# INDEX GUIDELINE

*CACIB Momentum Optimal Multi-Asset 5 Index*

*Version 1.0*

*15 March 2019*

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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 CACIB Momentum Optimal Multi-Asset 5 Index (the "Index"). Any changes to or deviations from this methodology shall be made in the sole judgment and discretion of Solactive.. The Index is calculated, administered and published by Solactive AG ("Solactive") assuming the role as index administrator (the "Index Administrator") and Calculation Agent. The name "Solactive" is trademarked. Credit Agricole assumes the role of the Index Designer.

The Guideline and the policies and guidelines referenced herein contain the underlying principles and rules regarding the structure and operation of the Index. Solactive does not offer any explicit or tacit guarantee or assurance, neither pertaining to the results from the use of the Index nor the level of the Index at any certain point in time nor in any other respect. Solactive strives to the best of its ability to ensure the correctness of the calculation. There is no obligation for Solactive – 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 does not constitute a recommendation for capital investment and does not contain any assurance or opinion of Solactive regarding a possible investment in a financial instrument based on this Index.

# 1. INDEX SPECIFICATIONS

## 1.1. SCOPE OF THE INDEX

The CACIB Momentum Optimal Multi-Asset 5 Index aims to provide a systematic exposure to a diversified long-only portfolio composed of up to 13 underlyings selected across 5 asset classes (6 Equity Amundi ETFs, 4 Fixed Income Amundi ETFs, 1 Real Estate Amundi ETF, LBMA Gold Index and a Cash Index).

Based on the modern portfolio theory, the Index uses momentum monthly to allocate weights in order to maximize returns while targeting an annual volatility level of 5%. The Index Administrator is Solactive AG.

## 1.2. IDENTIFIERS AND PUBLICATION

The Index is published under the following identifiers:

| Name | ISIN | Currency | Type | RIC | BBG ticker |
|------|------|----------|------|-----|------------|
| CACIB Momentum Optimal Multi-Asset 5 Index | DE000SLA6SZ9 | EUR | Excess Return | - | CAMOMA5E Index |

The Index is published via the price marketing services of Boerse Stuttgart GmbH and may be distributed to all of its affiliated vendors. Each vendor decides on an individual basis as to whether it will distribute or display the Index via its information systems. In the event that data cannot be provided to the price marketing services of Boerse Stuttgart GmbH, the Index cannot be published.

## 1.3. INITIAL LEVEL OF THE INDEX

The initial level of the Index on 31st December 2007 (the "Start Date") is 100.

## 1.4. PRICES AND CALCUATION FREQUENCY

The level of the Index is calculated on each Index Business Day from 8 a.m. to 10 p.m. CET based on the trading prices on the respective Exchanges on which the Index Components are listed. The most recent trading prices of the Index Components are used. Trading prices of Index Components not listed in the Index Currency are converted using the 4 p.m. London time WM Fixing quoted by Reuters.

Should there be no current trading price for an Index Component or no WM Fixing available on Reuters, the most recent trading price and WM Fixing on Reuters for the preceding Index Business Day is used in the calculation.

 Any incorrect calculation is adjusted on a retrospective basis.

## 1.5. DEFINITIONS IN RESPECT OF SECTION 1

This section contains defined terms used in Section 1 and, if applicable, other Sections of the Guideline.

"Index Business Day" means in respect of any Index constituent, each day on which the Primary Exchanges in Paris (Euronext Paris) and London (London Stock Exchange) are scheduled to be open for trading.

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

"Index Component" is each constituent as set out in the table in Section 2.1.

"Index Currency" is the currency specified in the column "Currency" in the table in Section 1.2.

"Start Date" is 31st December 2007.

"Trading Price" is in respect to an Index Component and a Trading Day is the most recent price to be used in the index calculation on this Trading Day determined in accordance with the Exchange regulations. If the Exchange has no trading price for an Index Component for this Trading day, the most recent trading price for the preceding Trading Day is used in the calculation.

"Asset Cap" is in respect to an Index Component the upper percentage weight it can take in a portfolio. Generally, it can range from 0% to 100%.

# 2. CALCULATION OF THE INDEX

## 2.1. INDEX CONSTITUENTS

The Index is allocated across asset classes and geographies: 5 asset classes (cash, Bonds, Equities, Commodities and Real estates), 13 different underlying (11 ETFs managed by Amundi, LBMA Gold and cash) and 4 geographies (Asia, LATAM, USA and Europe).

The table below (Table 2.1.1) contains a brief description of the 13 Assets that the Index can select from.

| Asset Long Name | CCY | Ticker | Asset Cap | Primary Exchange | Benchmark Index |
|---|---|---|---|---|---|
| Euribor 3 Month ACT/360 | EUR | EUR003M Index | 50% | Reuters | na |
| Amundi MSCI Europe UCITS ETF DR | EUR | CEU2 FP Equity | 20% | Euronext Paris | M7EU Index |
| Amundi Japan Topix UCITS JPY | JPY | TPXY FP Equity | 10% | Euronext Paris | TPXDDVD Index |
| Amundi Nasdaq 100 USD | USD | ANXU FP Equity | 30% | Euronext Paris | XNDX Index |
| Amundi S&P 500 UCITS ETF | USD | 500U FP Equity | 50% | Euronext Paris | SPTR500N Index |
| Amundi MSCI EM Asia UCITS ETF | USD | AASU FP Equity | 10% | Euronext Paris | NDUEEGFA Index |
| Amundi MSCI Emerging Market UCITS ETF | USD | AUEM FP Equity | 10% | Euronext Paris | NDUEEGF Index |
| Amundi ETF Government Bond Euromts Broad 7-10 UCITS | EUR | C73 FP Equity | 40% | Euronext Paris | EMIGD5 Index |
| Amundi US Treasury 7-10 UCITS ETF | USD | US7 FP Equity | 40% | Euronext Paris | ITRR7T10 Index |
| Amundi ETF Global Emerging Bonds Markit Iboxx UCITS | USD | AGEB FP Equity | 15% | Euronext Paris | IBOXUSLT Index |
| Amundi ETF JP Morgan GBI Global Govies UCITS | EUR | GGOV FP Equity | 15% | Euronext Paris | JPEIGGEU Index |
| Amundi ETF FTSE EPRA NAREIT Global UCITS | USD | EPRU NA Equity | 20% | Euronext Amsterdam | TRNGLE Index |

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| LBMA Gold Price AM USD | USD | GOLDLNAM Index | 20% | ICE | na |
|---|---|---|---|---|---|

We also define a group cap that add a new constraint when allocation is done to guarantee diversification

| Asset Group | Asset Long Name | Group Cap |
|---|---|---|
| Equities | Amundi MSCI Europe UCITS ETF DR | 70% |
| | Amundi Japan Topix UCITS JPY | |
| | Amundi Nasdaq 100 USD | |
| | Amundi S&P 500 UCITS ETF | |
| | Amundi MSCI EM Asia UCITS ETF | |
| | Amundi MSCI Emerging Market UCITS ETF | |
| US Equities | Amundi Nasdaq 100 USD | 50% |
| | Amundi S&P 500 UCITS ETF | |
| Emerging Equities | Amundi MSCI EM Asia UCITS ETF | 15% |
| | Amundi MSCI Emerging Market UCITS ETF | |
| Bonds | Amundi ETF Government Bond Euromts Broad 7-10 UCITS | 70% |
| | Amundi US Treasury 7-10 UCITS ETF | |
| | Amundi ETF Global Emerging Bonds Markit Iboxx UCITS | |
| | Amundi ETF JP Morgan GBI Global Govies UCITS | |
| Emerging | Amundi MSCI EM Asia UCITS ETF | 25% |
| | Amundi MSCI Emerging Market UCITS ETF | |
| | Amundi ETF Global Emerging Bonds Markit Iboxx UCITS | |
| Real Assets | Amundi ETF FTSE EPRA NAREIT Global UCITS | 20% |
| | LBMA Gold Price AM USD | |
| Cash | EUR Cash | 50% |

The sum of all asset weights should sum to 100%.

In order to calculate the index in the Index Currency, the FX and interest rates displayed in Table 2.1.3 below will be used.

| Currency | Reference Interest Rate | FX Rate | Source |
|----------|------------------------|---------|--------|
| EUR | EURIBOR3MD= | na | Reuters |
| USD | USD3MFSR= | USD/EUR | Reuters |
| JPY | JPY3MFSR= | JPY/EUR | Reuters |

## 2.2.  INDEX VALUE CALCULATION

The Index is calculated as an Excess Return index. On the Index Start Date ($t$=0):

$$I_0 = 100$$

On each Index Business Day t, the Index will be calculated as follow:

$$I_t = I_{t-1} * \left[\frac{PV_t}{PV_{t-1}} - Fee * \frac{DC_{t-1,t}}{360}\right]$$

$I_t$            CAMOMA5E Index Value at Day t.

$I_{t-1}$           CAMOMA5E Index Value at  Day t-1.

$PV_t$           Portfolio Value at Day t

$PV_{t-1}$          Portfolio Value at Day t-1

$DC_{t-1,t}$         Period from Index Business Day t-1 to Index Business Day t (excluding (t-1) and including t)

Fee            0.85% per annum.

## 2.3.  PORTFOLIO VALUE CALCULATION

The Portfolio Value should be calculated as follows:

- For t = $D + 1$

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$$PV_{D+1} = PV_D * \left[ \frac{2}{3} * \left( \sum_{i=1}^{N} \frac{W'_i * \left( \frac{ER_{i,D+1}}{ER_{i,D'+3}} \right)}{\sum_{j=1}^{N} W'_j * \left( \frac{ER_{j,D}}{ER_{j,D'+3}} \right)} \right) + \frac{1}{3} * \left( \sum_{i=1}^{N} W_i * \frac{ER_{i,D+1}}{ER_{i,D}} \right) \right]$$

- For t = D + 2

$$PV_{D+2} = PV_{D+1} * \left[ \frac{1}{3} * \left( \sum_{i=1}^{N} \frac{W'_i * \left( \frac{ER_{i,D+2}}{ER_{i,D'+3}} \right)}{\sum_{j=1}^{N} W'_j * \left( \frac{ER_{j,D+1}}{ER_{j,D'+3}} \right)} \right) + \frac{2}{3} * \left( \sum_{i=1}^{N} W_i * \frac{ER_{i,D+2}}{ER_{i,D+1}} \right) \right]$$

- For t = D + 3

$$PV_{D+3} = PV_{D+2} * \left( \sum_{i=1}^{N} W_i * \frac{ER_{i,D+3}}{ER_{i,D+2}} \right)$$

- For $D' + 3 < t \le D$:

$$PV_t = PV_{D'+3} * \sum_{i=1}^{N} W'_i * \frac{ER_{i,t}}{ER_{i,D'+3}}$$

Where:

| | |
|---|---|
| $ER_{i,t}$ | Excess Return of Asset i on Day t as defined in section Asset Excess Returns. |
| N | Total number of assets (=13). |
| $D'$ | The immediately preceding Rebalancing Date, as defined in the next Section. |
| D | The immediately following Rebalancing Date. |
| $W'_i$ | Weight for Asset i in the Portfolio associated with Rebalancing Date $D'$. |
| $W_i$ | Weight for Asset i in the Portfolio associated with Rebalancing Date $D$ |
| $PV_{D'+3}$ | Portfolio Value on Day $D' + 3$. |

We can notice that the Rebalancing Period is defined as the period of three Index business days beginning from $D + 1$.

For 31st December 2007 (the "Start Date" and "Initial Rebalancing Date"), the Portfolio Value is 100.

On the Start Date, there is an initial rebalance that is not smoothed over three days. Rather the first weights from day 1 are applied and the calculation for the first month uses $D'$ instead of $D' + 3$ as for this specific period we have done the whole rebalancing from day 1.

## 2.4. ASSET EXCESS RETURNS

Excess return of each ETF and gold: ($ER_{i,t}$) is calculated by the Index administrator and expressed in the Index Currency as follows:

$$ER_{i,0} = 100$$

$$ER_{i,t} = ER_{i,t-1} \times \left( 1 + \left( \frac{ER_{i,t}^{Cur}}{ER_{i,t-1}^{Cur}} - 1 \right) \times \frac{FX_{i,t}}{FX_{i,t-1}} \right)$$

With

$$ER_{i,0}^{Cur} = 100$$

$$ER_{i,t}^{Cur} = ER_{i,t-1}^{Cur} \times \left( \frac{TR_{i,t}}{TR_{i,t-1}} - r_{i,t-1} \frac{Days_{t-1,t}}{360} \right)$$

Where:

$r_{i,t-1}$      means the value of the Reference Interest Rate corresponding to the currency of the Asset i, as described in the Table 3, on the Index Business Day t-1.

$TR_{i,t}$      Price of the Asset i on the Index Business Day t.

$FX_{i,t}$      means the value of the FX Rate corresponding to the currency of the Asset i on the Index Business Day t relative to the Index Currency, as described in Table 2.1.3. If an Asset currency is in the Index Currency, such rate shall be fixed at 1.

The Excess Return of the Cash asset is worth for each Index Business Day t:

$$ER_{Cash,t} = 100$$

## 2.5.  ACCURACY

Index Levels are published end of day on Bloomberg with levels rounded to two decimal places.

## 2.6.  RECALCULATION

Solactive makes the greatest possible efforts to accurately calculate and maintain its indices. However, errors in the index determination process may occur from time to time for variety reasons (internal or external) and therefore, cannot be completely ruled out. Solactive endeavors to correct all errors that have been identified within a reasonable period of time. The understanding of "a reasonable period of time" as well as the general measures to be taken are generally depending on the underlying and is specified in the Solactive (http://www.solactive.com/news/documents/), which is incorporated by reference and available on the Solactive website: www.solactive.com.

## 2.7.  MARKET DISRUPTION

In periods of market stress Solactive calculates its indices following predefined and exhaustive arrangements as described in the Solactive Disruption Policy, which is incorporated by reference and available on the Solactive website: www.solactive.com. Such market stress can arise due to a variety of reasons, but generally results in inaccurate or delayed prices for one or more Index Components. The determination of the Index may be limited or impaired at times of illiquid or fragmented markets and market stress.

## 2.8.   DEFINITIONS IN RESPECT OF SECTION 2

"Group Cap" is in respect to an Asset Group the upper percentage weight it can take in a portfolio. Generally, it can range from 0% to 100%.

# 3.   REBALANCE

## 3.1.  INDEX REBALANCING DATE

On each Index Rebalancing Event a Portfolio Optimization is performed and the Administrator will revise the composition of the index. The selection of the Index Components is fully rule-based and the Index Administrator has no discretion.

An Index Allocation Event is triggered in 2 cases:

- On a monthly basis, on the fifth Index Business Day before the first Index Business Day of the next month.

- If on any Index Business Day t outside a Rebalancing Period (defined below), the Portfolio Realized Volatility is larger than 7% (the "Volatility Trigger") then a Volatility Triggered Rebalancing Date is declared.

The rebalancing of the index is then performed during the Rebalancing Period. The latter is defined as the period of three Index Business Days beginning from the first Index business Day following the Rebalancing Date $D$.

## 3.2. PORTFOLIO REALIZED VOLATILITY

On each Index Business Day t the Portfolio Realized Volatility ($PRV_t$) over the past month-long period (21 Business Days) is calculated as follows:

$$PRV_t = \sum_{i=1}^{N} \sum_{j=1}^{N} W_i W_j COV_{i,j,t}$$

Where:

$W_i$          Weight for Asset i in the Portfolio associated with the preceding Rebalancing Date $D$.

$W_j$          Weight for Asset j in the Portfolio associated with the preceding Rebalancing Date $D$.

$$COV_{i,j,t} = \frac{252}{5*20} * \sum_{n=0}^{20} \left( \begin{array}{c} [\frac{ER_{i,(t-n)}}{ER_{i,(t-n-5)}} - 1 - \frac{1}{21} * \sum_{k=0}^{20} \left( \frac{ER_{i,(t-k)}}{ER_{i,(t-k-5)}} - 1 \right)] \\ * [\frac{ER_{j,(t-n)}}{ER_{j,(t-n-5)}} - 1 - \frac{1}{21} * \sum_{k=0}^{20} \left( \frac{ER_{J,(t-k)}}{ER_{J,(t-k-5)}} - 1 \right)] \end{array} \right)$$

## 3.3. OPTIMAL PORTFOLIO

On each Index Rebalancing Date, a hypothetical portfolio is sampled from the eligible Assets and satisfies the Asset Caps and Group Caps as detailed in Tables 2.1.1 and 2.1.2, respectively.

The weight assigned to each Asset in an Optimal Portfolio may be zero or a positive number.

The optimal portfolio maximizing returns while targeting a volatility of 5% is selected on each Index Rebalancing Date.

If at any rebalancing date, no Optimal Portfolio is found as a solution for the optimization done, we can relax the condition on the cash asset by increasing the cap by 5% each time (max 100%) until a solution is found.

## 3.4. DEFINITION OF PORTFOLIO RETURN AND VARIANCE

The expected return of an Optimal Portfolio j for a specific Return Period is defined as:

$$\text{Ret}_{j,D}^{\text{NbMonths}} = \sum_{i=1}^{N} W_{j,i}^{\text{NbMonths}} * \left( \frac{ER_{i,D}}{ER_{i,D-k}} - 1 \right)$$

Where:

$\text{Ret}_{j,D}^{\text{NbMonths}}$    Return of the Optimal Portfolio j over **NbMonths** as of Rebalancing Date D.

$W_{j,i}^{\text{NbMonths}}$    Weight of Asset i within Optimal Portfolio j.

k    refers to the number of days in the corresponding Return Period (21, 63 or 126)

The 3 Portfolios ($P^k$) will have 3 different Return Periods: 1 month, 3 months and 6 months defined as a 21, 63, and 126 Index Business Day periods ending on Rebalancing Date **D**, respectively.

The Annual Variance of an Optimal Portfolio j over 126 business Days is calculated on Rebalancing Date *D* as following:

$$\text{Var}_{j,D} = \sum_{i,k=1}^{N} W_i * W_k * COV_{i,k}$$

Where:

$W_i$    Weight of Asset i.

$W_k$    Weight of Asset k.

$COV_{i,k}$    Covariance between the two Assets i and k for a period of 126 Index Business Day ending at Rebalancing Date D:

$$COV_{i,k} = \frac{252}{5*(126-1)}$$
$$* \sum_{n=0}^{126-1} \left( \left[ \frac{ER_{i,(D-n)}}{ER_{i,(D-n-5)}} - 1 - \frac{1}{126} * \sum_{j=0}^{126-1} \left( \frac{ER_{i,(D-j)}}{ER_{i,(D-j-5)}} - 1 \right) \right] \right.$$
$$\left. * \left[ \frac{ER_{k,(D-n)}}{ER_{k,(D-n-5)}} - 1 - \frac{1}{126} * \sum_{j=0}^{126-1} \left( \frac{ER_{k,(D-j)}}{ER_{k,(D-j-5)}} - 1 \right) \right] \right)$$

n              Each Index Business Day within the 126 Index Business Day ending at Rebalancing Date D.

## 3.5. WEIGHTING OF THE INDEX COMPONENTS

The Asset Weight ($W_i$) to be allocated to each Asset i during the next Rebalancing Period is defined as the average of the weights of Asset i within the 3 Optimal Portfolios ($P^k$):

$$W_i = \frac{1}{3} * \sum_{k=1}^{3} \alpha_i^{NbMonths}$$

$\alpha_i^{NbMonths}$           Weight of Asset i within Portfolio $P^k$ as of Rebalancing Date $D$.

# 4. BACKTESTING AND DATA

To complete the missing data for a specific ETF, we complete our time series with the data from the underlying benchmark for backtesting purposes. Indeed, we deduce a fee (given in the Table 4.1 below) from the daily total return of the benchmark.

$$TR_t^{Etf} = TR_t^{Benchmark} - Fee * \frac{Days_{t-1,t}}{360}$$

$TR_t^{Etf}$        Net total return of the ETF on the Index Business Day t.

$TR_t^{Benchmark}$  Net total return of the Benchmark on the Index Business Day t.

$TR_0^{Etf}$        = 100.

| Asset Long Name | Ticker | Fee (per annum) |
|---|---|---|
| Amundi MSCI Europe UCITS ETF DR | CEU2 FP Equity | 0.15% |
| Amundi Japan Topix UCITS JPY | TPXY FP Equity | 0.2% |
| Amundi Nasdaq 100 USD | ANXU FP Equity | 0.23% |
| Amundi S&P 500 UCITS ETF | 500U FP Equity | 0.15% |
| Amundi MSCI EM Asia UCITS ETF | AASU FP Equity | 0.2% |
| Amundi MSCI Emerging Market UCITS ETF | AUEM FP Equity | 0.2% |
| Amundi ETF Government Bond Euromts Broad 7-10 UCITS | C73 FP Equity | 0.14% |
| Amundi US Treasury 7-10 UCITS ETF | US7 FP Equity | 0.14% |
| Amundi ETF Global Emerging Bonds Markit Iboxx UCITS | AGEB FP Equity | 0.3% |
| Amundi ETF JP Morgan GBI Global Govies UCITS | GGOV FP Equity | 0.2% |
| Amundi ETF FTSE EPRA NAREIT Global UCITS | EPRU NA Equity | 0.24% |

For the Benchmark Indices please refer to Table 2.1.1.

# 5. MISCELLANEOUS

## 5.1. DISCRETION

Any discretion which may need to be exercised in relation to the determination of the Index (for example, the selection of the Index Components or any other relevant decisions in relation to the Index) shall be in accordance with the Solactive's Discretion Policy, which is available at Solactive's website: www.solactive.com.

## 5.2. METHODOLOGY REVIEW

The methodology of the Index is not subject to a regular review.

## 5.3. 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. In such cases the Index Designer may 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 Designer is obliged to provide information on any such modifications or changes to the Index Calculator.

## 5.4. DISCONTINUATION OF ONE OF THE INDEX COMPONENTS

In case any of the index components is terminated, it will be replaced with another ETF from Amundi. The substituting component should have the identical benchmark (or very close), a similar minimum AUM, the same currency as well as similar running costs. The selection will be suggested by the Index Designer and needs to be approved by the index committee composed of staff from Solactive and its subsidiaries (the "Index Committee").

A discontinuation of one of the index components is defined as the occurrence as determined by the Calculation Agent, of any of the following events (each an Extraordinary Event) on or after the Trade Date:

(i)     Closure of the ETF means liquidation, winding up or dissolution of the ETF for any reason other than those mentioned in (iv) below;

(ii)    ETF Adviser Event means that the Calculation Agent determines that over a period of twelve months, the total value of the assets managed by the ETF Adviser (including the ETF) has decreased by 50 percent (either due to redemptions or decrease in value of such assets);

(iii)   ETF Insolvency Event means in respect of any ETF, that such ETF (A) is dissolved or has a resolution passed for its dissolution, winding-up, official liquidation (other than pursuant to a consolidation, amalgamation or merger); (B) makes a general assignment or arrangement with or for the benefit of its creditors, (C) (I) institutes or has instituted against it, by a regulator, supervisor or any similar official with primary insolvency, rehabilitative or regulatory jurisdiction over it in the jurisdiction of its incorporation or organisation or the jurisdiction of its head or home office, a proceeding seeking a judgment of insolvency or bankruptcy or any other relief under any bankruptcy or insolvency law or other similar law affecting creditors' rights, or a petition is presented for its winding-up or liquidation by it or such regulator, supervisor or similar official, or (II) has instituted against it a proceeding seeking a judgment of insolvency or bankruptcy or any other relief under any bankruptcy or

insolvency law or other similar law affecting creditors' rights, or a petition is presented for its winding-up or liquidation, and such proceeding or petition is instituted or presented by a person or entity not described in clause (i) above and either (1) results in a judgment of insolvency or bankruptcy or the entry of an order for relief or the making of an order for its winding-up or liquidation or (2) is not dismissed, discharged, stayed or restrained in each case within fifteen days of the institution or presentation thereof; (D) seeks or becomes subject to the appointment of an administrator, provisional liquidator, conservator, receiver, trustee, custodian or other similar official for it or for all or substantially all its assets; (E) has a secured party take possession of all or substantially all its assets or has a distress, execution, attachment, sequestration or other legal process levied, enforced or sued on or against all or substantially all of its assets and such secured party maintains possession, or any such process is not dismissed, discharged, stayed or restrained, in each case within fifteen days thereafter; or (F) causes or is subject to any event with respect to it which, under the applicable laws of any jurisdiction, has an analogous effect to any of the events specified in clauses (A) through (E) above;

(iv)     ETF Modification means any change or modification of the related ETF Documents prevailing on the date of inclusion of the ETF in the Index, that could reasonably be expected to affect the value of such ETF or the rights or remedies of any holders thereof, as determined by the Calculation Agent;

(v)      ETF Service Provider Event means (A) a change, resignation, termination or replacement of any ETF Service Provider, (B) a change of control or indirect control of any ETF Service Provider, (C) any of the ETF Service Provider is subject to an ETF Service Provider Insolvency Event, where "ETF Service Provider Insolvency Event" has the same meaning as ETF Insolvency Event described in (iv) above, except that ETF is replaced by ETF Service Provider, (D) in the reasonable opinion of the Calculation Agent, any of the ETF Service Providers is no longer deemed able to carry out its business with the standard of care which was prevailing on the Issue Date or the resignation, termination, replacement, or death of any person deemed to be key in the management of the ETF has occurred or an ETF Service Provider ceases to exist;

(vi)     Holding Ratio means the reduction of the ETF's aggregate Net Asset Value under an amount that, in the reasonable opinion of the Calculation Agent, has, or is likely to have, a significant effect on the management conditions of the ETF and/or its operating expenses or would increase the proportion of the ETF Units held, or likely to be held, by a Hypothetical Investor, or any funds managed by the same, to such extent that the full redemption in one single Valid Order of the ETF Units held by a Hypothetical Investor or funds managed by the same, is likely to be impaired;

(vii)    Merger Event means the conversion of the ETF Units into another class of fund units or securities, or the split of the ETF, its consolidation or its merger with, or its sale or its conveyance of all or substantially all its assets to, a third party;

(viii)   Nationalisation means that all the ETF Units or all or substantially all the assets of an ETF are nationalised, expropriated or are otherwise required to be transferred to any governmental agency, authority, entity or instrumentality thereof;

(ix)   Regulatory Action means, with respect to any ETF, (A) cancellation, suspension or revocation of the registration or approval of such ETF by any governmental, legal or regulatory entity with authority over such ETF Units or ETF, (B) any change in the legal, tax, accounting, or regulatory treatments of the relevant ETF or its ETF Service Provider that is reasonably likely to have an adverse impact on the value of such ETF or on any investor therein (as determined by the Calculation Agent), or (C) such ETF or any of its ETF Service Provider becoming subject to any investigation, proceeding or litigation by any relevant governmental, legal or regulatory authority involving the alleged violation of applicable law for any activities relating to or resulting from the operation of such ETF or ETF Service Provider;

(x)   Reporting Disruption means in respect of any ETF, any failure of such ETF to deliver, or cause to be delivered, (A) information that such ETF has agreed to deliver, or cause to be delivered to a Hypothetical Investor or (B) information that has been previously delivered to a Hypothetical Investor in accordance with such ETF, or its authorised representative's, normal practice and that the Calculation Agent deems necessary to monitor such ETF's compliance with any investment guidelines, asset allocation methodologies or any other similar policies relating to such ETF;

(xi)   Strategy Breach means (A) any breach or violation of any strategy or investment guidelines stated in the related ETF Documents, that is reasonably likely to affect the value of the ETF or the rights or remedies of any holders thereof, in each case, as determined by the Calculation Agent or (B) any material modification, as determined by the Calculation Agent, of the risk profile of the ETF from its risk profile prevailing on the date of inclusion of the ETF in the Index by reason of, but not limited to, the modification of the proportions, or reduction of diversification, of the type of assets in which the ETF invests or a reduction of the average liquidity of the assets of the ETF;

(xii)   De-listing Event means, in respect of an ETF, that such ETF: (A) ceases to be listed, traded or publicly quoted on the relevant Exchange or listing compartment of the relevant Exchange (for any reason other than a Merger Event or a tender offer) and is not immediately re-listed, retraded or re-quoted on an exchange or quotation system located in the same country as the Exchange (or where the Exchange is within the European Union, in any Member State of the European Union) or (B) has its listing, trading or public quotation maintained in inappropriate conditions in the opinion of the Calculation Agent (such conditions to include, without limitation, a lack of liquidity or the disappearance of the relevant futures and/or option contract of the relevant ETF); However, notwithstanding anything to the contrary in (A) and (B) above, a De-listing Event shall not occur in respect of the ETF if the ETF is

immediately re-listed, re-traded and re-quoted on an exchange or quotation system within the same jurisdiction as the Exchange;

(xiii)  NAV Currency Event means that the Net Asset Value of the ETF is no longer denominated in the currency in which it was denominated on the date of inclusion of the ETF in the Index;

(xiv)  NAV Calculation Disruption Event means, in respect of the ETF and a ETF Valuation Day, that (A) the Calculation Agent, acting in its sole discretion, determines that an event (other than an event described in paragraph (xvii) below) has occurred which affect the ETF negatively and make it impossible or impracticable to calculate and/or publish the Net Asset Value of the ETF as of such day and (B) such event has been continuing for more than five (5) ETF Scheduled Trading Days;

(xv)  ETF Settlement Disruption means in respect of an ETF and an ETF Valuation Day, a failure by the ETF to pay in cash the full amount of the redemption proceeds on the date by which the ETF was scheduled to have paid such amount and which, in the determination of the Calculation Agent, makes it impossible or impracticable to determine the Net Asset Value of such ETF as of such date, including without limitation due to (A) the transfer of all illiquid assets of such ETF to a dedicated fund, account or structure pending the liquidation of such assets for the benefit of existing holders of the ETF Units, (B) the restriction on the amount or number of redemptions orders that the ETF (or the ETF Service Provider generally in charge of accepting redemption orders) will accept in relation to a single date on which the ETF normally accepts redemption orders, (C) the suspension for any reason of the subscription or redemption orders by the ETF (or the ETF Service Provider generally in charge of accepting subscription and redemption orders), or (D) the postponement of the payment of the balance of redemption proceeds to a date occurring after the financial statements of the ETF have been reviewed by the ETF's statutory auditors, in each case whether these events are imposed by the ETF without being envisaged in the ETF Documents on the ETF launch date or are already envisaged by the ETF Documents on the ETF launch date and are solely implemented by the ETF after such date;

(xvi)  Tender Offer means a takeover offer, tender offer, exchange offer, solicitation, proposal or other event by any entity or person that results in such entity or person purchasing, or otherwise obtaining or having the right to obtain, by conversion or other means, greater than 10 per cent. and less than 100 per cent. of the outstanding voting shares, units or interests of the ETF, as determined by the Calculation Agent, based upon the making of filings with governmental or self-regulatory agencies or such other information as the Calculation Agent deems relevant;

(xvii)  ETF Reclassification means (A) the reclassification of the ETF Units, (B) the index that the ETF tracks changes or (C) the acquisition of the ETF by, or the aggregation of the ETF into, another fund whose mandate, risk-profile and/or benchmarks that the Calculation Agent

determines to be different from the mandate, risk-profile and/or benchmark as of the Issue Date (or any proposal for the foregoing occurs); or

(xviii)   ETF Redemption or Subscription Event means (A) the suspension of transfers of any ETF Units, (B) the introduction of a mandatory redemption or partial redemption of the ETF Units, (C) the non-execution of any creation, subscription or redemption order in respect of the ETF Units, or (D) the introduction or proposed introduction of subscription or redemption fees with respect to the ETF Units in excess of those in effect as of the date of inclusion of the ETF in the Index,

## 5.5.   TERMINATION

Solactive makes the greatest possible efforts to ensure the resilience and continued integrity of its indices over time. Nevertheless, if no other options are available the orderly cessation of an index may be indicated. This is usually the case when the underlying market or economic reality, which an index is set to measure or to reflect, changes substantially and in a way not foreseeable at the time of inception of the index, the index rules, and particularly the selection criteria, can no longer be applied coherently or the index is no longer used as the underlying value for financial instruments, investment funds and financial contracts.

Solactive has established and maintains clear guidelines on how to identify situations in which the cessation of an index is unavoidable, how stakeholders are to be informed and consulted and the procedures to be followed for a termination or the transition to an alternative index. Details are specified in the Termination Policy, which is incorporated by reference and available on the Solactive website: www.solactive.com.

## 5.6.   OVERSIGHT

The Index Designer is responsible for decisions regarding any amendments to the rules of the Index. Any such amendment, which may result in an amendment of the Guideline, must be submitted to the Index Committee for prior approval and will be made in compliance with the "Solactive Methodology Policy", which is available at www.solactive.com.

## 5.7.   DEFINITIONS IN RESPECT OF SECTION 5

"ETF Service Provider" means, in respect of any ETF, any person who is appointed to provide services, directly or indirectly, for that ETF, whether or not specified in the ETF Documents, including any fund investment adviser, fund administrator, manager, any person appointed in the role of discretionary investment manager or non-discretionary investment adviser (including a non-discretionary investment

adviser to a discretionary manager or another non-discretionary investment adviser) for such ETF (the "ETF Adviser"), trustee or similar person with the primary administrative responsibilities for such ETF, operator, management company, depository, custodian, sub-custodian, prime broker, registrar and transfer agent or domiciliary agent.

"ETF Documents" means, in respect of any ETF, the constitutive and governing documents and other agreements of the ETF specifying the terms and conditions relating to such ETF.

"Net Asset Value" in respect of an ETF and an ETF Valuation Day, the amount or amounts per unit of such ETF including (for subscription orders) or net (for redemption orders) of all applicable costs, taxes and fees (if any) that would be paid (for subscription orders) or received (for redemption orders) in cash in one or more times by a Hypothetical Investor pursuant to a Valid Order for the subscription or redemption (as applicable) of units of the ETF scheduled to be executed on the official net asset value per unit determined by the ETF (or the ETF service provider that generally determines such value) dated as of such ETF Valuation Day.

"ETF Valuation Day" means, in respect of each ETF observed separately, any date as defined in the ETF Documents as of which the official net asset value of such ETF is determined in accordance with its ETF Documents.

"Hypothetical Investor" means, with respect to the Hypothetical Hedge Positions, a hypothetical investor deemed to have (a) the benefits and obligations, as provided under the ETF Documents, of an investor holding the ETF; (b) in the case of any deemed redemption of such ETF, to have submitted a Valid Order requesting redemption of the ETF; and (c) in the case of any deemed investment in such ETF, to have submitted a Valid Order requesting subscription of the ETF.

"ETF Unit" or "Unit" means, in respect of any ETF, a share or unit of such ETF.

"Valid Order" means a valid and timely subscription or redemption order sent to the ETF or the ETF Service Provider that generally accepts such order, in accordance with the subscription or redemption notice period and the relevant cut off time as set forth in the ETF Documents.

"ETF Scheduled Trading Day" means any day on which the relevant Exchange and relevant Related Exchange are scheduled to be open for trading for their respective regular trading sessions.

"Exchange" means, in respect of an ETF, each corresponding exchange or quotation system, or any successor exchange or quotation system or any substitute exchange or quotation system to which trading in the ETF, has temporarily relocated (provided that the Calculation Agent has determined that there is comparable liquidity relative to such ETF, on such temporary substitute exchange or quotation system as on the original Exchange).

"Related Exchange(s)" means, in respect of an ETF, (a) each exchange or quotation system where trading has a material effect (as determined by the Calculation Agent) on the overall market for futures and options contracts relating to such ETF and (b) any successor exchange or quotation system or any substitute exchange or quotation system to which trading in futures or options contracts relating to an ETF has temporarily relocated (provided that the Calculation Agent has determined that there is

comparable liquidity relative to the futures or options contracts relating to such ETF, on such temporary substitute exchange or quotation system as on the original Related Exchange).

# CONTACT

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