

# CORRECTION POLICY

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## 1 PURPOSE

Solactive strives to calculate its Indices with the greatest possible efforts to ensure their accuracy. Nevertheless, errors in the Index determination and calculation processes, such as the omission or incorrect implementation of a Corporate Action, the use of incorrect Input Data, the use of incorrect data for the selection of the Index components or the incorrect application of the Index methodology, may occur from time to time for a variety of reasons, both internal to Solactive and external. This policy outlines the process to be applied where errors in the Index determination and calculation processes occur. The aim of this process is to ensure that each respective Index continues to reflect the economic reality that is intended to measure after a correction.

## 2 SCOPE

This policy applies globally to all Indices administered by Solactive.

## 3 GENERAL PRINCIPLES

### 3.1 ERROR TYPES

During the process of administration of Indices, several types of errors may occur.

#### *Errors with respect to the Index level calculation*

Errors that may occur in connection with the determination of the Index level can be divided into Data Errors and Application Errors.

Both Data Errors and Application Errors generally lead directly to an Index level that would have had a different value if the error had not occurred, and therefore does not correctly reflect the market or economic reality represented by the Index.

Due to the processes implemented by Solactive to validate the data used to determine the Index level, any Data Error is usually detected promptly.

#### *Errors with respect to the Index composition*

Errors that lead to an incorrect composition of the Index are referred to as Rebalance Errors. Solactive has set up internal processes for quality assurance and validation of results of the selection process and implementation in the Index, which aim to prevent the occurrence of errors related to the rebalancing. However, errors cannot be completely avoided. Such errors can be detected by Solactive within the framework of internal quality controls or on the basis of validation by the users of the Index. In such cases, errors may also be detected at a point in time that does not immediately follow the selection and implementation in the Index.

#### *Errors with respect to the implementation of the results of the selection process*

Errors that lead to an incorrect calculation of the Index level as a consequence of a mistake in the implementation of the published results of the selection process into the index calculation platform are referred to as Implementation Errors. Such errors generally lead directly to an Index level that would have had a different value if the error had not occurred. The errors can be detected by Solactive within the



framework of internal quality controls or on the basis of validation by the users of the Index. In such cases, errors may also be detected at a point in time that does not immediately follow the selection and implementation in the calculation platform.

## 3.2 PROCESS FOR ERROR INVESTIGATION

If a (potential) error has been identified or has been brought to Solactive's attention, an investigation process will be initiated. The investigation aims to confirm the potential error, determine the effects of the error on the determination of the Index level or the composition of the Index components and their weighting, and identify appropriate measures to address the error and correct the composition of the Index or the Index level.

During the investigation process, Solactive proceeds as follows:

- the suspicion of error will be investigated;
- if relevant, information on Corporate Actions or values for index components will be cross-checked with data available from another data provider; and
- if relevant, information on Corporate Actions or values for index components may be cross-checked with data as published in the original source in the case the validation with an alternative data provider did not result in clear results.

If the error and its treatment are not covered by the provisions of this Correction Policy, escalation to the Oversight Committee will occur in accordance with Section 4.5.

## 4 CORRECTION TREATMENT

### 4.1 GENERAL

Solactive endeavors to correct all errors in connection with the determination of the Index level or composition of the Index that have been identified within a reasonable period of time.

Data Errors, Application Errors and Implementation Errors will always be corrected as quickly as possible (i.e. within two Index Calculation Days after their discovery).

In individual cases of Data Errors, Application Errors and Implementation Errors, as well as generally where there is a Rebalance Error, longer periods may be required due to the complexity of the event that caused the error or the amount of work involved in the correction. Rebalance Errors may be implemented with an upcoming rebalance of the Index (Section 4.2 below)

Solactive applies different treatments depending on the error type.

### 4.2 IMPLEMENTATION

#### *Data Errors and Application Errors*

In the case of Data Errors or Application Errors, the Index level is calculated from the implementation date of the correction on the basis of the corrected data, corrections made to other Index parameters and/or the calculation logic. Subject to the time limits (as specified in Section 4.3) Index levels published for the period



between the event in connection with which the error occurred and the time such error has been corrected are restated. Solactive calculates real-time (intraday) values for some of its indices. In the event there is an error with a real-time calculation or a restatement of end-of-day values for one of these Indices, Solactive will not restate intraday values for the impacted time period.

### *Rebalance Errors*

In the case of Rebalance Errors, the Index composition (including the weights of the Index constituents) will be corrected.

If the error is detected within the time limits (as specified in Section 4.3) the rebalance is repeated based on the data for the actual selection date on which the error occurred and thus leads to the correct composition. Going forward, the Index level will be calculated based on the corrected composition. Index levels for the period between the Rebalance Day and the time such error has been identified are restated.

If the error is detected outside the time limits (as specified in Section 4.3), the correction takes place by performing a rebalance in accordance with the provisions in the guideline of the affected Index with the following conditions: the date of error discovery will be regarded as an extraordinary selection day. The Index level will be continuously calculated on the basis of the corrected composition. Index levels for the period between the event in connection with which the error occurred and the time such error has been identified are not restated.

Corrections of Index composition and weights of Index components triggered by a Rebalance Error may, after careful consideration and taking into account the rebalance frequency of the affected Index, be implemented with the next ordinary rebalance of the Index, provided that such rebalance takes place as scheduled within fifteen (15) Index Calculation Days from the time the error was discovered.

### *Implementation Errors*

In the case of Implementation Errors, the wrong implementation of the published results of the selection process is corrected. The Index level is calculated from the implementation date of the correction on the basis of the corrected calculation parameter. Subject to the time limits (as specified in Section 4.3) Index levels published for the period between the event in connection with which the error occurred and the time such error has been corrected are restated.

## 4.3 TIME LIMITS

Restatements and Corrections due to Data Errors, Application Errors and Implementation Errors are generally only made if such errors have been discovered within two Index Calculation Days after occurrence of the event that caused the error.

Restatements due to Rebalance Errors are generally only made if errors have been identified within two Index Calculation Days after the Rebalance Day for the respective Index on which the error occurred.

Corrections due to Rebalance Errors are generally always made.

Solactive may, at its own discretion, deviate from this general rule, provided that a Restatement or Correction is generally possible and would not lead to a disproportionate effort and costs. Such decision is made by the Oversight Committee and will take account of the significance, potential market impact or disruption resulting from the potential Restatement, age and scale of the error.



Erroneous management or transaction fees that appear to result from incorrect manual input will be restated even if this error was not detected within two Index Calculation Days after the application of the fees.

#### 4.4 ERRORS DURING INDEX SET-UP

Errors may also occur during the set-up and launch phase of an Index (e.g. the back test of the Index).

If errors are contained in the back test of the Index, this back test can be restated if the error has been identified within 40 Index Calculation Days after the launch of the Index.

If other errors are contained in the Index set-up process, Solactive may deviate from this rule at its own discretion, provided that such Restatement is generally possible and would not lead to disproportionate expense.

#### 4.5 UNFORESEEABLE ERROR TYPES

In the course of calculating and administering Indices, the occurrence of unforeseeable error types may be possible. As no pre-defined treatment is applicable for such errors, these cases have to be assessed individually. Due to the fact that the Indices are administered and calculated by the application of a rule-based methodology, the occurrence of unforeseen error types should be confined to a minimum. In such cases, the following procedure applies:

- The respective Operations Team, or where there is an error during the Index set-up (Section 4.4) the respective Product Development Team, will notify the Oversight Committee about any unforeseen error without undue delay, providing sufficient information to assess the situation. Upon request by the Oversight Committee, relevant members of the Operations Team or Product Development Team will be available to further explain the case in person.
- The Oversight Committee will evaluate the situation and decide whether and how the error should be rectified.

The Oversight Committee is responsible for overseeing and controlling Solactive's indexing business in accordance with the respective Index methodologies and Solactive policies. The decisions of the Oversight Committee are made independently of and unaffected by the interests of other units within Solactive.

#### 4.6 GENERAL REVIEW PROCESS

Any error and its individual Restatement and/or Correction are reviewed as follows:

- While a team member of the respective Operations Team investigates and corrects the error, another team member of the respective Operations Team reviews the applied measures as well as their required documentation.
- A representative of Compliance scrutinizes the Restatements and/or Corrections as well as their handling, the appropriateness of the remedial actions and the respective documentation through a process of random sampling.



## 5 AUDIT TRAIL

Every error type as well as the involved employees of the respective Operations Team (or where there is an error during Index set-up, the employees of the respective Product Development Team), and the respective measures that have been taken to correct this error, including, as the case may be, any Oversight Committee decision, is to be duly documented within Solactive's auditing framework and in accordance with the Solactive Record Keeping Policy.

## 6 ANNOUNCEMENT

Any Restatement and/or Correction made to an Index will be communicated to clients via email. The communication should include an explanation of the error, the implemented rectification and the effective date. The respective Operations Team (or where there is an error during the Index set-up, the respective Product Development Team) is to be immediately available to provide further explanations, if necessary, and within reasonable limits.

Upon request, affected clients may be provided with a detailed incident report by Solactive.

## 7 DEFINITIONS

For the purpose of this document, the defined terms used herein shall have the following meanings:

'Application Errors' describe events in which the process of determining the Index level has errors. This includes, but is not limited to:

- mistakes in the calculation logic; and
- incorrect application of the Index methodology in connection with the adjustment of the Index as a result of Corporates Actions, such as an incorrect implementation of the Corporate Action, the application of the incorrect weighting methodology or incorrect adjustment of Index parameter affected by the Corporate Action.

'BMR' means Regulation (EU) 2016/1011 of the European Parliament and of the Council of 8 June 2016 on Indices used as benchmarks in financial instruments and financial contracts or to measure the performance of investment funds and amending Directives 2008/48/EC and 2014/17/EU and Regulation (EU) No 596/2014.

'Compliance' means the compliance department of Solactive.

'Corporate Action' means an event that results in an adjustment to the Index on an Index calculation day. Such events have a material impact on the price, weighting or overall integrity of Index components.

'Correction' means a correction of data, Index parameters, calculation logic, composition of Index constituents and/or weights of the Index constituents that solely affects the ongoing calculation of the Index level.

'Data Errors' describe events in which incorrect data or information is used in determining the Index level. This includes, but is not limited to, the use of:

- incorrect Input Data (prices/accrued interest/FX rates/management or rebalancing fees/tax rates);



and

- incorrect information and data with respect to Corporate Actions, such as an incorrect amount or currency of dividends, incorrect effective dates of Corporate Action events or incorrect information on the type of Corporate Action. This also includes situations in which a Corporate Action was missed due to insufficient or lack of information.

'Implementation Errors' describe events in which the published results of the selection process have been incorrectly implemented into Solactive's calculation platform and, therefore the calculation of the level of the Index is based on wrong calculation parameter This includes, but is not limited to, the:

- implementation of the wrong exchange in the case of constituents of an index with multiple listings; and
- implementation of the wrong share class in the case of constituents of an index with multiple share classes.

'Index' (or 'Indices') refers to an index as defined in Article 3(1)(1) of the 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 an Index. FX rates are also considered Input Data, provided that such FX rates are used every time the level of an Index is determined.

'Rebalance Day' means the day specified in the relevant Index guideline.

'Operations Team' (or 'Ops') means the team within Solactive that is responsible for the day-to-day maintenance of an Index, including determination and distribution of Index levels, as well as ordinary and extraordinary adjustments, for example, after the occurrence of corporate actions with regard to the constituents of an Index or in the course of the regular rebalancing of an Index.

'Oversight Committee' means a committee composed of staff from Solactive and its subsidiaries that is responsible for decisions regarding any amendments to the rules or any termination of the Index.

'Product Development Team' (or 'PD') means the team within Solactive that is responsible for the development of the methodology for determining an Index.

'Rebalance Errors' describe events in which the rebalance process of an Index has errors. This includes, but is not limited to:

- the incorrect application of the Index methodology with respect to the selection criteria and the rebalance process; and
- the use of incorrect data in the selection process.

'Record Keeping Policy' means Solactive's policy governing the processes to meet the record keeping requirements under Article 8 of the BMR.

'Restatement' means a correction of past Index levels due to Data Errors, Application Errors or Rebalance Errors. This includes republishing the corrected Index level.

'Solactive' means Solactive AG and its subsidiaries.



'Index Calculation Day' means a day which the Index is regularly calculated in accordance with the provisions of the relevant Index guideline.

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