

INDEX GUIDELINE

UBS ESG Momentum Global Equity Premium L/O Index

Version 1.0

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INTRODUCTION

This document (the "Guideline") is to be used as a guideline with regard to the composition, calculation and maintenance of the Index. Any changes made to the Guideline are initiated by the Committee specified in Section 1.6. The Index is calculated and published by Solactive AG. The name "Solactive" is trademarked.

It contains the underlying principles and rules regarding the structure and operation of the UBS ESG Momentum Global Equity Premium L/O Index (the "Index"). Solactive AG shall make every effort to implement the applicable regulations. Solactive AG does not offer any explicit or tacit guarantee or assurance, neither pertaining to the results from the use of the Index nor the Index value at any certain point in time nor in any other respect. The Index is merely calculated and published by Solactive AG and it strives to the best of its ability to ensure the correctness of the calculation. There is no obligation for Solactive AG – irrespective of possible obligations to issuers – to advise third parties, including investors and/or financial intermediaries, of any errors in the Index. The publication of the Index by Solactive AG does not constitute a recommendation for capital investment and does not contain any assurance or opinion of Solactive AG regarding a possible investment in a financial instrument based on this Index.



1 INDEX SPECIFICATIONS

- > The UBS ESG Momentum Global Equity Premium L/O Index (the "Index") is an Index of UBS AG and is calculated and distributed by Solactive AG.
- > The Index is designed to provide exposure to a basket of global ESG stocks selected based on positive momentum. It takes equally weighted long positions in 200 global stocks
- > The selection of global equities is carried out from the MSCI World stock universe. ESG filtering is applied using a range of measures provided by the ESG Determination Agent. Momentum is measured using a combination of i) Stock price momentum and ii) Earnings momentum.
- > The Index is a Net Total Return index.
- > The Index is published in USD.

1.1 SHORT NAME AND ISIN

The Index is distributed under ISIN DE000SLA8NR3; the WKN is SLA8NR. The Index is published on Reuters under the code .UISESGM and on BBG under the code UISESGM <Index>.

1.2 INITIAL VALUE

The Index is based on 100 at the close of trading on the start date, 5 February 2007.

1.3 DISTRIBUTION

The Index is published via the price marketing services of Boerse Stuttgart GmbH and is distributed to all affiliated vendors. Each vendor decides on an individual basis as to whether it will distribute/display the Index via its information systems.

1.4 PRICES AND CALCULATION FREQUENCY

The price of the Index is calculated on each Business Day based on the prices on the respective Exchanges on which the Index Components are listed. The most recent prices of all Index Components are used. Prices of Index Components not listed in the Index Currency are translated using spot foreign exchange rates quoted by Reuters. Should there be no current price available on Reuters, the most recent price or the Trading Price on Reuters for the preceding Trading Day is used in the calculation. The daily index closing value is calculated using Reuters/WMCO closing spot rates as at 4pm London time.

The Index is calculated every Business Day from 9:00 a.m. to 10:50 p.m., CET. In the event that data cannot be provided to Reuters or to the pricing services of Boerse Stuttgart GmbH, the Index cannot be distributed.

1.5 WEIGHTING

On each Adjustment Day, the new Index Components are weighted equally.



1.6 OVERSIGHT

A Committee composed of staff from Solactive AG (the "Committee" or the "Index Committee") is responsible for decisions regarding any amendments to the rules of the index.

Changes to the Guideline are submitted to the Committee for approval.

1.7 PUBLICATION

All specifications and information relevant for calculating the Index are made available on the <http://www.solactive.com> web page and sub-pages.

1.8 HISTORICAL DATA

Historical data will be maintained from the launch of the Index on 2 May 2019.

The following differences to the described process in this guideline were made for the backtested data from 5 February 2007 until 1 May 2019:

- > No distinction was made between Rebalancing Days and Business Days, which means the Rebalancing Period includes five Business Days starting on the First Rebalancing Day.
- > No UK Bank holidays were considered in relation to determining the timing of the First Rebalancing Day.

1.9 LICENSING

Licenses to use the Index as the underlying value for derivative instruments are issued to stock exchanges, banks, financial services providers and investment houses by UBS AG.



2 COMPOSITION OF THE INDEX

2.1 SELECTION OF THE INDEX COMPONENTS

The initial composition of the Index as well as any ongoing adjustment are based on the following non-discretionary rules.

The initial universe (MSCI World) is filtered for liquidity by removing the bottom 20% of stocks ranked by 60-day USD median daily trading volume which gives the Index Universe.

ESG filtering is applied using data from the ESG Determination Agent; a stock which fails any of six tests cannot be selected. These tests consider: 1. Overall ESG Score, 2. Recent significant controversies (across any category), 3. Involvement in controversial weapons production, 4. Recent controversies relating to weapons, 5. Recent controversies relating to employee incidents, 6. Recent controversies relating to supply chains. More detail on these steps is available upon request.

Stocks are then ranked based on momentum: the average of (i) Price momentum Z-score, and (ii) Earnings momentum Z-score.

(i) Price Momentum is calculated, considering levels from 12 months ago to 1 month ago, as the t-statistic of the coefficient of the regression of Log(stock gross total return series) versus Day Count.

(ii) Earnings Momentum is calculated by considering analyst earnings forecast revisions over the prior 3 months, for FY1, FY2 and FY3; specifically:

(Number of Upgrades – Number of Downgrades) / (Number of Upgrades + Number of Downgrades)

Stocks are excluded from the original universe if they have fewer than 5 earnings revisions during the period.

Where there exists more than one MSCI World constituent security identified by Axioma as belonging to the same company identifier – only the highest MDV stock will be considered for selection.

2.2 ORDINARY ADJUSTMENT

The composition of the Index is ordinarily reviewed every month of each year on the Selection Day by the Constituent Stock Determination Agent. The composition of the Index is adjusted during the Rebalancing Period.

The Index is rebalanced monthly over a five-day period. Beginning on the First Rebalancing Day, and continuing until the fourth Trading Day following the First Rebalancing Day, the weights of the constituents of the index on the n-th day are set as follows:

$$w_{F+n,O}^{LB,k} = w_{F,C}^{LB,k} + \frac{n * (\hat{w}_R^{LB,k} - w_{F,C}^{LB,k})}{5}, 0 < n \leq 5$$

Where:



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F	= First Rebalancing Day of the current Rebalancing Period
$w_{F+n,O}^{LB,k}$	= Weight of Index Component k effective on Trading Day F+n, calculated using the Trading Price as of Trading Day F+n-1
$w_{F,C}^{LB,k}$	= Weight of Index Component k at the close of business on Trading Day F, calculated using the Trading Price as of Trading Day F, before any composition changes
$\hat{w}_R^{LB,k}$	= Target weight of Index Component k for the current Rebalancing Period as submitted by the Constituent Stock Determination Agent
n	= n-th Rebalancing Day of the current Rebalancing Period

The first adjustment will be made in May 2019 based on the Trading Prices of the Index Components during the Rebalancing Period.

Solactive AG shall publish any changes made to the Index composition following the Selection Day and consequently with sufficient notice before the start of the Rebalancing Period.

If the Constituent Stock Determination Agent fails to deliver the target weights on the first Business Day following a Selection Day, no rebalancing will occur on any of the immediately following Rebalancing Days of the current month.

2.3 EXTRAORDINARY ADJUSTMENT

An extraordinary adjustment, if applicable, is triggered and applied in compliance with the rules set forth in the [Solactive Guideline for Extraordinary Corporate Actions](#).



3 CALCULATION OF THE INDEX

3.1 INDEX FORMULA

The Index Value on a Business Day at the relevant time is calculated in accordance with the following formula:

$$Index_t = \sum_{i=1}^n x_{i,t} * p_{i,t}$$

With:

- n = Number of Index Components on Trading Day t
- $x_{i,t}$ = Number of Shares of the Index Component i on Trading Day t
- $p_{i,t}$ = Price of Index Component i on Trading Day t in Index Currency

3.2 ACCURACY

- > The value of the Index will be rounded to 2 decimal places.
- > The Number of Shares of the Index Components will be rounded to six decimal places.

3.3 ADJUSTMENTS

Indices need to be adjusted for systematic changes in prices once these become effective. This requires the new Number of Index Shares of the affected Index Component.

Following the Committee's decision, the Index is adjusted for distributions, capital increases and stock splits.

This procedure ensures that the first ex quote can be properly reflected in the calculation of the Index. This ex-ante procedure assumes the general acceptance of the Index calculation formula as well as open access to the parameter values used. The calculation parameters are provided by the Index Calculator.

3.4 DIVIDENDS AND OTHER DISTRIBUTIONS

Dividend payments and other distributions are included in the Index. They cause an adjustment of the Number of Shares. The new Number of Shares is calculated as follows:

$$x_{i,t} = x_{i,t-1} * \frac{p_{i,t-1}}{p_{i,t-1} - D_{i,t}}$$

with:

- $x_{i,t}$ = Number of Shares of the Index Component i on Trading Day t
- $D_{i,t}$ = Payment on Trading Day t multiplied by the Dividend Correction Factor of the respective country



3.5 CORPORATE ACTIONS

3.5.1 Principles

Following the announcement by an issuer of Index Components of the terms and conditions of a corporate action, the Index Calculator determines whether such corporate action has a dilutive, concentrative or similar effect on the price of the respective Index Component.

If this should be the case, the Index Calculator shall make the necessary adjustments that are deemed appropriate in order to take into account the dilutive, concentrative or similar effect and shall determine the date on which this adjustment shall come into effect.

Amongst other things, the Index Calculator can take into account the adjustment made by an Affiliated Exchange as a result of the corporate action with regard to option and futures contracts on the respective share traded on this Affiliated Exchange.

3.5.2 Capital increases

In the case of capital increases (from the company's own resources or through cash contributions) the new Numbers of Shares are calculated as follows:

$$x_{i,t} = x_{i,t-1} * \frac{p_{i,t-1}}{p_{i,t-1} - rB_{i,t-1}} \quad \text{with:} \quad rB_{i,t-1} = \frac{p_{i,t-1} - B - N}{BV + 1}$$

with:

$x_{i,t}$ = Number of Shares of Index Component i on the day of the distribution

$x_{i,t-1}$ = Number of Shares of Index Component i on the day prior to the distribution

$p_{i,t-1}$ = Closing price on the day prior to ex-date

$rB_{i,t-1}$ = Calculated value of rights issue

B = Price of rights issue

N = Dividend disadvantage

BV = Subscription ratio

$B = 0$ if capital is increased from the company's own resources.

The last dividend paid or the announced dividend proposal is applied as the dividend disadvantage. 3.5.3
Capital reductions

In the case of capital reductions, the new Number of Shares is determined as follows:

$$x_{i,t} = x_{i,t-1} * \frac{1}{H_{i,t}}$$



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with:

$H_{i,t}$ = Reduction ratio of the company on day t

$x_{i,t}$ = Number of Shares of the affected Index Component on the day of the distribution

$x_{i,t-1}$ = Number of Shares of the affected Index Component on the day prior to the distribution

3.5.4 Share splits and par value conversions

In the case of share splits and par value conversions it is assumed that the prices change in ratio to the number of shares or to the par values. The new Number of Shares is calculated as follows:

$$x_{i,t} = x_{i,t-1} * \frac{N_{i,t-1}}{N_{i,t}}$$

with:

$N_{i,t-1}$ = Former par value of security class i (or new number of shares)

$N_{i,t}$ = New par value of security class i (or former number of shares)

$x_{i,t}$ = Number of Shares of the affected Index Component on the day of the distribution

$x_{i,t-1}$ = Number of Shares of the affected Index Component on the day prior to the distribution

3.6 MISCELLANEOUS

3.6.1 Recalculation

Solactive AG makes the greatest possible efforts to accurately calculate and maintain its indices. However, the occurrence of errors in the index determination process cannot be ruled out. In such cases Solactive AG adheres to its publicly available [Correction Policy](#).

3.6.2 Market Disruption

In periods of market stress Solactive AG calculates its indices following predefined and exhaustive arrangements set out in its publicly available [Disruption Policy](#).



4 DEFINITIONS

"**Index Universe**" in respect of a Selection Day are companies that fulfill the following criteria:

1. MSCI World universe
2. 60-day ADV not within bottom 20% of stocks defined in (1.). MDVs are determined using consolidated trading volumes across multiple exchanges in Germany, Japan, Spain, United States; in all other countries, volumes are measured on one exchange

The "**Index Component**" is each share currently included in the Index.

"**Future Index Component**" is each share going to be included in the Index during the upcoming rebalancing.

The "Number of **Shares**" are in respect of an Index Component and any given Business Day the number or fraction of shares included in the Index. It is calculated for any Index Component as the ratio of (A) the Percentage Weight of an Index Component multiplied by the Index value and (B) its Trading Price (converted into the Index Currency according to the principles laid out in Section 1.4 of this document).

The "**Percentage Weight**" of an Index Component is the ratio of its Trading Price multiplied by its Number of Shares divided by the Index value.

The "**Dividend Correction Factor**" is calculated as 1 minus the applicable withholding tax rate and/or other applicable tax rate currently prevalent in the respective country.

In particular, an "**Extraordinary Event**" is

- > a Merger
- > a Takeover Bid
- > a Delisting
- > the Nationalization of a company
- > Insolvency.

An Index Component is "**delisted**" if the Exchange announces pursuant to the Exchange regulations that the listing of, the trading in, or the issuing of public quotes on the Index Component at the Exchange has ceased immediately or will cease at a later date, for whatever reason (provided the Delisting is not because of a Merger or a Takeover Bid), and the Index Component is not immediately listed, traded or quoted again on an exchange, trading or listing system, acceptable to the Index Calculator.

"**Insolvency**" occurs with regard to an Index Component if (A) all shares of the respective issuer must be transferred to a trustee, liquidator, insolvency administrator or a similar public officer as result of voluntary or compulsory liquidation, insolvency or winding-up proceedings or comparable proceedings affecting the issuer of the Index Components or (B) the holders of the shares of this issuer are legally enjoined from transferring the shares.



A "**Takeover Bid**" is a bid to acquire, an exchange offer, or any other offer or act of a legal person that results in the related legal person acquiring as part of an exchange or otherwise more than 10% and less than 100% of the voting shares in circulation from the issuer of the Index Component or the right to acquire these shares, as determined by the Index Calculator based on notices submitted to public or self-regulatory authorities or other information considered by the Index Calculator to be relevant.

With regard to an Index Component, a "**Merger**" is

- (i) a change in the security class or a conversion of this share class that results in a transfer or an ultimate definite obligation to transfer all the shares in circulation to another legal person,
- (ii) a merger (either by acquisition or through forming a new structure) or a binding obligation on the part of the issuer to exchange shares with another legal person (except in a merger or share exchange under which the issuer of this Index Component is the acquiring or remaining company and which does not involve a change in security class or a conversion of all the shares in circulation),
- (iii) a takeover offer, exchange offer, other offer or another act of a legal person for the purposes of acquiring or otherwise obtaining from the issuer 100% of the shares issued that entails a transfer or the irrevocable obligation to transfer all shares (with the exception of shares that are held and controlled by the legal person), or
- (iv) a merger (either by acquisition or through forming a new structure) or a binding obligation on the part of the issuer of the share or its subsidiaries to exchange shares with another legal person, whereby the issuer of the share is the acquiring or remaining company and it does not involve a change in the class or a conversion of the all shares issued, but the shares in circulation directly prior to such an event (except for shares held and controlled by the legal person) represent in total less than 50% of the shares in circulation directly subsequent to such an event.

The "**Merger Date**" is the date on which a Merger is concluded or the date specified by the Index Calculator if such a date cannot be determined under the law applicable to the Merger.

"**Nationalization**" is a process whereby all shares or the majority of the assets of the issuer of the shares are nationalized or are expropriated or otherwise must be transferred to public bodies, authorities or institutions.

The "**Exchange**" is, in respect of the Index and every Index Component, the respective primary exchange where the Index Component has its primary listing. The Committee may decide to declare a different stock exchange the "Exchange" for trading reasons, even if the company is only listed there via a Stock Substitute.

A "**Stock Substitute**" includes in particular, American Depositary Receipts (ADR) and Global Depositary Receipts (GDR).

With regard to an Index Component (subject to the provisions given above under "Extraordinary Events") the "**Trading Price**" in respect of a Trading Day is the closing price on this Trading Day determined in accordance with the Exchange regulations. If the Exchange has no closing price for an Index Component, the Index Calculator shall determine the Trading Price and the time of the quote for the share in question in a manner that appears reasonable to it.



A "**Trading Day**" is in relation to the Index or an Index Component a Trading Day on the Exchange (or a day that would have been such a day if a market disruption had not occurred), excluding days on which trading may be ceased prior to the normal Exchange closing time. The Index Calculator is ultimately responsible as to whether a certain day is a Trading Day with regard to the Index or an Index Component or in any other connection relating to this document.

The "**Index Calculator**" is Solactive AG or any other appropriately appointed successor in this function.

The "**Constituent Stock Determination Agent**" is Axioma, (UK) Ltd. or any other appropriately appointed successor in this function.

The "**ESG Determination Agent**" is Sustainalytics or any other appropriately appointed successor in this function.

The "**Index Currency**" is USD

The "**Market Capitalisation**" is with regard to each of the securities in the Index on a Selection Day the share class-specific Market Capitalisation for any security in the Index Universe. It is calculated as the multiplication of the shares outstanding (as sourced from data vendors) with the Trading Price of the share class as of the respective Selection Day.

"**Selection Day**" is the last weekday of each month.

A "**Business Day**" is any weekday except Saturday and Sunday.

"**Rebalancing Day**" is a Business Day in the Rebalancing Period where all exchanges for all Index Components and Future Index Components are scheduled to be open for Business.

"**First Rebalancing Day**" is the day at least three Business Days after the Selection Day where all exchanges for all Index Components are scheduled to be open for Business. If the first Business Day of the month is a UK Bank holiday, the First Rebalancing Day is delayed by another Business Day.

The "**Rebalancing Period**" are five Rebalancing Days starting on the First Rebalancing Day (included).

"**Current Rebalancing Period**" means the Rebalancing Period where its Rebalancing Days are either equal to or preceding Business Day t.

A "**Market Disruption Event**" occurs if

1. one of the following events occurs or exists on a Trading Day prior to the opening quotation time for an Index Component:
 - A) trading is suspended or restricted (due to price movements that exceed the limits allowed by the Exchange or an Affiliated Exchange, or for other reasons):
 - 1.1. across the whole Exchange; or
 - 1.2. in options or futures contracts on or with regard to an Index Component or an Index Component that is quoted on an Affiliated Exchange; or
 - 1.3. on an Exchange or in a trading or quotation system (as determined by the Index Calculator) in which an Index Component is listed or quoted; or



- B) an event that (in the assessment of the Index Calculator) generally disrupts and affects the opportunities of market participants to execute on the Exchange transactions in respect of a share included in the Index or to determine market values for a share included in the Index or to execute on an Affiliated Exchange transaction with regard to options and futures contracts on these shares or to determine market values for such options or futures contracts.
- 2. trading on the Exchange or an Affiliated Exchange is ceased prior to the "**Normal Exchange Closing Time**", which is the time at which the Exchange or an Affiliated Exchange is normally closed on working days without taking into account after-hours trading or other trading activities carried out outside the normal trading hours. An exception to this classification as a Market Disruption Event is where the early cessation of trading is announced by the Exchange or Affiliated Exchange on this Trading Day at least one hour before
 - 2.1. the actual closing time for normal trading on the Exchange or Affiliated Exchange on the Trading Day in question or, if earlier.
 - 2.2. the closing time (if given) of the Exchange or Affiliated Exchange for the execution of orders at the time the quote is given.
- 3. a general moratorium is imposed on banking transactions in the country in which the Exchange is resident if the above-mentioned events are material in the assessment of the Index Calculator, whereby the Index Calculator makes its decision based on those circumstances that it considers reasonable and appropriate.



5 APPENDIX

5.1 CONTACT DATA

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5.2 CHANGES IN CALCULATION METHOD

The application by the Index Calculator of the method described in this document is final and binding. The Index Calculator shall apply the method described above for the composition and calculation of the Index. However, it cannot be excluded that the market environment, supervisory, legal, financial or tax reasons may require changes to be made to this method. The Index Calculator may also make changes to the terms and conditions of the Index and the method applied to calculate the Index that it deems to be necessary and desirable in order to prevent obvious or demonstrable error or to remedy, correct or supplement incorrect terms and conditions. The Index Calculator is not obliged to provide information on any such modifications or changes. Despite the modifications and changes, the Index Calculator will take the appropriate steps to ensure a calculation method is applied that is consistent with the method described above.