all relevant information and materials it requests relating to the change. Details regarding the PROC and BOC are described above. Any relevant changes will be reflected and tracked in updated versions of this Methodology.

BISL will consult with users of the Index on changes to the Methodology and seek user input. The stakeholder engagement will set forth the rationale for any proposed changes (including whether the representativeness of the Index or its appropriateness as a reference for financial instruments or contracts would be at risk if the proposed changes are not made), the key elements of the Methodology that would, in BISL's view, be affected by the proposed change, as well as the timeframe and process for responses. BISL will provide at least two weeks' notice prior to any change going into effect. In the event of exigent market circumstances or if required by law or regulation, this period may be shorter. Subject to requests for confidentiality, stakeholder feedback and BISL's responses will be made accessible upon request.

**Internal and external reviews**

BISL's Index administration is also subject to its Legal & Compliance function, which periodically reviews various aspects of its businesses to determine whether it is adhering to applicable policies and procedures, and assess whether applicable controls are functioning properly. In addition, BISL may from time to time appoint an independent external auditor with appropriate experience and capability to review adherence to benchmark regulation and the IOSCO Principles. The frequency of such external reviews depends on the size and complexity of the operations and the breadth and depth of Index use by stakeholders. For the Indices, BISL anticipates an external review to be conducted every two years.

**Expert judgement**

The Index is rules-based, and its construction is designed to consistently produce values without the exercise of expert judgment or discretion. Nevertheless, BISL may use expert judgment or discretion with regards to the following:

- Index restatements
- Extraordinary circumstances during a market emergency
- Data interruptions, issues, and closures
- Significant acquisitions involving a non-Index company

When expert judgment or discretion is required, BISL undertakes to be consistent in its application, with recourse to written procedures outlined in this Methodology and internal procedures manuals. In certain circumstances exercises of expert judgment or discretion are reviewed by senior members of BISL management and Legal & Compliance teams, and are reported to the PROC, BISL's governance committee, which operates under the supervision of BISL's oversight function, the BOC. BISL also maintains and enforces a code of ethics to prevent conflicts of interest from inappropriately influencing index construction, production, and distribution, including the use of expert judgment or discretion.

**Data providers and data extrapolation**

The Index is rules-based, and its construction is designed to consistently produce Index levels without the exercise of discretion. Interpolation (or extrapolation) is used in the determination of Forward Rates.
In addition, BISL seeks to avoid contributions of input data that may be subject to the discretion of the source of such data and instead seeks to use input data that is readily available and/or distributed for several non-index or benchmark creation purposes. Accordingly, the index requires no 'contributors' to produce and no codes of conduct with any such sources are required.

**Conflicts of interest**

The Index confers on BISL discretion in making certain determinations, calculations, and corrections from time to time. In making those determinations, calculations, and corrections, BISL has no obligation to take the needs of any product investor or any other party into consideration. BISL is committed to avoiding and, where necessary, managing actual or potential conflicts of interest in the BISL decision-making process and has established a Conflicts of Interest Policy to minimize or resolve actual or potential conflicts of interest. BISL does not create, trade or market products.

**Restatement policy**

BISL strives to provide accurate calculation of its indices. However, to the extent a material error in Index Values is uncovered following publication and dissemination, a public notification will be made alerting of such error and what course of action will be undertaken and when. In such situations, BISL may decide to:

1) Not correct until the next index review;
2) Apply a correction going forward with advance notification; or
3) Restate the historical indices

BISL reviews discrepancies and generally restates indices if the impact is in excess of 3 bps[1] and occurred in the last 2 business days. In some cases, BISL may apply discretion and determine that a restatement is required. The decision will take into consideration the following factors (not listed in order of importance):

- The relative importance of the data field impacted by the error
- Whether the indices were replicable
- When the error occurred and when it was discovered
- The number of indices and sub-indices affected
- Whether the impacted indices are linked to tradable products
- The magnitude of the error
- The burden of restatement on client re-processing relative to the impact of the error
- The impact of the restatement on analytical tools

A decision to restate any Index results in the restatement of all impacted Indices. Real-time indices are not considered for restatement, all real-time dissemination is considered indicative. Discrepancies discovered after 12 months will not be corrected. Refer to the Bloomberg Global Equity Indices Methodology for the Restatement Policy of the Underlying Index.

[1] of the respective country Large-Mid-Small Total Return Index

## Glossary

| Attribute Name | Item | Definition |
|---|---|---|
| **Share Denomination Currency** | Ccy | The currency used for prices when building the Momentum signals. |
| Period (12M, 1M, 3M) | D, M, Q | The frequency for Momentum offsets: D (days), M (months), Q (quarters) |
| Book Value per Share | BOOK_VAL_PER_SH | Measure used by owners of common shares in a firm to determine the level of safety associated with each individual share after all debts are paid accordingly. |
| EBIT - 1 Year Growth | EBIT_YR_GROWTH | Percentage change in earnings before interest and taxes (EBIT) from last year to the current year. For interim periods, the comparative period is the same interim period of the preceding year. |
| Last Price | PX_LAST | Returns the last price provided by the exchange. |
| Normalized Income | T12_NORMALIZED_INCOME | Trailing 12 month Normalized Income adds up the net of tax of Abnormal/Exceptional Gain/Loss on top of the Income from Operations before extraordinary items minus minority interest and preferred dividends, over the last 4 quarters. |
| Revenue Growth Year over Year | SALES_GROWTH | A percentage increase or decrease of sales revenue by comparing current period with same period prior year. |
| Total Assets | BS_TOT_ASSETS | The total of all short and long-term assets as reported on the Balance Sheet. |
| Total Common Equity | TOT_COMMON_EQY | The amount that all common shareholders have invested in a company. |
| Trailing 12M EPS before XO Items | TRAIL_12M_EPS_BEF_XO_ITEM | Calculated by adding Basic EPS Before XO for the last four quarters, two semi annuals, or annual. |
| Trailing 12M Free Cash Flow Per Share | TRAIL_12M_FREE_CASH_FLOW_PER_SH | Calculated by adding Free Cash Flow per Share for the last four quarters, two semi-annuals, or annual. |
| Trailing 12M Net Revenue | TRAIL_12M_NET_REVENUE | Most Recent trailing 12 month Net Revenue. |

## Appendix: ESG Disclosure

| **EXPLANATION OF HOW ESG FACTORS ARE REFLECTED IN THE KEY ELEMENTS OF THE BENCHMARK METHODOLOGY** | |
|---|---|
| **Item 1**. Name of the benchmark administrator. | Bloomberg Index Services Limited ("BISL") |
| **Item 2**. Type of benchmark or family of benchmarks. | Equities |
| **Item 3**. Name of the benchmark or family of benchmarks. | Brazil Factor Focus |
| **Item 4**. Does the benchmark methodology for the benchmark or family of benchmarks take into account ESG factors? | No |
| **Item 5**. Where the response to Item 4 is positive, please list below, for each family of benchmarks, those ESG factors that are taken into account in the benchmark methodology, taking into account the ESG factors listed in Annex II to Delegated Regulation (EU) 2020/1816.<br>Please explain how those ESG factors are used for the selection, weighting or exclusion of underlying assets.<br>The ESG factors shall be disclosed at an aggregated weighted average value at the level of the family of benchmarks. | |
| (a) List of environmental factors considered: | Not applicable |
| (b) List of social factors considered: | Not applicable |
| (c) List of governance factors considered: | Not applicable |
| **Item 6**. Where the response to Item 4 is positive, please list below, for each benchmark, those ESG factors that are taken into account in the benchmark methodology, taking into account the ESG factors listed in Annex II to Delegated Regulation (EU) 2020/1816, depending on the relevant underlying asset concerned.<br>Please explain how those ESG factors are used for the selection, weighting or exclusion of underlying assets.<br>The ESG factors shall not be disclosed for each constituent of the benchmark, but shall be disclosed at an aggregated weighted average value of the benchmark.<br>Alternatively, all of this information may be provided in the form of a hyperlink to a website of the benchmark administrator included in this explanation. The information on the website shall be easily available and accessible. Benchmark administrators shall ensure that information published on their website remains available for five years. | |
| (a) List of environmental factors considered: | Not applicable |
| (b) List of social factors considered: | Not applicable |
| (c) List of governance factors considered: | Not applicable |
| Hyperlink to the information on ESG factors for each benchmark: | Not applicable |
| **Item 7**. Data and standards used | |
| (a) Data input.<br>(i)*Describe whether the data are reported, modelled or sourced internally or externally.*<br>(ii)*Where the data are reported, modelled or sourced externally, please name the third party data provider.* | Not applicable |
| (b) Verification and quality of data.<br>*Describe how data are verified and how the quality of those data is ensured.* | Not applicable |
| (c) Reference standards<br>*Describe the international standards used in the benchmark methodology.* | Not applicable |
| **Date on which information has been last updated and reason for the update:** | October 2022, Update |

## Disclaimer



**Take the next step.**

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