

Macquarie Commodity Short Term Mean Reversion Index

**Index Manual
July 2023**

IMPORTANT INFORMATION

BASIS OF PROVISION

This document (the **Index Manual**) sets out the rules for the Macquarie Commodity Short Term Mean Reversion Index (the **Index**) and reflects the methodology for determining the composition and calculation of the Index (the **Methodology**). The Methodology and the Index derived from this Methodology are the exclusive property of Macquarie Bank Limited (the **Index Administrator**). The Index Administrator owns the copyright and all other rights to the Index. They have been provided to you solely for your internal use and you may not, without the prior written consent of the Index Administrator, distribute, reproduce, in whole or in part, summarize, quote from or otherwise publicly refer to the contents of the Methodology or use it as the basis of any financial instrument.

SUITABILITY OF INDEX

The Index and any financial instruments based on the Index may not be suitable for all investors and any investor must make an independent assessment of the appropriateness of any transaction in light of their own objectives and circumstances including the potential risks and benefits of entering into such a transaction. If you are in any doubt about any of the contents of this Index Manual, you should obtain independent professional advice.

This Index Manual assumes the reader is a sophisticated financial market participant, with the knowledge and expertise to understand the financial mathematics and derived pricing formulae, as well as the trading concepts, described herein. Any financial instrument based on the Index is unsuitable for a retail or unsophisticated investor.

RISK FACTORS

See the risk factors relating to Macquarie indices in the document headed “Macquarie Proprietary Indices – Risk Factors” at <https://www.macquarie.com/uk/en/about/company/commodities-and-global-markets/commodities/commodity-index-documentation.html> (the **Risk Factors**). Investors should note in particular the following sections of the Risk Factors: Part 1 (*General Risk Factors*) and Paragraph 3) (*Commodity Indices*) of Part 2 (*Asset Class Specific Risk Factors*).

A copy of the Risk Factors may be obtained free of charge upon request to the Index Administrator.

HISTORICAL DATA

The Index has been calculated from the Index Live Date but historical Index levels (prior to the Index Live Date) have been produced by a back-test process from the Index Start Date. For more information, see Section 9.3 (*Historical Values of the Index*).

CONFLICTS AND USE OF DISCRETION

For operational reasons the Index may, in limited circumstances, permit the exercise of discretion by the Index Calculation Agent (acting in good faith and in a commercially reasonable manner). For further information see Section 7.4 (*Discretion*).

For information on potential conflicts, see Section 8.3 (*Conflicts*).

CESSATION OR MODIFICATION OF THE INDEX

If you have been granted written consent by the Index Administrator to reference the Index in any contract or financial instrument, you should include in such contract or financial instrument robust fallback provisions to deal with cessation or material modification of the Index.

For information on corrections, changes and cessation of the Index, see Section 7 (*Corrections, Changes, Cessation and Discretion*).

DISCLAIMER OF LIABILITY

The Methodology is published for information purposes only and does not create any legally binding obligation on the part of the Index Administrator, the Index Calculation Agent and/or their affiliates. This Index Manual is intended to provide a summary of the Index it purports to describe. The Index Administrator expressly disclaims (to the fullest extent permitted by applicable law) all warranties (express, statutory or implied) regarding this Index Manual and the Methodology or the Index, including but not limited to, all warranties of merchantability, fitness for a particular purpose (including investment by regulated funds) and all warranties arising from course of performance, course of dealing or usage of trade and their equivalents under applicable laws of any jurisdiction. In particular, the Index Administrator and the Index Calculation Agent do not warrant or guarantee the completeness or accuracy of the Index or timeliness of calculations of any Index Level and do not warrant or guarantee the availability of any Index Level on any particular date or at any particular time. The Index Administrator and the Index Calculation Agent shall have no liability to any person for delays, omissions or interruptions in the delivery of the Index, including as a result of the failure of prices to be published in respect of any Component or, as applicable, any other reference value for any reason. Although the Index Calculation Agent will obtain information concerning Components and or reference values from publicly available sources it believes to be reliable, it will not independently verify this information. Accordingly, no representation, warranty or undertaking (express or implied) is made by the Index Administrator or the Index Calculation Agent as to the accuracy and completeness of information concerning any Index.

In particular, the Index Administrator and the Index Calculation Agent shall not be liable (whether in contract, tort or otherwise) for any losses (including direct, indirect, special, punitive or other damages (including loss of profits)) resulting from (i) any determination that a Market Disruption Event, an Adjustment Event or an Error has occurred or has not occurred, (ii) the timing relating to the determination that a Market Disruption Event, an Adjustment Event or an Error has occurred, or (iii) any actions taken or not taken by the Index Calculation Agent or the Index Administrator as a result of a determination that a Market Disruption Event, an Adjustment Event or an Error has occurred.

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SECTION 1: OVERVIEW

1.1 INTRODUCTION AND INDEX OBJECTIVE

The Macquarie Commodity Short Term Mean Reversion Index is designed as a rules-based index for exposure to a short-term mean reversion commodity strategy. Mean reversion in respect of commodities is based on an assumption that commodity prices, in normal market conditions, move back to their average over time. In normal market conditions, supply and demand of commodities are in balance and prices should not change. An increase (or decrease) in demand would generally push the prices higher (or lower), resulting in an increase (or decrease) in supply.

The Index aims to capture the short-term behaviour in commodity prices by identifying commodities that are the most likely to mean revert and taking long exposure to the corresponding long-dated commodity futures contracts by way of a Macquarie Single Commodity Index (referred to as the Long Component), with negative short-term trend skewness and simultaneous short exposure to corresponding short-dated commodity futures contracts by way of a Macquarie Single Commodity Index (referred to as the Short Component), thereby tracking the performance of the Bloomberg Commodity Index (the **Benchmark**).

The Index takes long exposure, by way of the Components, to 12 commodities (from the Benchmark's constituents) that have exhibited low skewness in their daily exponentially weighted moving average returns over the observation period. Those commodities are deemed to be the "cheapest" and the mean reversion risk premium will be captured by synthetically buying them, (by way of holdings of the Long Components), with a view to sell synthetically once the relevant price has converged back to its average short-term level. The Index also takes short exposure to the Benchmark using a volatility adjusted ratio to match the volatility of the long exposure. The sum of the notional long exposures is equal to +100 (subject to a liquidity cap).

Physical commodities are not easily investable on a direct and replicable basis. Futures contracts on commodities, however, represent a widely utilized synthetic proxy for direct investment in commodities. For this reason, the Index reflects the price performance of a synthetic basket of a broad spectrum of exchange traded futures contracts relating to physical commodities. Each notional futures contract relating to a physical commodity is a component of a single commodity index administered by the Index Administrator (a **Macquarie Single Commodity Index**) and each Macquarie Single Commodity Index is a Component in the Index. In order to ensure the continuity of each Macquarie Single Commodity Index and, in turn, the Index, when the futures contract that synthetically underlies a Macquarie Single Commodity Index approaches expiration, it will be replaced by an identical contract with a later expiration (the futures contract component of such Macquarie Single Commodity Index will 'roll' from one contract into the next). Each Macquarie Single Commodity Index thus tracks a sequence of notional futures contracts relating to a single commodity (the universe of tradable calendar futures contracts on a commodity, known as the 'futures curve'). **Investors must read the Component Methodology in relation to each Macquarie Single Commodity Index.**

The Index is designed to be replicable and is calculated daily in the Index Return format(s) specified in Section 5.1 (*Index Parameters Values*). To facilitate an understanding of the calculations, the Methodology contains certain worked examples which demonstrate the types of calculations needed to calculate the level of an Index on a particular date – See Section 2 (*Index Methodology*).

1.2 INDEX CALCULATION

The Index is calculated and maintained by the Index Calculation Agent and supervised by the Index Administrator and the Index Oversight Committee, as described in Section 8 (*Oversight, Roles, Conflicts and Reviews*). All determinations with regard to the Index are made following the rules set out in this Index Manual, without discretion by the Index Administrator or the Index Calculation Agent, other than in the limited circumstances set out in this Index Manual – see Section 7 (*Corrections, Changes, Cessation and Discretion*) for further information.

The Index Level as of the Index Start Date is equal to the Index Start Level specified in Section 5.1 (*Index Parameters Values*). Thereafter, each Index Level is calculated as set out in Section 2 (*Index Methodology*).

The Index is not based upon submissions provided by third parties (or an affiliate of the Index Administrator or the Index Calculation Agent). The Index is based upon actual transaction data sourced from regulated markets and exchanges.

1.3 COSTS AND CHARGES

There are no costs or charges embedded in the Index. Please refer to the Component Methodology for each Component for information on any costs or charges embedded in such Component.

SECTION 2: INDEX METHODOLOGY

On a daily basis the Index seeks to replicate synthetically the returns obtained by notionally holding a basket of Components (comprised of Long Components and Short Components), the Weights of which are determined according to Weighting Methodology determined in Section 2.4 (*Weighting Methodology*) and rebalanced daily according to Section 2.2 (*Holdings Calculation*). The following sections detail how the Index Calculation Agent will calculate the daily Index Levels of the Index:

- **Section 2.1 – Index Universe** describes the universe of Commodities from which the Components are selected;
- **Section 2.2 – Holdings Calculation** describes the calculation of Holdings, which are intermediate calculations that enable the Index Calculation Agent to reflect the changes stemming from the Index rebalance in the returns of the Index;
- **Section 2.3 – Index Level Calculation** describes the day-to-day calculation of the Index Level; and
- **Section 2.4 – Weighting Methodology** describes the Weighting Methodology.

2.1 INDEX UNIVERSE

The Index can invest in a universe of Components (each an Index administered by Macquarie, as defined in the table below), each providing either long or short exposure to a single commodity (each, a Commodity, *c*, as specified in the table below). The universe is comprised of 25 different Commodities across petroleum, industrial metals, precious metals, grains, softs and livestock. The Index takes simultaneous exposure to Components that provide positive exposure to 3-month futures contracts (the **Long Components**), this is the Long Leg, and Components that provide negative exposure to short-dated front month futures contracts (the **Short Components**), this is the Short Leg. The Long Components and the Short Components are referred to in the table below by their respective tickers, the Long Component Ticker and the Short Component Ticker.

The Long Components within the Index are reviewed on a daily basis by (in accordance with Section 2.4 (*Weighting Methodology*)), selecting the 12 Components from the universe that are included in the Benchmark (with a non-zero weight) which have the lowest Trend Signal. As the universe follows the composition of the Benchmark, in the event that the composition of the Benchmark changes, the universe of Components may change in accordance with the procedures outlined in Section 6.2.2 (*BCOM Adjustment Event*).

To ensure sufficient liquidity in the Underlying Contracts (as defined in Section 4 (*Definitions*)), the Commodities have been allocated a group type (a **Group**, as specified in the table below) and each Group is assigned a liquidity cap (the, **Group Cap**) within the Long Leg. The process of selection and the application of the Group Caps to determine the Weights of the Long Components are described in Section 2.4 (*Weighting Methodology*). The Short Components are then selected and assigned Weights based on the Weights determined in respect of the Long Components.

Table 1 – Universe of Selectable Commodities

Order	Commodity (c)	Group	Group Cap	Components (C)	
				Long Component Ticker (i)	Short Component Ticker (j)
1	WTI Crude Oil	Petroleum	0.33	MQSDCL3E	MQSDCLER
2	Brent Crude Oil	Petroleum		MQSDCO3E	MQSDCOER
3	Heating Oil	Petroleum		MQSDHO3E	MQSDHOER
4	Unleaded Gasoline	Petroleum		MQSDXB3E	MQSDXBER
5	Gas Oil	Petroleum		MQSDQS3E	MQSDQSER
6	Natural Gas	Natural Gas	0.15	MQSDNG3E	MQSDNGER
7	Gold	Gold	0.15	MQSDGC3E	MQSDGGER
8	Silver	Silver	0.15	MQSDSI3E	MQSDSIER
9	Zinc	Zinc	0.15	MQSDLX3E	MQSDLXER
10	Nickel	Nickel	0.135	MQSDLN3E	MQSDLNER
11	Aluminium	Aluminium	0.15	MQSDLA3E	MQSDLAER
12	Copper (COMEX)	Copper (COMEX)	0.15	MQSDHG3E	MQSDHGER
13	Corn	Corn	0.15	MQSDC3E	MQSDCER
14	Soybeans	Soybeans	0.10	MQSDS3E	MQSDSER
15	Soybean Oil	Soybean Oil	0.075	MQSDBO3E	MQSDBOER
16	Soybean Meal	Soybean Meal	0.10	MQSDSM3E	MQSDSMER
17	Wheat	Wheat	0.125	MQSDW3E	MQSDWER
18	Kansas Wheat	Kansas Wheat	0.075	MQSDKW3E	MQSDKWER
19	Sugar	Sugar	0.10	MQSDSB3E	MQSDSBER
20	Coffee	Coffee	0.10	MQSDKC3E	MQSDKCER
21	Cocoa	Cocoa	0.10	MQSDCC3E	MQSDCCER
22	Cotton	Cotton	0.06	MQSDCT3E	MQSDCTER
23	Lean Hogs	Lean Hogs	0.045	MQSDLH3E	MQSDLHER
24	Live Cattle	Live Cattle	0.075	MQSDLC3E	MQSDLCER
25	Lead	Lead	0.15	MQSDLL3E	MQSDLLER

The calculation and methodology of each Index is in the Macquarie Single Commodity Indices Index Manual, which is available on request or at <https://www.macquarie.com/assets/macq/about/company/commodities-and-global-markets/commodities/trading-and-hedging/macquarie-single-commodity-indices.pdf> (the **Component Methodology**).

Investors must read each Component Methodology. Each Component Methodology is available free of charge on request from the Index Administrator.

2.2 HOLDINGS CALCULATION

On each Index Business Day (an **Index Business Day, t**), each Component (a **Component, C** , which is either a Long Component, i , or a Short Component, j) has a Holding, $H_{C,t}$ (as defined in Section 2.2.2 (*Daily Holdings Calculation*)), associated with it, which represents the proportion in which the Index Level will change when the Component Level of that Component, C , changes. The steps to determine the holding of each Component, C , which is based on the Target Holding, $TH_{C,R}$, (as defined in Section 2.2.1 (*Target Holdings Calculation on a Holdings Calculation Date*)), are set out below.

2.2.1 Target Holdings Calculation on a Holdings Calculation Date

In order to determine the Holding ($H_{C,t}$) of a Component, C , on an Index Rebalance Day associated with a Holdings Calculation Date (a **Holdings Calculation Date, R**), the target holding (the **Target Holding, $TH_{C,R}$**), of each Component, C , is calculated according to the following formula:

$$TH_{C,R} = I_{R-1} \times \frac{W_{C,R}}{C_{C,R-1}}$$

Where:

I_{R-1}	in respect of an Index Business Day, $R - 1$, means the Index Level on such Index Business Day, $R - 1$.
$C_{C,R-1}$	in respect of a Component, C , and an Index Business Day, $R - 1$, means the Component Level of such Component, C , on such Index Business Day, $R - 1$.
Index Business Day, $R - 1$	means the Index Business Day immediately preceding such Holdings Calculation Date, R .
$W_{C,R}$	in respect of a Component, C , and a Holdings Calculation Date, R , means (i) for a Long Component, i , the Weight, $W_{i,t}$, and (ii) for a Short Component, j , the Weight, $W_{j,t}$, each as defined in Section 2.4 (<i>Weighting Methodology</i>).

For example, if the Index Level, I_{R-1} , on Index Business Day, $R - 1$, is 100, the Component Level, $C_{C,R-1}$, on Index Business Day, $R - 1$, is 80 and the Weight, $W_{C,R}$, of that Component is 40%, then the Target Holding ($TH_{C,R}$) of that Component in respect of that Holdings Calculation Date, R will be equal to $100 \times (0.4) / 80 = 0.5$.

2.2.2 Daily Holdings Calculation

On each Index Business Day, t , associated with a Holdings Calculation Date, R , the holding of each Component, C , (the **Holding**, $H_{C,t}$) is equal to the Target Holding, $TH_{C,R}$ (as defined in Section 2.2.1 (*Target Holdings Calculation on a Holdings Calculation Date*)):

$$H_{C,t} = TH_{C,R}$$

2.3 INDEX LEVEL CALCULATION

The Index represents the performance of a synthetic, unfunded exposure to the Underlying Contracts in an Index, that is, the Index tracks what an investor would receive if it purchased or sold the futures contracts ultimately underlying the Index without taking into consideration the cost of investment capital. On each Index Business Day, t , the level of the Index (the **Index Level**, I_t), is calculated (rounded in accordance with the Index Level Rounding) based on the Index Level on the immediately preceding Index Business Day (the **Index Business Day**, $t - 1$), I_{t-1} , and the change in the Component Levels of each of the Components, according to the formula:

$$I_t = I_{t-1} + \sum_C H_{C,t-1} \times (C_{C,t} - C_{C,t-1})$$

Where:

$H_{C,t-1}$ means, in respect of a Component, C , and an Index Business Day, t , the Holding of such Component, C (as defined in Section 2.2.2 (*Daily Holdings Calculation*)) on Index Business Day, $t - 1$.

$C_{C,t}$ means, in respect of a Component, C , and an Index Business Day, t , the Component Level of such Component, C , on such Index Business Day, t .

$C_{C,t-1}$ means, in respect of a Component, C , and an Index Business Day, t , the Component Level of such Component, C , on Index Business Day, $t - 1$.

For example, if, on an Index Business Day, t , the Index were comprised of two Components which had the following Component Levels:

	Component 1	Component 2
Index Business Day, $t - 1$	32.48	31.49
Index Business Day, t	32.83	31.21

and the following Holdings:

	Holding
Component 1	1.72
Component 2	1.48

then if the Index Level on Index Business Day, $t - 1$, I_{t-1} was equal to 102.0564, the Index Level on Index Business Day, t , I_t , would be equal to:

$$I_t = 102.0564 + 1.72 \times (32.83 - 32.48) + 1.48 \times (31.21 - 31.49) = 102.244$$

The Index Level on Index Business Day, t , would be 102.244.

2.4 WEIGHTING METHODOLOGY

On each Index Business Day, the Index aims to provide long exposure to Commodities that are potentially going to mean revert. Accordingly, the weights of the Long Components are determined by the following steps:

- (i) the Commodities in the Index universe are ranked by a Trend Signal (based on the skewness of the exponentially weighted moving average of their returns) (as calculated in Section 2.4.1 (*Trend Signal*)) and the 12 Commodities with the lowest Trend Signal are selected (and referred to as the Selected Commodities Set);
- (ii) the Long Initial Weights (as defined in Section 2.4.3 (*Long Initial Weights*)) are assigned to each of the 12 selected Commodities, these Initial Weights are equally weighted across the Selected Commodities Set; and
- (iii) the Long Initial Weights are then subject to the Group Caps and an iterative capping procedure, which aims (a) to reduce exposure of the Index to less liquid Commodities, and (b) to ensure that the Index is not overly exposed to one Group of Commodities, to result in the Long Temporary Weights.

On each Index Business Day, the weights of the Short Components are determined by initially, assigning the Short Components with Short Initial Weights set as equal to their Commodity's respective weight within the Benchmark. Because the strategy aims to take long exposure to Commodities for which prices theoretically should increase, to avoid having a net short exposure to the selected Commodities, their Short Initial Weights are reduced to be equal to the Long Temporary Weight of the corresponding Commodity, resulting in Short Temporary Weights.

To increase capacity and reactivity, the Index calculates the final Weights of the Components by applying a Rebalance Smoothing Window (as defined in Section 2.5.2 (*Specific Index Parameters Values*)), based on the trailing moving average. The final Weights of the Short Components also take into account the realised volatility of the Long Components to the realised volatility of the Short Component over a specific lookback window.

The Weighting Methodology is outlined in detail in the next sections as follows:

- **Section 2.4.1 (*Trend Signal*)** describes of the calculation of the Trend Signals, which are used to determine and rank the commodities in the Benchmark that have had the highest number of positive short term price returns.
- **Section 2.4.2 (*Selected Commodities Set*)** describes the selection process used to establish which Components will be included in the Index.
- **Section 2.4.3 (*Long Initial Weights*)** describes the computation of the Long Initial Weights.
- **Section 2.4.4 (*Long Temporary Weights and Iterative Capping Procedure*)** describes the process required for the calculation of the Long Temporary Weights derived originally from the Long Initial Weights.
- **Section 2.4.5 (*Short Weights*)** describes the calculation of the Short Temporary Weights for the Short Leg of the Index.
- **Section 2.4.6 (*Weights Calculation*)** describes the calculation of the final Weights for each Component from the Temporary Weights.

2.4.1 Trend Signal

(a) Trend Signal Calculation

On an Index Business Day, t , for each Commodity (a **Commodity, c**) that underlies the Benchmark (i.e. has a non-zero weight allocation in the Benchmark) on such Index Business Day, t , a signal (the **Trend Signal, $S_{c,t}$**), which estimates the degree of asymmetry of the distribution (or the “skewness”) of the EWMA Returns, $Ret_{j,t-k}^{EWMA}$, (as defined in paragraph (b) below) of the returns of the front month commodity futures contract associated with the corresponding Commodity c (the **Returns, $Ret_{j,t}$**) over the Skewness Lookback Period (as defined in Section 5.2 (*Specific Index Parameters Values*)) prior to Index Business Day, t , is calculated in accordance with the following formula:

$$S_{c,t} = \frac{q}{(q-2) \times (q-1)} \sum_{k=1}^q \left(\frac{Ret_{j,t-k}^{EWMA} - MR_{j,t}^{EWMA}}{SD_{j,t}^{EWMA}} \right)^3$$

Where:

$Ret_{j,t-k}^{EWMA}$	is defined in paragraph (b) (<i>EWMA Returns Calculation</i>) below.
$MR_{j,t}^{EWMA}$	is defined in paragraph (c) (<i>EWMA Returns Mean</i>) below.
$SD_{j,t}^{EWMA}$	is defined in paragraph (d) (<i>EWMA Returns Standard Deviation</i>) below.
q	means an integer equal to 126 reflecting the length of the Skewness Lookback Period.
Index Business Day $t-k$	means the Index Business Day which is k Index Business Days prior to Index Business Day, t (where $t-k$ refers to an Index Business Day in the Skewness Lookback Period).

(b) EWMA Returns Calculation

On each Index Business Day, t , and for each Commodity, c , the exponentially weighted moving average of the daily returns (**$Ret_{j,t-k}$**) of the Short Component Index associated with Commodity, c , over the EWMA Observation Period (the **EWMA Returns, $Ret_{j,t-k}^{EWMA}$**) are calculated in accordance with the following recursive formulae:

$$Ret_{j,t-k}^{EWMA} = (1 - \alpha) \times Ret_{j,t-k-1}^{EWMA} + \alpha \times Ret_{j,t-k}$$

$$Ret_{j,t-k} = \ln \left(\frac{L_{j,t-k}}{L_{j,t-k-1}} \right)$$

$$\alpha = \frac{2}{b + 1}$$

Where:

- b** means an integer equal to 21, representing the length of the EWMA Observation Period.
- $L_{j,t-k}$ means, in respect of a Commodity, c , and an Index Business Day, $t - k$, the Component Level of the Short Component, j , on such Index Business Day, $t - k$.

Notwithstanding the foregoing, the initial value of the EWMA Return, $Ret_{j,t^{start}}^{EWMA}$, on the Index Business Day falling 146 Index Business Days prior to the Index Start Date (as defined in Section 5 (*Index Parameters*)) (**Index Business Day t^{start}**), shall be equal to the daily return of the Component Level of such Short Component, j , on such Index Business Day, t^{start}):

$$Ret_{j,t^{start}}^{EWMA} = Ret_{j,t^{start}}$$

$$Ret_{j,t^{start}} = \ln\left(\frac{L_{j,t^{start}}}{L_{j,t^{start}-1}}\right)$$

Where $L_{j,t^{start}}$ refers to the Component Level of the Short Component, j , on such Index Business Day, t^{start} , and $L_{j,t^{start}-1}$ refers to the Component Level of the Short Component, j , on the Index Business Day immediately preceding such Index Business Day, t^{start} .

(c) **EWMA Returns Mean**

The mean of the exponentially weighted moving average in respect of the EWMA Observation Period of a Commodity, c , on an Index Business Day, t , (the **EWMA Returns Mean, $MR_{j,t}^{EWMA}$**), over the Skewness Lookback Period is calculated in accordance with the following formula:

$$MR_{j,t}^{EWMA} = \frac{1}{q} \sum_{k=1}^q Ret_{j,t-k}^{EWMA}$$

(d) **EWMA Returns Standard Deviation**

The standard deviation of the exponentially weighted moving average in respect of the EWMA Observation Period of a Commodity, c , on an Index Business Day, t , (the **EWMA Returns Standard Deviation, $SD_{j,t}^{EWMA}$**), over the Skewness Lookback Period is calculated in accordance with the following formula:

$$SD_{j,t}^{EWMA} = \sqrt{\frac{1}{q-1} \sum_{k=1}^q (Ret_{j,t-k}^{EWMA} - MR_{j,t}^{EWMA})^2}$$

2.4.2 Selected Commodities Set

On an Index Business Day, t , the Trend Signals, $S_{c,t}$, of each Commodity, c , are ranked in ascending order and the top twelve are selected (in the unlikely scenario where two Commodities have the same value signal, they are ranked in alphabetical order) and form a set (the **Selected Commodities Set, \mathbb{Q}_t**).

2.4.3 Long Initial Weights

On an Index Business Day, t , the initial weight of each Long Component, i (the **Long Initial Weight**, $IW_{i,t}^L$) is determined as follows:

- (a) If the Commodity, c , corresponding to such Long Component, i , is in the Selected Commodities Set, \mathbb{Q}_t (i.e., if $c \in \mathbb{Q}_t$), the Long Initial Weight, $IW_{i,t}^L$, is calculated in accordance with the following formula and rounded to 12 decimal places:

$$IW_{i,t}^L = \frac{1}{|\mathbb{Q}_t|}$$

- (b) Otherwise, if the Commodity, c , corresponding to such Long Component, i , is not in the Selected Commodities Set, \mathbb{Q}_t , the Long Initial Weight, $IW_{i,t}^L$, for such Long Component, i , shall be set to zero.

Where $S_{c,t}$ is defined in Section 2.4.1 (*Trend Signal*).

The Iterative Capping Procedure (as outlined in Section 2.4.4 (*Long Temporary Weights and Iterative Capping Procedure*)) is then applied to the Long Initial Weights, $IW_{i,t}^L$.

2.4.4 Long Temporary Weights and Iterative Capping Procedure

On each Index Business Day, t , the Long Temporary Weights, $TW_{i,t}^L$, for each Long Component, i , corresponding to a Commodity, c , in the Selected Commodities Set, \mathbb{Q}_t , are calculated based on the Long Initial Weight, $IW_{i,t}^L$, using the iterative process outlined below (the **Iterative Capping Procedure**), which caps the sum of the Long Temporary Weights, in respect of each Long Component, i , belonging to a Group by applying the Group Caps (as defined in Section 2.1 (*Index Universe*)). This process is repeated until no Groups are in breach of their corresponding Group Cap.

For the avoidance of doubt, a Long Temporary Weight, $TW_{i,t}^L$, of zero (0) is assigned to any Long Component, i , for which the corresponding Commodity, c , is not in the Selectable Commodities Set, \mathbb{Q}_t , for such Index Business Day, t .

Step A – Set initial Long Temporary Weight: For each Long Component, i , corresponding to a Commodity, c , in the Selectable Commodities Set, \mathbb{Q}_t , on Index Business Day, t , a temporary weight (the **Long Temporary Weight**, $TW_{i,t}^L$) is determined and initially set as equal to the relevant Long Initial Weight for Component, i , $IW_{i,t}^L$, on Index Business Day, t , calculated according to Section 2.4.2 (*Selected Commodities Set*):

$$TW_{i,t}^L = IW_{i,t}^L$$

Step B – Set initial Long Temporary Weight for Groups: For each Group, g , (as defined in Section 2.1 (*Index Universe*)) relating to a Commodity in the Selected Commodities Set, \mathbb{Q}_t , on Index Business Day, t , the sum of the relevant Long Temporary Weights, $TW_{i,t}^L$, for all Long Components, i , that belong to such Group, g (i.e., $i \in g$) (the **Long Temporary Group Weight**, $TW_{g,t}^L$) is determined in accordance with the following formula:

$$TW_{g,t}^L = \sum_{i \in g} TW_{i,t}^L$$

Step C – Determine any Group Cap breach: If the value of the Long Temporary Group Weight, $TW_{g,t}^L$, of each Group, g , is less than or equal to its respective Group Cap (as defined in Section 2.1 (*Index Universe*)), then the Iterative Capping Procedure ends and the Long Temporary Weight, $TW_{i,t}^L$, of each Long Component, i , in such Group, g , is set at the value determined prior to this Step. If the Long Temporary Weight for a Group, g^{breach} , is greater than its Group Cap, $Cap_{g^{breach}}$, then the following Step D is applied to such Group, g^{breach} .

Step D – Cap Group g^{breach} and redistribute the Excess weight: The Group Cap, $Cap_{g^{breach}}$, is applied to the Long Temporary Weight of Group, g^{breach} , and the excess weight (above the Group Cap, $Cap_{g^{breach}}$) is distributed pro-rata to the other Groups, g^{other} , relating to a Commodity, c , in the Selected Commodities Set, \mathbb{Q}_t , that have not yet been capped and that have a Long Initial Weight, $IW_{i,t}^L$, different from zero:

- (i) The excess weight, **Excess**, that needs to be redistributed to the other Groups is calculated as follows:

$$Excess = TW_{g^{breach},t}^L - Cap_{g^{breach}}$$

- (ii) The new Long Temporary Weight of each Long Component, i , corresponding to a Commodity, c , in the Selected Commodities Set, \mathbb{Q}_t , belonging to the Group, g^{breach} , is calculated in accordance with the following formula:

$$TW_{i,t}^L = \frac{TW_{i,t}^L}{\sum_{C_i \in g^{breach}} TW_{i,t}^L} \times Cap_{g^{breach}}$$

- (iii) The *Excess* is re-distributed pro-rata to the Long Components in the Set of Selected Commodities, \mathbb{Q}_t , in each other Group, g^{other} , that have not yet been capped, by first determining a scaling factor for the pro-rata *Excess* distribution (the **ScalingFactor**) and then applying such *ScalingFactor* to determine the new Long Temporary Weight, $TW_{i,t}^L$, of each Long Component, i , in each such other Group, g^{other} , (mathematically, $\forall i \in g^{other}$) as follows:

$$ScalingFactor = \frac{Excess + \sum_{i \in g^{other}} TW_{i,t}^L}{\sum_{i \in g^{other}} TW_{i,t}^L}$$

$$TW_{i,t}^L = TW_{i,t}^L \times ScalingFactor$$

Where $\sum_{i \in g^{other}} TW_{i,t}^L$ means the sum of the Long Temporary Weight, $TW_{i,t}^L$, of each Long Component, i , belonging to each Group, g^{other} .

Step E - Iteration: The process goes back to Step B to re-assess any Group Cap breaches and follow such Step B to Steps C and D, as applicable.

If any non-zero Excess cannot be allocated across the Long Components (because all Commodities have been capped), then the sum of all the Long Temporary Weights in respect of each Commodity may not be equal to 100%. In this case the Index will remain under-invested until the next Holdings Calculation Date when the Long Temporary Weights are re-determined.

2.4.5 Short Weights

(a) Short Initial Weight Calculation

For each Short Component, j , on an Index Business Day, t , the initial weight (the **Short Initial Weight**, $IW_{j,t}^S$) is calculated in accordance with the following formula and rounded to 12 decimal places.

$$IW_{j,t}^S = \frac{M_{c,t} \times S_{c,t-1} \times (1 - RW_t) + M_{c,t}^{prev} \times S_{c,t-1}^{prev} \times RW_t}{\sum_{k=1}^K [M_{k,t} \times S_{k,t-1} \times (1 - RW_t) + M_{k,t}^{prev} \times S_{k,t-1}^{prev} \times RW_t]}$$

Where:

K	means the number of Commodities in the Index universe (as defined in Section 2.1 (<i>Index Universe</i>)).
k	means each Commodity in the Index universe (as defined in Section 2.1 (<i>Index Universe</i>)).
$M_{c,t}$	means, in respect of a Commodity, c , and an Index Business Day, t , the Reference Multiplier (as defined below) of the year in which such Index Business Day, t , falls.
$M_{c,t}^{prev}$	means, in respect of a Commodity, c , and an Index Business Day, t , the Reference Multiplier of the year immediately preceding calendar month to the month of such Index Business Day falls.
$S_{c,t-1}$	means, in respect of a Commodity, c , and an Index Business Day, $t - 1$, the Settlement Price of the Benchmark Underlying Contract corresponding to such Commodity, c , on such Index Business Day, $t - 1$.
$S_{c,t-1}^{prev}$	means, in respect of a Commodity, c , and an Index Business Day, $t - 1$, the Settlement Price of the Preceding Benchmark Underlying Contract on such Index Business Day, $t - 1$.
RW_t	means, in respect of an Index Business Day, t , the Roll Weight (as defined in the BCOM Handbook) in respect of Commodity, c , and such Index Business Day, t .
Benchmark Underlying Contract	means, in respect of a Commodity, c , and an Index Business Day, the Contract in the contract calendar table of the BCOM Handbook, for the calendar month immediately following — with January following December — the calendar month to which that particular Index Business Day belongs.
Preceding Benchmark Underlying Contract	means, in respect of a Commodity, c , and an Index Business Day, the Benchmark Underlying Contract, for the calendar month to which that particular Index Business Day belongs.
Reference Multiplier	means, in respect of a Commodity, c , and a calendar year, is the Commodity Index Multiplier (“CIM”) (as defined in the BCOM Handbook) of such Commodity calculated according to the index methodology of the Benchmark on the fourth (4th) Index Business

Day of the month of January in such year.

Settlement Price

means, in respect of a futures contract and an Index Business Day, the price that is published by the relevant Trading Facility and referred to by such Trading Facility as the settlement price for that particular futures contract. If the settlement price is not available, as determined by the Index Calculation Agent, then the Settlement Price of that particular futures contract will be the most recent settlement price in respect of the relevant futures contract to have been published (or otherwise made available, as determined by the Index Calculation Agent) on a day that was both an Index Business Day and a trading day of the relevant Trading Facility.

(b) Short Temporary Weights Calculation

- (i) If the Commodity, c , corresponding to such Short Component, j , is in the Selected Commodities Set, \mathbb{Q}_t (i.e., if $c \in \mathbb{Q}_t$), on an Index Business Day, t , the temporary weight (the **Short Temporary Weight**, $TW_{j,t}^S$), of the corresponding Short Component, j , is calculated in accordance with the following formula:

$$TW_{j,t}^S = \frac{1}{VR_t} \times \min(VR_t \times IW_{j,t-1}^S, TW_{i,t}^L)$$

Where:

- VR_t is defined in paragraph (c) (*Volatility Ratio Calculation*) below.
- SD_t^S is defined in paragraph (d) (*Standard Deviation Calculations*) below.
- SD_t^L is defined in paragraph (c) (*Standard Deviation Calculations*) below.
- $IW_{j,t-1}^S$ means, in respect of a Short Component, j , the Short Initial Weight, $IW_{j,t}^S$ (as defined in Section 2.4.5 (*Short Initial Weight Calculation*)) on Index Calculation Day, $t - 1$.
- $TW_{i,t}^L$ means, in respect of a Short Component, j , the Long Temporary Weight (as defined in Section 2.4.4 (*Long Temporary Weights and Iterative Capping Procedure*)) of the corresponding Long Component, i , sharing the same Commodity as such Short Component, j , on Index Calculation Day, t .

- (ii) Otherwise, if the Commodity, c , corresponding to such Short Component, j , is not in the Selected Commodities Set, \mathbb{Q}_t , the Short Temporary Weight, $TW_{j,t}^S$, for such Long Component, i , shall be equal to its Short Temporary Weight, $IW_{j,t}^S$.

(c) Volatility Ratio Calculation

The ratio (the **Volatility Ratio**, VR_t) that is used, on an Index Business Day, t , to adjust the Weights of each Short Component, j , so that the volatility of the Short Leg should match the volatility of the Long Leg over the Volatility Lookback Period (as defined in Section 5.2 (*Specific Index Parameters*)) and is calculated in accordance with the following formula:

$$VR_t = \min \left[\max \left(l, \frac{SD_t^L}{SD_t^S} \right), u \right]$$

Where:

SD_t^S is defined in paragraph (d) (*Standard Deviation Calculations*) below.

SD_t^L is defined in paragraph (d) (*Standard Deviation Calculations*) below.

u (or Upper Bound) is defined in Section 5.2 (*Specific Index Parameters Values*).

l (or Lower Bound) is defined in Section 5.2 (*Specific Index Parameters Values*).

(d) Standard Deviation Calculations

- (i) In order to calculate the Weight of the Short Component, the standard deviation of the Hypothetical Long Index Levels, SD_t^L , over the Volatility Lookback Period is calculated, based on the mean of the Hypothetical Long Index returns over the Volatility Lookback Period that precedes such Index Business Day, t , MR_t^L , in accordance with the following formulae:

$$SD_t^L = \sqrt{\frac{1}{v-1} \sum_{k=1}^v \left(\ln \left(\frac{I_{t-k}^{Long}}{I_{t-k-1}^{Long}} \right) - MR_t^L \right)^2}$$

$$MR_t^L = \frac{1}{v} \sum_{k=1}^v \ln \left(\frac{I_{t-k}^{Long}}{I_{t-k-1}^{Long}} \right)$$

Where:

I_{t-k}^{Long} means, in respect of an Index Business Day, $t - k$, the Hypothetical Long Index Level (as defined in paragraph (e) (*Hypothetical Long Index*) below) on Index Business Day, $t - k$.

I_{t-k-1}^{Long} means, in respect of an Index Business Day, $t - k$, the Hypothetical Long Index Level (as defined in paragraph (e) (*Hypothetical Long Index*) below) on the Index Business Day immediately preceding Index Business Day, $t - k$.

MR_t^L means, in respect of an Index Business Day, t , the mean of the Hypothetical Long Index Levels on each Index Business Day during the Volatility Lookback Period.

v means an integer equal to 21, representing the length of the Volatility Lookback Period.

- (ii) In order to calculate the Weight of the Short Component, the standard deviation of the returns of the Benchmark levels, SD_t^S , over the Volatility Lookback Period that precedes such Index Business Day, t , MR_t^S , are calculated in accordance with the

following formula:

$$SD_t^S = \sqrt{\frac{1}{v-1} \sum_{k=1}^v \left(\ln \left(\frac{B_{t-k}}{B_{t-k-1}} \right) - MR_t^S \right)^2}$$

$$MR_t^S = \frac{1}{v} \sum_{k=1}^v \ln \left(\frac{B_{t-k}}{B_{t-k-1}} \right)$$

Where:

B_{t-k}	means, in respect of an Index Business Day, $t - k$, the Benchmark Index level, on such Index Business Day, $t - k$.
B_{t-k-1}	means, in respect of an Index Business Day, $t - k$, the Benchmark Index level on the Index Business Day immediately preceding Index Business Day, $t - k$.
Benchmark Index Level	means, in respect of an Index Business Day, the level of the Benchmark, as published by the BCOM Administrator on such Index Business Day, in respect of an Index Business Day (or if the Index Calculation Agent determines that the Benchmark Index Level is not available on such Index Business Day, the most recently available published level of the Benchmark).

(e) Hypothetical Long Index

A hypothetical index (the **Hypothetical Long Index**) is used to represent the volatility of the Long Leg on any Index Business Day, based on the Long Temporary Weights ($TW_{i,t}^L$) determined in the Iterative Capping Procedure and is defined as an Index with the same Methodology as the Index, except that:

- (i) the Components of the Hypothetical Long Index will be the Long Components with a Weight above zero;
- (ii) the Weights of those Components will be fixed as equal to the Long Temporary Weights calculated on such Index Business Day, t ; and
- (iii) the Hypothetical Long Index will rebalance to the same fixed Weights (defined in paragraph (ii) above) on each Index Business Day in accordance with Section 2.2 (*Holdings Calculation*).

For each Index Business Day, t , during the Volatility Lookback Period (as defined in Section 5.2 (*Specific Index Parameters Values*)), the index level of this Hypothetical Long Index (the **Hypothetical Long Index Level, I_t^{Long}**) will be calculated in accordance with the procedure outlined in Section 2.3 (Index Level Calculation) and rounded to 8 decimal places.

2.4.6 Weights Calculation

The weights of the Components within the Index are derived from the results of applying the calculations below to each Component's Temporary Weight.

(a) **Long Component Weight**

The weight (the **Weight, $W_{i,t}$**) of each Long Component, i , relating to a Commodity, c , whether in the Selected Commodities Set, \mathbb{Q}_t , or not, on each Index Business Day, t , is calculated in accordance with the following formula:

$$W_{i,t} = \frac{1}{p} \times \sum_{k=0}^{p-1} TW_{i,t-k}^L$$

Where:

$TW_{i,t-k}^L$ means the Temporary Weight for such Component, i , on the Index Business Day which is k Index Business Days prior to Index Business Day, t .

p means an integer equal to 10, representing the length of the Rebalance Smoothing Period.

(b) **Short Component Weight**

The weight (the **Weight, $W_{j,t}$**) of each Short Component, j , relating to a Commodity, c , on each Index Business Day, t , is calculated in accordance with the following formula:

$$W_{j,t} = -\frac{1}{p} \sum_{k=0}^{p-1} (TW_{j,t-k}^S \times VR_{t-k})$$

Where:

$TW_{j,t-k}^S$ means the Temporary Weight for such Component, j , on the Index Business Day which is k Index Business Days prior to Index Business Day, t .

VR_{t-k} means the Volatility Ratio on Index Business Day, $t - k$.

SECTION 3: MARKET DISRUPTION

3.1 UNDERLYING CONTRACTS

The Index is calculated on a daily basis based on the settlement prices of the contracts that underlie the Index (the **Underlying Contracts**). The Underlying Contracts may directly or ultimately underlie the Index, depending on how the Index is constructed. If the Components of the Index are futures or other contracts, then the Underlying Contracts will refer to the Components of the Index. If the Components of the Index are indices, then the Underlying Contracts of the Index will refer to the contracts that underlie those Component indices either directly (where the Component indices are comprised of constituents that are contracts) or ultimately (where the Components are comprised of constituents that are indices, in which case the underlying contracts of those constituent indices will be the Underlying Contracts).

The determination of a Market Disruption Event (as defined below) is made in respect of the Underlying Contracts of the Index.

3.2 MARKET DISRUPTION EVENTS

With respect to the calculation of the Index, a **Market Disruption Event** means the occurrence, in respect of one or more Underlying Contracts, of one or more of the following events, as determined by the Index Calculation Agent:

- (i) a failure by the relevant Trading Facility to report or announce a settlement price for an Underlying Contract (including each Index Business Day where the Trading Facility is not open for business);
- (ii) all trading in an Underlying Contract of the Index is suspended and does not recommence at least ten minutes prior to the actual closing time of the regular trading session;
- (iii) the settlement price published by the relevant Trading Facility for one (or more) Underlying Contracts is a “limit price”, which typically means that the Trading Facility published settlement price for such Contract for a trading day has increased or decreased from the previous trading day’s settlement price by the maximum amount permitted under applicable rules of the Trading Facility; or
- (iv) any other event, if the Index Administrator reasonably determines that the event materially interferes with the ability of market participants to hedge the Index.

3.3 CONSEQUENCES OF A MARKET DISRUPTION EVENT

If a Market Disruption Event occurs or is continuing in respect of an Underlying Contract (the **Disrupted Contract**) on an Index Business Day (the **Disrupted Day**), the impact of such Market Disruption Event on the calculation of the Index Level on such Disrupted Day will depend on certain factors, including whether the Index is synthetically trading in (i.e. rolling or rebalancing) the Disrupted Contract (in accordance with the Methodology) and the availability of the settlement price of the Disrupted Contract, as described below.

3.3.1 Consequences of a Market Disruption Event on a Disrupted Day (no rebalancing)

If a Market Disruption Event occurs (or is continuing) on a Disrupted Day that is not a Disrupted Rebalancing Day (as defined below), then the Index Level will be calculated on such Disrupted Day using the Disruption Price (as defined below) of such Disrupted Contract; provided that, if the Market Disruption Event is continuing on the Market Disruption Longstop Date, then a Market Disruption Adjustment Event shall occur and the Index Calculation Agent may take action in accordance with Section 6.1 (*Adjustment Events*).

The determination of the Disruption Price of the Disrupted Contract on a Disrupted Day (that is not a Disrupted Rebalancing Day) prior to the Market Disruption Longstop Date, depends on whether or not the settlement price of the Disrupted Contract is available on the Publication Source on such Disrupted Day. The availability of the settlement price of a Disrupted Contract will generally depend on the type of Market Disruption Event; for example, a Market Disruption Event caused by the settlement price of the Disrupted Contract being a “limit price” or a Market Disruption Event caused by the failure of the Trading Facility to publish the settlement price of the Disrupted Contract (unavailable).

The **Disruption Price** is determined as follows: (i) if the settlement price of the Disrupted Contract for such Disrupted Day (the **Disrupted Day Price**) is available from the Publication Source, then (notwithstanding the occurrence of the Market Disruption Event) the Disruption Price will be the Disrupted Day Price; or (ii) if the settlement price of the Disrupted Contract for such Disrupted Day is not available from the Publication Source, then the Disruption Price will be the settlement price of the Disrupted Contract on the Index Business Day prior to such Disrupted Day on which no Market Disruption Event (causing the settlement price to be unavailable) occurred or was continuing (the **Previous Price**).

On the Disrupted Day (that is not a Disrupted Rebalancing Day), the Index Calculation Agent will use the relevant Disruption Price to calculate the Index in place of the price of the Disrupted Contract that would otherwise be used in accordance with the Methodology. By way of further explanation, if the Disrupted Contract is a Component of the Index, then the Disruption Price will be substituted for the end of day settlement price of such Disrupted Contract in the Index Level calculation (see Section 2.2.2 (*Index Level Calculation*)) on the Disrupted Day. Similarly, if the Disrupted Contract underlies a Component (or its constituents), then the Disruption Price will be used to calculate the end of day settlement price in respect of such Component for the Disrupted Day.

3.3.2 Consequences of a Market Disruption Event on a Disrupted Rebalancing Day

If a Market Disruption Event occurs (or is continuing) on an Index Business Day on which the Index is synthetically trading in (i.e. rolling or rebalancing) the Disrupted Contract (a **Disrupted Rebalancing Day**), then the Index will defer the Index action (i.e. the roll or rebalance) relating to the Disrupted Contract (the **Disrupted Action**) until the earlier of (i) the next Rebalancing Day or (ii) the Market Disruption End Date. On the Disrupted Rebalancing Day and on each Disrupted Day on which the relevant Market Disruption Event is continuing until (but excluding) the Market Disruption End Date or the next Rebalancing Day (as applicable) (the **Rebalancing Deferral Period**), the calculation of the Index Level will be modified to reflect such deferral of the Disrupted Action. For the avoidance of doubt, the Index actions relating to the other Underlying Contracts (in respect of which no Market Disruption Event has occurred on such Disrupted Rebalancing Day) will continue to be calculated in accordance with the Methodology during the Rebalancing Deferral Period.

If the Rebalancing Deferral Period ends due to a subsequent Rebalancing Day (a **New Rebalancing Day**), then the Disrupted Action in respect of the original Disrupted Rebalancing Day shall not be

completed and the rebalancing on the New Rebalancing Day shall be determined in accordance with Section 2 (*Index Methodology*) (and this Section 3 (*Market Disruption*), where applicable). For the avoidance of doubt, determinations on the New Rebalancing Day shall be made without reference to any Disrupted Action (whether or not completed) that has occurred in respect of any previous Rebalancing Day, and the determination of a Market Disruption Event in respect of an Underlying Contract and any consequences thereof shall be determined in accordance with this Section 3 (*Market Disruption*) without reference to any Market Disruption Event determined in respect of any prior Rebalancing Day.

If the Rebalancing Deferral Period ends on the Market Disruption End Date, then the Disrupted Action will be completed and the calculation of the Index Level will be modified accordingly to reflect the completion of such Disrupted Action; provided that, if the Market Disruption End Date is the Market Disruption Longstop Date, then a Market Disruption Adjustment Event shall occur and the Index Calculation Agent may take action in accordance with Section 6.1 (*Adjustment Events*).

3.3.3 Market Disruption Date Definitions

Market Disruption Adjustment Event means the existence of a Market Disruption Event on the Market Disruption Longstop Date.

Market Disruption End Date means the earlier of (i) the Index Business Day on which the Market Disruption Event ceases to occur; (ii) the Index Business Day immediately preceding the expiry date of the Disrupted Contract; (iii) the Index Business Day immediately preceding the first notice date of the Disrupted Contract (if applicable) and (iv) the Market Disruption Longstop Date.

Market Disruption Longstop Date means the date determined by the Index Calculation Agent (subject to approval by the Index Oversight Committee) on which the Market Disruption Event shall be deemed to end for the purpose of determining the Index Level. In determining the Market Disruption Longstop Date, the Index Calculation Agent (and the Index Oversight Committee) may take into account factors including (but not limited to) the objective of the Index, the expiry date of the Disrupted Contract and market practice.

Rebalancing Day means each day on which the Index is synthetically trading.

SECTION 4: DEFINITIONS

Adjustment Event is defined in Section 6.1 (*Adjustment Events*).

Affected Index Level is defined in Section 7.1 (*Corrections and Error Handling*).

Asset Class Specific Adjustment Event is defined in Section 6.2 (*Asset Class Specific Definitions – Adjustment Events*).

Benchmark is defined in Section 1.1 (*Introduction and Index Objective*).

Benchmark Index Level is defined in Section 2.4.5(d) (*Standard Deviation Calculations*).

Benchmark Underlying Contract is defined in Section 2.4.5(a) (*Short Initial Weight Calculation*).

BCOM Adjustment Event is defined in Section 6.2.2 (*BCOM Adjustment Event*).

BCOM Administrator is defined in Section 6.2.2 (*BCOM Adjustment Event*).

BCOM Handbook means the methodology of the Benchmark, as published by the BCOM Administrator and, as at the date of this Index Manual, as set out in the “Index Methodology – The Bloomberg Commodity Index Family” Index Manual, which is available at https://assets.bbhub.io/professional/sites/10/BCOM-Methodology-MAR-2022_FINAL.pdf.

Bloomberg Ticker is defined in Section 5.1 (*Index Parameters*).

Calculation Error is defined in Section 7.1 (*Corrections and Error Handling*).

Change in Economic Assumptions is defined in Section 6.1 (*Adjustment Events*).

Commodity, *c* is defined in Section 2.1 (*Index Universe*).

Component is defined in Section 2.1 (*Index Universe*).

Component Change Event is defined in Section 6.1 (*Adjustment Events*).

Component Level, in respect of a Component and an Index Business Day, means the Index Level (as defined in the Component Methodology) of such Component on such Index Business Day. If an Index Business Day is not a day on which the Component is scheduled to be published, the Component Level for that Index Business Day will be the most recent available Index Level (as defined in the Component Manual) of such Component on its most recent publication day.

Component Licensing Event is defined in Section 6.1 (*Adjustment Events*).

Component Methodology, in respect of each Component, is defined in Section 2.1 (*Index Universe*).

Dealer is defined in Section 6.1 (*Adjustment Events*).

Decay Parameter is defined in Section 5.2 (*Specific Index Parameters*).

Disrupted Action is defined in Section 3.3.2 (*Consequences of a Market Disruption Event on a Disrupted Rebalancing Day*).

Disrupted Contract is defined in Section 3.3 (*Consequences of a Market Disruption Event*).

Disrupted Day is defined in Section 3.3 (*Consequences of a Market Disruption Event*).

Disrupted Day Price is defined in Section 3.3.1 (*Consequences of a Market Disruption Event on a Disrupted Day (no rebalancing)*).

Disrupted Rebalancing Day is defined in Section 3.3.2 (*Consequences of a Market Disruption Event on a Disrupted Rebalancing Day*).

Disruption Price is defined in Section 3.3.1 (*Consequences of a Market Disruption Event on a Disrupted Day (no rebalancing)*).

Error is defined in Section 7.1 (*Corrections and Error Handling*).

EWMA Observation Period is defined in Section 5.2 (*Specific Index Parameters Values*).

EWMA Returns is defined in Section 2.4.1(a) (*Skewness Calculation*).

EWMA Returns Mean is defined in Section 2.4.1(c) (*EWMA Mean Return*).

EWMA Returns Standard Deviation is defined in Section 2.4.1(d) (*EWMA Standard Deviation*).

Excess is defined in Section 2.4.4 (*Long Temporary Weights and Iterative Capping Procedure*).

General Adjustment Event is defined in Section 6.1 (*Adjustment Events*).

Group is defined in Section 2.1 (*Index Universe*).

Group Cap is defined in Section 2.1 (*Index Universe*).

Holding, in respect of a Component, is defined in Section 2.2.2 (*Daily Holdings Calculation*).

Holdings Calculation Date is defined in Section 5.1 (*Index Parameters Values*).

Holdings Calculation Date, R is defined in Section 2.2.1 (*Target Holdings Calculation on a Holdings Calculation Date*).

Hypothetical Long Index is defined in Section 2.4.5(e) (*Hypothetical Long Index*).

Hypothetical Long Index Level is defined in Section 2.4.5(e) (*Hypothetical Long Index*).

Index is defined in the section entitled “Important Information”.

Index Administrator is defined in the section entitled “Important Information”.

Index Business Day is defined in Section 5.1 (*Index Parameters Values*).

Index Business Day, $R - 1$ is defined in Section 2.2.1 (*Target Holdings Calculation on a Holdings Calculation Date*).

Index Business Day, $t - 1$ is defined in Section 2.3 (*Index Level Calculation*).

Index Business Day, $t - k$ is defined in Section 2.4.1 (*Trend Signal Calculation*).

Index Calculation Agent is defined in Section 8.2.2 (*Index Calculation Agent*).

Index Currency is defined in Section 5.1 (*Index Parameters Values*).

Index Level is defined in Section 2.3 (*Index Level Calculation*), being each level of the Index as calculated and published by the Index Calculation Agent.

Index Level Rounding is defined in Section 5.1 (*Index Parameters Values*).

Index Live Date is defined in Section 5.1 (*Index Parameters Values*) and is the date on which the Methodology of the Index was finalised.

Index Manual is defined in the section entitled “Important Information”.

Index Oversight Committee is defined in Section 8.1 (*Index Governance*).

Index Publication Day is defined in Section 5.1 (*Index Parameters Values*).

Index Rebalance Calendar is defined in Section 5.1 (*Index Parameter Values*).

Index Rebalance Day is defined in Section 5.1 (*Index Parameter Values*).

Index Return is defined in Section 5.1 (*Index Parameter Values*).

Index Start Date is defined in Section 5.1 (*Index Parameters Values*), being the first day in respect of which an Index Level is published (such level being the Index Start Level).

Index Start Level is defined in Section 5.1 (*Index Parameters Values*).

Initial Calculation Date means the date on which the Index Calculation Agent first implemented the Index and published the Index Level. The Initial Calculation Date may fall on or after the Index Live Date.

Input Error is defined in Section 7.1 (*Corrections and Error Handling*).

Iterative Capping Procedure is defined in Section 2.4.4 (*Long Temporary Weights and Iterative Capping Procedure*).

Long Component is defined in Section 2.1 (*Index Universe*).

Long Component Ticker is defined in Section 2.1 (*Index Universe*).

Long Initial Weight is defined section 2.4.3 (*Long Initial Weights*).

Long Leg, is defined section 2.1 (*Index Universe*)

Long Temporary Weights is defined section 2.4.4 (*Long Temporary Weights and Iterative Capping Procedure*).

Lower Bound is defined in Section 5.2 (*Specific Index Parameters Values*).

Macquarie Index Component is defined in Section 6.2.2 (*Macquarie Index Components*).

Macquarie Single Commodity Index is defined in Section 1.1 (*Introduction and Index Objective*).

Market Disruption Adjustment Event is defined in Section 3.3.3 (*Market Disruption Date Definitions*).

Market Disruption End Date is defined in Section 3.3.3 (*Market Disruption Date Definitions*).

Market Disruption Event is defined in Section 3.2 (*Market Disruption Events*).

Market Disruption Longstop Date is defined in Section 3.3.3 (*Market Disruption Date Definitions*).

Material Error is defined in Section 7.1 (*Corrections and Error Handling*).

Methodology is defined in the section entitled "Important Information".

New Rebalancing Day is defined in Section 3.3.2 (*Consequences of a Market Disruption Event on a Disrupted Rebalancing Day*).

Preceding Benchmark Underlying Contract is defined in Section 2.4.5 (a) (*Short Initial Weight Calculation*).

Previous Price is defined in Section 3.3.1 (*Consequences of a Market Disruption Event on a Disrupted Day (no rebalancing)*).

Publication Time is defined in Section 9.2 (*Publication of Index Level*).

Rebalance Smoothing Period is defined in Section 5.2 (*Specific Index Parameters Values*).

Rebalancing Day is defined in Section 3.3.3 (*Market Disruption Date Definitions*).

Rebalancing Deferral Period is defined in Section 3.3.2 (*Consequences of a Market Disruption Event on a Disrupted Rebalancing Day*).

Reference Multiplier is defined in Section 2.4.5(a) (*Short Initial Weight Calculation*).

Regulatory Event is defined in Section 6.3 (*Regulatory Event*).

Replicability Event is defined in Section 6.1 (*Adjustment Events*).

Return, $Ret_{j,t-k}$ is defined in Section 2.4.1 (*Trend Signal*).

Risk Factors is defined in the section entitled "Important Information".

Scaling Factor is defined in Section 2.4.4 (*Long Temporary Weights and Iterative Capping Procedure*).

Selected Commodities Set is defined in Section 2.4.2 (*Selected Commodities Set*).

Settlement Price is defined in Section 2.4.5(a) (*Short Initial Weight Calculation*).

Short Component is defined Section 2.1 (*Index Universe*).

Short Component Ticker is defined Section 2.1 (*Index Universe*).

Short Initial Weight is defined in Section 2.4.5(a) (*Short Initial Weight Calculation*).

Short Leg, is defined section 2.1 (*Index Universe*)

Short Temporary Weight is defined in Section 2.4.5(b) (*Short Temporary Weights Calculation*).

Skewness Lookback Period is defined in Section 5.2 (*Specific Index Parameters Values*).

Target Holding is defined in Section 2.2.1 (*Target Holdings Calculation on a Holdings Calculation Date*).

Trading Facility in respect of each Underlying Contract, means each regulated futures exchange, facility or platform on or through which such Contract is traded.

Trend Signal is defined in 2.4.1 (*Trend Signal*).

Underlying Contracts is defined in Section 3.1 (*Underlying Contracts*).

Upper Bound is defined in Section 5.2 (*Specific Index Parameters Values*).

Volatility Lookback Period is defined 5.2 (*Specific Index Parameters Values*).

Volatility Ratio is defined in 2.4.5(c) (*Volatility Ratio Calculation*).

Weight, in respect of a Component, is defined in Section 2.4.6 (*Weights Calculation*).

SECTION 5: INDEX PARAMETERS

5.1 INDEX PARAMETERS VALUES

The Index Parameters to be used in this Methodology are as follows:

Index Parameters	Definition
Index Return	Excess Return (ER)
Index Business Day	Each scheduled trading day of the Dow Jones Commodity Index
Index Publication Day	Each Index Business Day
Index Currency	USD
Index Live Date	24 July 2023
Index Start Date	23 August 2004
Index Start Level	100
Index Level Rounding	8 decimal places
Index Rebalance Calendar	Each Index Business Day
Index Rebalance Day	Each Index Business Day in the Index Rebalance Calendar
Bloomberg Ticker	MQCP892E
Holdings Calculation Date	Each Index Business Day

5.2 SPECIFIC INDEX PARAMETERS VALUES

The Specific Index Parameters to be used in this Methodology are as follows:

Index Parameters	Definition
Skewness Lookback Period	126 Index Business Days
Volatility Lookback Period	21 Index Business Days
Rebalance Smoothing Period	21 Index Business Days
EWMA Observation Period	21 Index Business Days
Upper Bound	1.5
Lower Bound	0.5

SECTION 6: ADJUSTMENT EVENTS AND REGULATORY EVENT

6.1 ADJUSTMENT EVENTS

If an Adjustment Event occurs, the Index Calculation Agent may, but shall not be obliged to, take one or more of the following steps:

- (i) suspend the publication of the Index Level until such time as the Adjustment Event ceases to occur; or
- (ii) with the approval of the Index Oversight Committee:
 - (a) substitute the Component, if applicable, affected by the Adjustment Event with an asset which has similar characteristics and make such adjustments to the Index as are necessary, if any, in order to account for the substitution;
 - (b) make such adjustments to the Index (including to any of the weights or values of the Components or to the Index Level) and/or alter the methodology of the Index, in order to account for the effect of the Adjustment Event; or
 - (c) if no such adjustment or alteration could be made to preserve the objective of the Index, discontinue the Index.

Where:

Adjustment Event means, in respect of a Component, each General Adjustment Event and each Asset Class Specific Adjustment Event (as defined in Section 6.2 (*Asset Class Specific Definitions – Adjustment Events*)) as applicable for such Component.

Change in Economic Assumptions means, in respect of a Component, a material change of any economic assumptions (including, but not limited to, assumptions as to liquidity, estimated trading and/or rolling costs of the Components, bid/offer spreads in the market in respect of the Components and the funding cost associated with trading the Components) incorporated into the Methodology for such Component.

Component Change Event means, in respect of a Component, that since the Index Live Date, liquidity for the Component on the relevant trading venue has materially decreased in the context of the known or expected financial exposure to the Index.

Component Licensing Event means, in respect of a Component or any instrument or security on which the value of a Component depends, and for which a license has been granted to the Index Administrator (or an affiliate of the Index Administrator) in relation to the calculation, hedging or use of the Index, that either (a) such license is revoked, impaired or otherwise disputed for any reason, or (b) there is a material increase in the fee schedule applicable to such license.

Dealer means a hypothetical broker dealer subject to the same securities laws and rules and regulations of any securities regulators, exchanges and self-regulating organisations as apply to the Index Administrator.

General Adjustment Event means any of the following: a Change in Economic Assumptions, a Component Change Event, a Component Licensing Event, a Market Disruption Adjustment Event and a Replicability Event.

Replicability Event means that, on or after the Index Live Date, the Index Oversight Committee determines that one or more Dealers would be unable, after using commercially reasonable efforts, to hold, acquire, maintain, short sell or dispose of:

- (i) one or more Components;
- (ii) any instrument or security on which the value of a Component depends; or
- (iii) any instrument or security which is required to replicate the calculation methodology of the Index (including, but not limited to, interest rates and FX rates, if applicable).

6.2 ASSET CLASS SPECIFIC DEFINITIONS – ADJUSTMENT EVENTS

6.2.1 Macquarie Index Components

The following term is applicable in respect of any Component that is an index administered by Macquarie Bank Limited (a **Macquarie Index Component**).

Asset Specific Adjustment Event means the occurrence of the following:

- (a) *Index Component Cancellation*: the index administrator of such Macquarie Index Component permanently cancels the Macquarie Index Component;
- (b) *Index Component Modification*: the index administrator of such Macquarie Index Component announces that it will make a material change in the formula for or method of calculating such Macquarie Index Component (other than a modification prescribed in that formula or method to maintain such Macquarie Index Component in the event of routine events); or
- (c) *Index Succession Event*: such Macquarie Index Component is (i) not calculated and announced by the relevant index administrator of the Macquarie Index Component but is calculated and announced by a successor index administrator or (ii) is replaced by a successor index; or
- (d) *Underlying Contract Change Event*: in respect of an Underlying Contract of such Macquarie Index Component, either: (i) the specifications of an Underlying Contract are materially altered by the relevant trading venue or (ii) an Underlying Contract is permanently no longer traded on the relevant trading venue; or
- (e) *Index Component Adjustment*: an “Adjustment Event” or a “BCOM Adjustment Event” (if applicable) (each, as defined in the Component Methodology) occurs in respect of such Macquarie Index Component.

6.2.2 BCOM Adjustment Event

If a BCOM Adjustment Event occurs with respect to the Benchmark, the Index Calculation Agent may, with the approval of the Index Oversight Committee:

- (a) determine to make no changes to the Index or the Methodology, notwithstanding the occurrence of the BCOM Adjustment Event;
- (b) make adjustments to the Index and/or alter the Methodology, in order to account for the effect of the BCOM Adjustment Event; or
- (c) discontinue the Index, if:

- (i) no such adjustment could be made to preserve the objective of the Index; or
- (ii) any adjustments to the Index to account for the BCOM Adjustment Event would result in (A) the Index not being replicable or (B) it no longer being commercially reasonable for a market participant in the commodity futures market to hedge the Index (as determined by the Index Oversight Committee).

Where:

BCOM Administrator means Bloomberg Index Services Limited or its successor.

BCOM Adjustment Event means the occurrence of one or more of the following in respect of the Benchmark:

- (i) The BCOM Administrator makes a change to the BCOM Handbook; or
- (ii) the BCOM Administrator determines (by way of its oversight committee or otherwise) to make any change or adjustment to the Benchmark or takes any action in respect of the Benchmark (including, but not limited to, an action to account for market disruptions of the constituents of the Benchmark) that is not set out in the BCOM Handbook (as published at the date of this Index Manual),
- (iii) and, in either case, the Index Calculation Agent determines that such change, adjustment or action (as applicable) is a material change, adjustment or action (as the case may be).

6.3 REGULATORY EVENT

If a Regulatory Event occurs, the Index Administrator may, but shall not be obliged:

- (i) to suspend the publication of the Index Level until such time as the Regulatory Event ceases to occur; or
- (ii) with the approval of the Index Oversight Committee, to discontinue the Index.

Regulatory Event means that on or after the Index Live Date (a) due to the adoption of or any change in any applicable regulation, or (b) due to the promulgation of or any change in the interpretation by any court, tribunal or regulatory authority with competent jurisdiction of any applicable regulation, the Index Administrator determines that it is not permitted (or there is a reasonable likelihood that, within the next 30 Index Publication Days, it will not be permitted) to continue to sponsor, administer, maintain or calculate, as applicable, the Index.

SECTION 7: CORRECTIONS, CHANGES, CESSATION AND DISCRETION

7.1 CORRECTIONS AND ERROR HANDLING

7.1.1 Errors

Where the Index Administrator or the Index Calculation Agent becomes aware of an Input Error or a Calculation Error (an **Error**), the cause of such error will be investigated and steps taken, to the extent practicable and within the control of the Index Calculation Agent, to prevent such errors from recurring.

If an Error is not corrected by 11.59pm, New York time, on the Index Publication Day following the occurrence of the Error, the Index Calculation Agent shall determine whether such Error affects any published Index Level (such Error, a **Material Error** and each affected Index Level, an **Affected Index Level**).

Where:

Input Error means any error in input data that is detected by, or notified to, the Index Calculation Agent.

Calculation Error means any error in the implementation of the Methodology or arising in the Index calculation and dissemination process that is detected by or notified to the Index Calculation Agent.

7.1.2 Notification of Errors

The Index Calculation Agent shall publish an announcement regarding the occurrence of any Material Error and any change to the Methodology (see Section 7.2 (*Changes in Methodology*)).

7.1.3 Restatement of Index Levels

The Index Calculation Agent will restate any Affected Index Level resulting from a Material Error in the following circumstances:

- (a) in respect of a Material Error that is an Input Error:
 - (i) if the Index Calculation Agent becomes aware of such Input Error within 2 Index Publication Days of publication of the relevant Affected Index Level; or
 - (ii) otherwise, as determined by the Index Oversight Committee.
- (b) In respect of a Material Error that is a Calculation Error:
 - (i) if the Index Calculation Agent becomes aware of such Calculation Error prior within 30 calendar days following the Index Publication Day on which the first Affected Index Level was published; or
 - (ii) otherwise, as determined by the Index Oversight Committee.

7.2 CHANGES IN METHODOLOGY

Various factors, including external factors beyond the control of the Index Administrator, might necessitate material changes to an Index. The Index Manual contains information as of the date appearing on its cover, and such information may change from time to time. No assurance can be given that the Methodology reflects information subsequent to this date.

The Index Administrator may amend the Methodology at any time if the change is (i) of a formal, minor or technical nature, (ii) to correct any manifest or proven error or (iii) where the Index Calculation Agent determines that such change is not materially prejudicial to investors in financial products (in respect of which the Index Administrator has given consent to refer to the Index).

In any other case, a change to the Methodology will be considered to be a material change and may only be made subject to the approval of the Index Oversight Committee. The Index Oversight Committee shall determine the implementation timeline for such change and the timing for notification of such change to investors (which shall generally be at least 30 calendar days prior to implementation, but may be shorter if the Index Oversight Committee so determines), which the Index Administrator will communicate to investors by email.

7.3 CESSATION OF INDEX

The Index Administrator may withdraw the Index, at any time and without notice, if no financial instruments (in respect of which Macquarie Bank Limited has given consent to refer to the Index) are outstanding. The Index Administrator may, in any case (subject to the approval of the Index Oversight Committee), withdraw an Index, without reason, provided that either (i) it notifies all investors in financial instruments (in respect of which Macquarie Bank Limited has given consent to refer to the Index) of its intention to do so by email at least 30 calendar days prior to cessation of calculation and publication of the Index or (ii) all investors in financial instruments (in respect of which Macquarie Bank Limited has given consent to refer to the Index) have agreed to the cessation of the Index and the date of such cessation.

7.4 DISCRETION

In order to ensure continuity, the methodology of this Index permits the exercise of discretion or expert judgement in certain limited circumstances as set out in this Index Manual - see the following sections:

- The definitions of “Settlement Price” in paragraph (a) (*Short Initial Weight Calculation*) and “Benchmark Index Level” in paragraph (d) (*Standard Deviation Calculations*) of Section 2.4.5 (*Short Weights*);
- Section 3 (*Market Disruption*);
- Section 6 (*Adjustment Events and Regulatory Event*); and
- Section 7 (*Corrections, Changes, Cessation and Discretion*).

The Index Calculation Agent or the Index Oversight Committee may also exercise discretion in the administration of the Index if an event or circumstance arises in respect of which there is no fallback provided for in the methodology of this Index and which the Index Calculation Agent or Index Oversight Committee determines prevents the Index Calculation Agent from determining the Index in the normal manner, constitutes a market disruption under the relevant Index Manual or the exercise of expert judgement or discretion is otherwise appropriate in the circumstances.

The Index Calculation Agent or the Index Oversight Committee may exercise any such discretion or expert judgement acting in good faith and in a commercially reasonable manner. Any exercise of discretion or expert judgement that the Index Calculation Agent determines will have a material effect on the Index shall be subject to the approval of the Index Oversight Committee.

SECTION 8: OVERSIGHT, ROLES, CONFLICTS AND REVIEWS

8.1 INDEX GOVERNANCE

The Index Administrator has established an independent oversight committee (the **Index Oversight Committee**) to review and oversee management of the Index and resolve any issues that arise. As of the date of this Index Manual, the Index Oversight Committee is comprised of the following designees, each an employee of Macquarie Bank Limited:

- A Managing Director in the Quantitative Investment Strategies team of the Commodities and Global Markets Group;
- A Director from the Legal and Governance Group;
- A representative from the Index Calculation Agent;
- A representative from the Risk division of the Risk Management Group;
- A representative from the Compliance division of the Risk Management Group; and
- A representative from the Business Operational Risk Management department within the Central division of the Commodities and Global Markets Group.

Each member of the Index Oversight Committee is sufficiently knowledgeable about algorithmic indices and is required to act in good faith and in a commercially reasonable manner. In giving approval to any adjustments made to the Index in accordance with this Index Manual, the Index Oversight Committee shall give due consideration to any equivalent decisions and actions taken by relevant trading venues or trade bodies.

The Index Oversight Committee has considered the features of the Index, the intended, expected or known usage of the Index and the materiality of existing or potential conflicts of interest and, taking these into account, has approved the Methodology and this Index Manual. The Index Oversight Committee is also charged with overseeing the daily management and operations of the Index. It will be available on an ad hoc basis for the consideration or approval of any relevant Adjustment Events, Regulatory Events, Errors, exercises of discretion, changes to the Methodology, any contemplated cancellation of the Index and the resolution of any other issues which arise in relation to the Index.

8.2 INDEX ADMINISTRATOR AND INDEX CALCULATION AGENT

8.2.1 Index Administrator

Macquarie Bank Limited is the Index Administrator. Notwithstanding anything to the contrary, the Index Administrator will maintain all ownership rights, expressed or otherwise, with respect to the Index, including the ability to license, sell or transfer any or all of its ownership rights with respect to the Index, including but not limited to terminating and appointing any successor Index Calculation Agent.

8.2.2 Index Calculation Agent

The Index Calculation Agent is appointed by the Index Administrator to calculate and maintain each Index from and until such time that the Index Administrator terminates its relationship with the current Index Calculation Agent and appoints a successor index calculation agent. Any such termination or appointment of a successor will be subject to the approval of the Index Oversight

Committee.

The Index Calculation Team within the Commodities and Global Markets Group of Macquarie Bank Limited acts as index calculation agent (the **Index Calculation Agent**) in respect of the Index as of the date of this Index Manual. The methodology employed by the Index Calculation Agent in determining the composition and calculation of the Index is set out in the calculations and procedures described in this Index Manual.

8.2.3 Relationship of the Index Administrator and the Index Calculation Agent

The Index Calculation Agent is appointed by the Index Administrator, subject to the approval of the Index Oversight Committee. While, as of the date of publication of these rules, both the Index Administrator and the Index Calculation Agent form part of Macquarie Bank Limited, they are independent teams within the bank and the employees discharging the obligations of the Index Calculation Agent have separate lines of reporting and accountability from the employees performing the functions of the Index Administrator.

8.2.4 Not acting as a fiduciary

Neither the Index Administrator nor the Index Calculation Agent owes any duty of care or acts as agent of another person in respect of its respective obligations in relation to the Index as set out in this Index Manual.

8.3 CONFLICTS

The Index is based on underlying assets, as described in the Methodology. The Index Administrator and/or its affiliates actively trade these underlying assets and options on these underlying assets. The Index Administrator and/or its affiliates also actively enter into or trade and market securities, swaps, options, derivatives, and related instruments which are linked to the performance of these underlying assets or are linked to the performance of the Index. The Index Administrator and/or its affiliates may underwrite or issue other securities or financial instruments indexed to the Index, and the Index Administrator or its affiliates may license the Index for publication or for use by unaffiliated third parties. These activities could present conflicts of interest and could affect the value of the Index. The Index Administrator trades or may trade as principal in instruments (or related derivatives) linked to the Index described in this Index Manual and may have proprietary positions in the instruments (or related derivatives). The Index Administrator may make a market in such instruments (or related derivatives), which may in extreme circumstances affect the levels of the Index described.

The Index Administrator, the Index Calculation Agent and the business unit which creates instruments linked to the Index are all businesses or entities of Macquarie. Steps have been taken to manage and mitigate the inherent conflicts of interest which result, including the establishment of separate reporting lines for the respective roles, establishment of an independent Index Oversight Committee and the implementation and enforcement of policies and procedures to ensure that appropriate controls are in place.

Certain activities conducted by the Index Administrator may conflict with interests of investors in the Index. Such activities could include (but are not limited to) providing or participating in competing products (such as financial instruments linked to the Index, a Component or a similar index or component) and hedging its exposure to the Index. The Index Administrator could receive substantial returns in respect of such activities, which will not be passed on to any investors in products linked to the Index; whereas the value of investments linked to the Index may decline. Any such activities conducted by the Index Administrator around the time of a rebalancing could adversely impact the performance of the Index and therefore the level of a concurrent rebalancing.

The Index Administrator may have access to information relating to the Index, a Component or investments linked to a Component. The Index Administrator is not obliged to use that information for the benefit of any person entering into products linked to the Index.

8.4 REVIEWS

The Index Administrator has procedures in place to review a sample of its indices (which may not include this Index) on an annual basis (or more frequently, if it determines appropriate). Such sample shall include the indices requested by the Index Oversight Committee to be reviewed. The Index Administrator shall submit a report on its reviews to the Index Oversight Committee. If the Index Administrator determines that changes are required to a methodology, the Index Oversight Committee shall review the changes and the reasons for such changes. Any such changes approved by the Index Oversight Committee shall be implemented in accordance with Section 7.2 (*Changes in Methodology*).

SECTION 9: GENERAL INFORMATION

9.1 VALUATION AND CALCULATIONS

The Index Calculation Agent shall, unless stated otherwise, perform all calculations in this Index Manual from the Initial Calculation Date. It shall perform such calculations in its sole and absolute discretion, acting in good faith and in a commercially reasonable manner. All such calculations shall be subject to the Index Calculation Agent's policies and procedures and will (in the absence of manifest error) be final, conclusive and binding. Neither the Index Calculation Agent nor the Index Administrator shall have any liability for errors or omissions made in good faith.

9.2 PUBLICATION OF INDEX LEVEL

The publication of the Index Level by the Index Calculation Agent for an Index Publication Day follows a publication cycle which ends at the Publication Time for such day. Any Index Level published before the Publication Time in respect of a day is indicative and may be restated up to and including the Publication Time.

In respect of an Index Publication Day, the Index Level as published by the Index Calculation Agent on the Bloomberg Ticker at the Publication Time for such day shall be the official Index Level and shall be final and binding (save for changes made pursuant to Section 7 (*Corrections, Changes, Cessation and Discretion*)). See Section 7.1.2 regarding the publication of Material Errors.

Where:

Publication Time means, in respect of an Index Publication Day, 23:59:59 (New York Time) on the Index Publication Day immediately following such Index Publication Day.

Index Publication Day is defined in Section 5.1 (*Index Parameters Values*).

9.3 HISTORICAL VALUES OF THE INDEX

Hypothetical back-tested historical levels of the Index prior to the Index Live Date are not indicative of future performance. The Index Administrator makes no representation as to the accuracy or appropriateness of, and shall have no liability to you or any other entity for any loss or damage, direct or indirect, arising from the use of the historical values. Any hypothetical back-tested historical levels of the Index prior to the Index Start Date (where available) are provided for illustrative purposes only, may be calculated based on a methodology and a set of assumptions that differs from the Methodology of the Index set out in this Index Manual and may use different input data; accordingly, such historical levels must not be relied upon.

SECTION 10: NOTICES AND DISCLAIMERS

10.1 REGULATORY STATUS

This material is prepared and distributed in the UK by Macquarie Bank Limited, London Branch (MBLLB) and in the EEA member states by Macquarie Bank Europe (DAC) (MBE) where required. It is intended only for professional clients and eligible counterparties as defined in the rules of the Financial Conduct Authority. MBLLB is registered in England and Wales (Branch No: BR002678, Company No: FC018220, Firm Reference No: 170934). MBE is registered and incorporated in the Republic of Ireland (Company No. 634817). The registered office for MBLLB is Ropemaker Place, 28 Ropemaker Street, London, EC2Y 9HD. The registered office of MBE is First Floor, Connaught House, 1 Burlington Road, Dublin 4, D04 C5Y6, Ireland. MBLLB is authorised and regulated by the Australian Prudential Regulation Authority. MBE is authorised and regulated by the Central Bank of Ireland. Details about the extent of our regulation are available from us on request.

10.2 NOT RESEARCH OR AN OFFER

This Index Manual is not a personal recommendation as defined by the Financial Conduct Authority and you should consider whether you can rely upon any opinion or statement contained in this Index Manual without seeking further advice tailored for your own circumstances. It is also not investment research, and has not been prepared in accordance with legal requirements designed to promote the independence of such. Any opinions expressed herein may differ from the opinions expressed in other departments including the research department. Nor have the contents of this Index Manual been reviewed by any regulatory authority, and the distribution of this Index Manual and availability of related financial instruments in certain jurisdictions may be restricted by law.

This Index Manual does not constitute a prospectus, offer, invitation or solicitation to buy or sell financial instruments and is not intended to provide the sole basis for any evaluation of the securities or any other financial instruments which may be discussed within, referred to or based upon the Index. Any offering or potential transaction that may be related to the Index will be made separately and subject to distinct documentation and in such case the information contained herein may be superseded in its entirety by such documentation in final form.

10.3 THIRD-PARTY DISCLAIMER

The Index is not endorsed, sponsored or promoted by the issuer or sponsor of any Component or underlying asset of any Component.