



Index Correction Policy & Procedures

Foxberry Ltd
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1 Definitions

1.1 Introduction

This chapter contains the definitions used in this document. Unless the context otherwise requires, the singular includes the plural and vice versa.

The definitions are split into three different sections:

- Section 1.2 contains definitions based on the Principles;
- Section 1.3 contains definitions based on the EU Benchmark Regulation;
- Section 1.4 contains other definitions; *and*
- Section 1.5 details certain interpretations of the definitions that are used throughout this document.

1.2 IOSCO based definitions

Administration: Includes all stages and processes involved in the production and dissemination of an Index, including:

- (a) Collecting, analysing and/or processing information or expressions of opinion for the purposes of the determination of an Index;
- (b) Determining an Index through the application of a formula or another method of calculating the information or expressions of opinions provided for that purpose; *and*
- (c) Dissemination to users, including any review, adjustment and modification to this process.

Administrator: An organisation or legal person that controls the creation and operation of the Index Administration process, whether or not it owns the intellectual property relating to the Index. In particular, it has responsibility for all stages of the Index Administration process, including:

- (a) The calculation of the Index;
- (b) Determining and applying the Methodology; *and*
- (c) Disseminating the Index.

Audit Trail: For the purposes of the Index-setting process, the documentation and retention of all relevant data, submissions, other information, judgments (including the rationale for any exclusions of data), analyses and identities of Submitters used in the Index-setting process for an appropriate period.

Calculation Agent: A legal entity with delegated responsibility for determining an Index through the application of a formula or other method of calculating the information or expressions of opinions provided for that purpose, in accordance with the Methodology set out by the Administrator.

Expert Judgment: Refers to the exercise of discretion by an Administrator or Submitter with respect to the use of data in determining an Index. Expert Judgment includes extrapolating values from prior or related transactions, adjusting values for factors that might influence the quality of data such as market events or impairment of a buyer or seller's credit quality, or weighting firm bids or offers greater than a particular concluded transaction.

Index: The Indices in scope of this document are prices, estimates, rates, Indices or values that are:

- (a) Made available to users, whether free of charge or for payment;
- (b) Calculated periodically, entirely or partially by the application of a formula or another method of calculation to, or an assessment of, the value of one or more underlying Interests;
- (c) Used for reference for purposes that include one or more of the following:
 - (i) determining the Interest payable, or other sums due, under loan agreements or under other financial contracts or instruments;
 - (ii) determining the price at which a financial instrument may be bought or sold or traded or redeemed, or the value of a financial instrument; *and/or*
 - (iii) measuring the performance of a financial instrument.

Index Linked Products: investable financial products referencing Indices.

Interest: Refers to any physical commodity, currency or other tangible goods, intangibles (such as an equity security, bond, futures contract, swap or option, interest rates, another index, including indexes that track the performance of a rule-based trading strategy or the volatility of a financial instrument or another index), any financial instrument on an Interest, which is intended to be measured by an Index. Depending on the context, it is assumed that the word “Interest” also includes the market for such Interest.

Methodology: The written rules and procedures according to which information is collected and the Index is determined.

Publish or Make Available: Refers to the expectation that a party such as an Administrator should provide a document or notice to Stakeholders. The means by which such notice is made should be proportionate to the breadth and depth of Index use by Stakeholders, as determined by the Administrator on a “best efforts” basis. Ordinarily, posting a document or notice on the Administrator’s website will meet this expectation.

Regulatory Authority: A governmental or statutory body (not being a Self-Regulatory Organisation) with responsibility for securities and/or commodities and futures regulation.

Self-Regulatory Organisation: An organisation that has been given the power or responsibility to regulate itself, whose rules are subject to meaningful sanctions regarding any part of the securities market or industry. This authority may be derived from a statutory delegation of power to a non-governmental entity or through a contract between a Self-Regulatory Organisation and its members as is authorized or recognized by the governmental regulator. See the principle 9 of the Principles for Financial Benchmarks published by the International Organization of Securities Commissions (“**IOSCO**”) in July 2013 (the “**Principles**”).

Stakeholder: Refers to Subscribers and other persons or entities who own contracts or financial instruments that reference an Index.

Submitter: A legal person providing information to an Administrator or Calculation Agent required in connection with the determination of an Index.

Subscriber: A person or entity that purchases Index determination services from an Administrator.

1.3 EU Benchmark based definitions

EU Benchmark Regulation means, following the UK's withdrawal from the EU and the end of the transition period, the transition of the Regulation (EU) 2016/1011 of the European Parliament and of the Council into UK law;

BMR Index: means any figure:

- (a) that is published or made available to the public;
- (b) that is regularly determined:
 - (i) entirely or partially by the application of a formula or any other method of calculation, or by an assessment; *and*
 - (ii) on the basis of the value of one or more underlying assets or prices, including estimated prices, actual or estimated interest rates, quotes and committed quotes, or other values or surveys;

Benchmark: means any BMR Index by reference to which the amount payable under a financial instrument or a financial contract, or the value of a financial instrument, is determined, or a BMR Index that is used to measure the performance of an investment fund with the purpose of tracking the return of such BMR Index or of defining the asset allocation of a portfolio or of computing the performance fees;

BMR Input Data: means the data in respect of the value of one or more underlying assets, or prices, including estimated prices, quotes, committed quotes or other values, used by an administrator to determine a Benchmark;

Benchmark Provision: means

- (a) administering the arrangements for determining a Benchmark;
- (b) collecting, analysing or processing BMR Input Data for the purpose of determining a Benchmark; *and*
- (c) determining a Benchmark through the application of a formula or other method of calculation or by an assessment of BMR Input Data provided for that purpose;

Benchmark Administrator means a natural or legal person that has control of the Benchmark Provision;

1.4 Other definitions

Index Committee: an internal committee established at Foxberry for the purpose of providing governance and internal oversight in respect

of all aspects of Foxberry's Index Administration and Foxberry's activities as a Benchmark Administrator.

1.5 Interpretations

As Foxberry is subject to both the Principles and the EU Benchmark Regulation, there are multiple definitions which may sometimes overlap.

For the purposes of this Index Correction Policy, it is therefore assumed that:

- Each Benchmark is also an Index. Hence all provisions relevant to Indices also apply to Benchmarks;
- Each Index is not necessarily a Benchmark, as for instance a Benchmark must be publicly available but an Index may not be; *and*
- Provisions which apply only to Benchmarks will refer to the term Benchmark.

2 Introduction

2.1 About us

Foxberry Ltd (“**Foxberry**”, “**we**”, “**us**”, “**our**”) is authorised and regulated by the Financial Conduct Authority (the “**FCA**”) (number 677250). Foxberry Ltd is incorporated in England and Wales (number 09278597), with its registered office address at Level 39, One Canada Square, Canary Wharf, London, E14 5AB, United Kingdom.

Foxberry offers a range of regulated financial services to institutional clients as well acting as an Administrator of financial Indices and as a Benchmark Administrator.

2.2 This document

This document describes our policy and the procedures (the “**Index Correction Policy**”) in place regarding errors and corrections of Index Levels.

The purpose of the Index Correction Policy is to document and publish information regarding Foxberry’s policy and procedures in relation to errors and corrections regarding Index Levels in accordance with principle 11 of the Principles and article 27(2f) of the EU Benchmark Regulation.

2.3 Background

The calculation of the level of an Index (the “**Index Level**”) is a periodic process that involves applying the Methodology using input data at a particular point in time (the process of “**Index Calculation**”).

Although Foxberry makes great effort to ensure the correctness of the Index Levels of its Indices, errors in Index Levels may occur from time to time, including for reasons outside of Foxberry’s control. This section describes the policies and procedures in place with regard to errors in Index Levels.

2.4 Scope

This Index Correction Policy applies to errors in Index Levels of Indices that have been licensed and are used for Index Linked Products.

Although the Methodology of an Index is intended to be comprehensive and accurate, ambiguities may arise and errors or omissions may have been made in the Methodology. If so, Foxberry will resolve such ambiguities and, if necessary, amend the Methodology to reflect such resolution. In the case of Methodology inaccuracy, Foxberry may amend the Methodology to address errors or omissions in accordance with its **Index Amendment Policy**. Corrections to the Methodology are out of scope of this Index Correction Policy.

2.5 Ownership

The Index Correction Policy is owned by the Index Committee.

2.6 Amendments

Any amendments to this document needs to be approved by the Index Committee.

2.7 Structure

The structure of this document can be summarised as:

- Chapter 1 contains definitions used in this document;
- Chapter 2 contains introductory sections;
- Chapter 3 contains information regarding the oversight of corrections;
- Chapter 4 discusses different error sources and types; *and*
- Chapter 5 contains policies and procedures relating to the implementation of corrective and preventive measures of errors;

3 Oversight

3.1 Index Committee discretion

As errors and the consequences of errors can be of a complicated nature, the Index Committee reserves the right to review the particular circumstances and to override the error treatment guidelines listed in section 5.2, by taking into account the considerations listed in section 3.3 and the aims in section 3.2.

3.2 Aims

When overseeing the governance of an Index, the Index Committee will take into account the following aims:

- Maintaining the investability of the Index;
- Ensuring continued integrity of the Index; *and*
- Ensuring a fair outcome for investors.

3.3 Considerations

When evaluating the potential treatment of an error, Foxberry shall consider:

- the positions that a typical hedging counterparty could reasonably have expected to have in place to replicate the Index;
- any impact on the investability of the Index;
- the breadth and depth of the use of the Index;
- the materiality of the error;
- the type and nature of the error;
- the operational aspects of the error and potential corrective measures;

- the scope of use of the Index; *and*
- the impact for investors.

4 Error types

4.1 Introduction

As errors can take many forms, the below sections explain different sources of errors and differentiate between different types of errors.

4.2 Error sources

Potential errors sources include, but are not limited to:

- Data grab errors;
- A data vendor publishing incorrect data used to calculate an Index;
- Data sources revising previously published data used to calculate an Index;
- Calculation errors due to an error in calculation logic; *and*
- Incorrect calendars.

4.3 Actual v. Vendor Errors

This section distinguishes between an actual error and a third-party data vendor showing an incorrect index level:

- An error relating to the actual calculated index level (an “**Actual Index Error**”); *v.*
- An error relating to the published index level at a specific data vendor and/or publication venue (a “**Vendor Index Error**”): For the convenience of its clients, index levels of Foxberry Indices are published by numerous third-party data vendors. Whilst every effort is made to ensure that the index levels are correctly published by these vendors, Foxberry does not have ultimate direct control of the published levels and it is possible that index levels or related data become corrupted and/or missing. Licensees are encouraged to receive the official index level directly from Foxberry or one of its representatives.

4.4 Application v. Constituents errors

This section deals with Indices which (each a “**Constituents Based Index**”):

- consist of a basket of multiple securities with particular weights;
- the Index, rebalances on a periodic basis (e.g. monthly or quarterly) in accordance with a selection process which determines the constituents and the associated weights; *and*
- where the selection process of the constituents and associated weights is complex, such that a typical hedging counterparty would not be expected to model such selection, but rather rely on a provided feed of constituents and weights (a “**Constituents Feed**”).

With regard to incorrect Index Levels of a Constituents Based Index, the following distinction can be made:

- The Index Level is incorrect due to e.g. an error in application of logic or incorrect input data, but the Constituents Feed of the Constituents Based Index is correct (an “**Application Error**”); *v.*
- The logic for calculating the Index Level is correctly applied but based on a previous incorrect selection or weighting of constituents (a “**Constituents Error**”), leading to an incorrect Index Level.

An Index which adjusts its weighting to pre-defined securities following an algorithm, for instance based on price inputs, and where a typical hedging counterparty would be expected to model such change in allocation instead of relying on a Constituents Feed, should not be considered a Constituents Based Index.

The existence of a Constituents Feed does not make an Index a Constituents Based Index. Foxberry may offer guidance on whether or not an Index is considered a Constituents Based Index.

4.5 Point v. Path dependant errors

This section describes the difference between an Actual Index Error and a Point Error:

- An Actual Index Error, which is independent of and has no impact on recent Index Levels (a **Point Error**); *v.*
- An Actual Index Error, the correction of which would have an impact on recent Index Levels through path-dependency (a **Path Dependant Error**);

4.6 Real-time v. EOD errors

This section describes the difference between an EOD Error and a Real-time Error.

For the convenience of its clients, intraday levels of certain Foxberry Indices are published in real-time. These intraday levels are typically not licensed for use in Index Linked Products. As intraday calculations are published in real-time, the intraday levels do not go through the same rigorous quality checks as the official index levels.

Therefore errors can be categorised into these two categories:

- An error that relates to the real-time intraday calculation of an Index, and not the closing level of the Index (“**Real-time Error**”); *v.*
- An error that relates to the official Index Level of Index (“**EOD Error**”);

5 Implementation

5.1 Introduction

This chapter contains policies and procedures relating to the implementation of corrective and preventive measures of errors.

5.2 Treatment guidelines

This list below contains the non-exhaustive correction guidelines:

- A Vendor Index Error shall mean that the data vendor is instructed to publish a corrected index level, as soon as possible following discovery;
- A Point Error shall be corrected as soon as possible following discovery;
- A Path Dependant Error should in general be corrected immediately if it is discovered within 5 business days from its publication;
- For operational reasons, a Real-time Error which is also a Point Error is typically not corrected, but it may be if deemed practicable; *and*
- A Constituents Error shall typically not lead to corrected historical Index Levels. Instead, Foxberry shall consider the materiality of the error and may typically
 - (a) conduct an extra-ordinary selection and adjustment process;
 - (b) add and/or remove the incorrect constituents; *or*
 - (c) if the following ordinary rebalance process is due to shortly to take place, ensure the next ordinary selection process is conducted in a corrected manner.

All other corrections should be discussed and determined by the Index Committee.

5.3 Notification

Licenseses with active Index Linked Products linked to the relevant Index will be notified of corrections, either on an per-client basis where applicable or through a notice on Foxberry's and/or the Calculation Agent's website, subject to:

- Notifications for Vendor Index Errors are normally not issued; *and*
- Notifications for Real-time Errors are normally only issued if the intraday level is licensed specifically for use as a reference point and deemed material.

Where a notification is issued on a per-client basis, the notification will be provided to the contact email contact details given to Foxberry. Licenseses are responsible for ensuring that the notification email distribution list and preferences are kept up-to-date.

5.4 Record keeping

With the exception of Vendor Index Errors, Foxberry shall keep a record and Audit Trail of the details of EOD Errors, and Real-time Errors related to intraday levels licensed specifically for use, and the potential corrections, and retain these records for at least five years from the date the error treatment was concluded.

5.5 Preventive actions

All errors shall be discussed in the following Index Committee meeting to see if there are any actions that would prevent future occurrences of the same error.

5.6 Oversight

Corrections are overseen by the Index Committee.

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