Macquarie Dynamic Carry Bull/Bear Commodities Spread Index

Index Manual
January 2021

NOTES AND DISCLAIMERS

BASIS OF PROVISION

This document (the **Index Manual**) sets out the rules for the Macquarie Dynamic Carry Bull/Bear Spread Commodities 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 document, 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

The following list contains certain risk factors associated with an investment in a financial instrument linked to the Index. The following list is not intended to be exhaustive and there may be additional risks in general or risks specific to a particular investor which are not included below. 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 below, you should obtain independent professional advice.

(i) Prospective investors in the Index should be familiar with investments in commodity markets, financial instruments and indices in general.

(ii) There can be no assurance as to the future performance of the Index. The Index level may go down as well as up, depending on the performance of the components that are included in the Index. Other strategies that use different methodologies may outperform the index.

(iii) The performance of the Index is dependent on the weighted performance of all of the constituents contained in the Index. Fluctuations in the level, price, rate or value (as applicable) of the constituents contained in the Index will directly affect the Index Level.

(iv) There can be no assurance that Index Levels will remain positive. The Index Level can become negative under certain market conditions (e.g. if there is a large move in the market that affects one or more components of the index to a large extent). Such events that cause the index to become negative can result in a substantial loss to Investors in an index-linked product.

(v) Commodity markets can be highly volatile. In addition to being affected by general economic and market factors, commodity markets can be affected by various other factors, including (without limitation): (1) weather; (2) governmental, agricultural, commercial and trade programmes and policies introduced to influence commodity prices; (3) global political and economic events; and (4) changes in interest rates, commodity markets are also subject to temporary distortions or other disruptions caused by various factors including (a) changes in supply and demand; (b) any potential lack of liquidity in the market; (c) the participation of speculators; and (d) government regulation and intervention.

(vi) The performance of the Index could be significantly less than the performance of alternative indices and benchmarks with similar risk characteristics.

(vii) The correlation between the constituents that comprise the Index may change unpredictably which can adversely impact performance.

(viii) The strategy aims to capture the difference in performance (spot price and roll yield differential) between the contract on which long exposure is taken and the contract on which short exposure is taken. The strategy may underperform if the contract on which long exposure is taken appreciates less (or depreciates more) in price than the contract on which short exposure is taken.

(ix) Supply and demand fundamentals may affect contracts along the futures curve differently and may contribute to the performance (positive or negative) of the strategy. Although relevant to all commodities, this may particularly be impactful to commodities that are affected by seasonality (for example Natural Gas, Gasoline, Heating Oil, Corn, Soybeans, Lean Hogs etc.) where the contracts on which long and short exposures are taken may respond very differently and may have a significant adverse impact on the performance of the strategy. Prospective investors should be aware that these adverse performances may be very large and can be in the order of many magnitudes of the worst historic performances throughout the simulated or past performance. In such scenarios the Index level can also turn negative and can result in a substantial loss to Investors in an index-linked product.

(x) The weights of each spread (and therefore each commodity) within the strategy are derived from the historic risk adjusted returns of the selected spreads. This weighting scheme may result in the concentration of weight being allocated to certain commodities or spreads and therefore result in a larger contribution to the overall risk of the strategy from these commodities or spreads.

(xi) The strategy aims to select spreads (and therefore commodities) that have exhibited positive momentum and negative skewness. There is no guarantee that such a spread will continue to perform positively in the future

(xii) A volatility adjustment is applied to each spread on which exposure is taken, such that the weight of the short (in the case of a bear spread) or long (in the case of a bull spread) component of each spread is either adjusted upwards or downwards, so that the historic realised volatility of the contract to which long exposure is taken is equal to the realised volatility of the contract to which short exposure is taken. There is no assurance that making such an adjustment will outperform a similar hypothetical strategy in which no adjustment is made and may adversely affect the performance.

HISTORICAL DATA

The Index has been calculated since the Index Live Date but historical levels have been produced by a back-test process from the Index Start Date. For more information, see Section 7.3 (*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 5.4 (*Discretion*).

For information on potential conflicts, see Section 6.3 (*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 5 (*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 document 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 document 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 an Underlying Contract or, as applicable, any other reference value for any reason; or as a result of a Contract failing to trade for any reason. Although the Index Calculation Agent will obtain information concerning Underlying Contracts 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 has occurred or has not occurred in relation to a Contract, (ii) the timing relating to the determination that a Market Disruption Event or Error has occurred in relation to a Contract, or (iii) any actions taken or not taken by the Index Calculation Agent as a result of such determination that an Market Disruption Event or Error has occurred.

CONTENTS

SECTION 1: OVERVIEW

1.1 INTRODUCTION AND INDEX OBJECTIVE

The Macquarie Dynamic Carry Bull/Bear Spread Commodities Index (hereinafter, the **Index**) is designed as a rules based index for exposure to the "commodity carry" investment strategy. The carry strategy aims to take advantage of storage-related risk premium, which arises because short-term storage is typically more expensive than long-term storage. The commodity carry strategy aims to track the storage-related premium by taking exposure to different "spreads", depending on the market environment, for each relevant commodity futures contract (a **Commodity**) by allocating to each Macquarie Single Commodity Index (each, a **Component**) in the investible universe corresponding to such spreads.

The storage-related premium can generally be captured by taking long exposure to long-dated (deferred) commodity futures contracts and simultaneous short exposure to short-dated (front month) commodity futures contracts (a **Bear Spread**). Where, due to the market environment, the front of the commodity futures curve (being the commodity futures nearest to expiration) outperforms the deferred part of the futures curve (being the commodity futures with later expiration dates), it may potentially be beneficial to take short exposure to long-dated (deferred) commodity futures contracts and simultaneous long exposure to short-dated (front month) commodity futures contracts (a **Bull Spread**). If the shape of the futures curve remains unchanged, the Index aims to generate a positive return through the difference in roll yields (or performance) between the contracts on which long and short exposures are taken.

The Index aims to outperform traditional static carry strategies (that take exposure to a static set of commodity spreads) by selecting, on a monthly basis, the Spreads (either a Bear Spread or a Bull Spread) by reference to the Spreads that have exhibited positive historic momentum and negative skewness in their returns. Momentum is measured by assessing the average daily return of a given spread over a period of 120 days and can potentially serve as a good indicator for predicting subsequent performance. Skewness is used to measure the degree of asymmetry of a return distribution around its mean and is applied to the daily returns of a given spread over a period of 120 days to validate the bullish/bearish view inferred by the momentum signal.

Each of the Spreads that are selected in a given month are assigned a set of initial weights that are calculated in proportion to their recent risk-adjusted returns and then subject to an iterative capping procedure to ensure that no Commodity or Group has a disproportionate effect on the Index. For each Commodity and Spread selected, the Index either aims to obtain a long (positive) exposure to a deferred futures contract in respect of that commodity and a short (negative) exposure to a front month futures contract (i.e. a Bear Spread) or a short (negative) exposure to a deferred futures contract in respect of that commodity and a long (positive) exposure to a front month futures contract (i.e. Bull Spread).

The Index is designed to be replicable and is calculated daily in an excess return format.

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 6 *(Oversight, Roles and Conflicts)*. All determinations with regard to the Index are made following the rules set out in this document, without discretion by the Index Administrator or the Index Calculation Agent, other than in the limited circumstances set out in this document – see Section 5 (*Corrections, Changes, Cessation and Discretion*) for further information.

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 METHODOLOGY

The Methodology for calculating the Index is described in the Section 2 *(Index Methodology)*.

SECTION 2: INDEX METHODOLOGY

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

- **Section 2.1** describes the universe of Commodities from which the Components are selected;
- **Section 2.2** describes how Components are selected for inclusion in the Index;
- **Section 2.3** describes the diversification requirements applicable to Components;
- **Section 2.4** 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 2.5** describes the day-to-day calculation of the Index Level; and
- **Section 2.6** describes the Weighting Methodology.

2.1 THE UNIVERSE OF SELECTABLE COMMODITIES

The Index selects from a universe of up to 19 different Commodities across energy, industrial metals, grains, softs and livestock, chosen to have sufficient liquidity in the Underlying Contracts to sustain the trading activity resulting from the expected levels of investment in the Index.

Index exposure to deferred or front month commodity futures contracts is obtained via allocation to Macquarie Single Commodity Indices. Each such Macquarie Single Commodity Index tracks a sequence of futures contracts relating to a single commodity and a particular point on the futures curve (either deferred or front month).

Information on the Macquarie Single Commodity Indices can be found in the Macquarie Single Commodity Indices Index Manual (as amended from time to time) available at:

http://static.macquarie.com/dafiles/Internet/mgl/global/shared/corporate/trading-and-hedging/commodities/macquarie-single-commodity-indices.pdf (or any successor page).

The universe of 19 commodities has been determined by the Index Sponsor as a result of a one-off process prior to the creation of the Index and will not change for the life of the Index.

2.2 SELECTION OF COMPONENTS

For each non-Energy Commodity, the Index can take exposure on up to two different calendar Spreads and for each Energy Commodity, on up to three different calendar Spreads. Therefore, the Macquarie Dynamic Carry Bull/Bear Spread Commodities Index has a universe of 41 potential Spreads (9 Spreads within Energy and 32 Spreads across all the non-Energy Commodities), as described in the Definitions section. Each of these Spreads can be either a Bear Spread or a Bull Spread depending on the long and short exposures taken on the nearby and deferred futures contracts.

Each month, the Index selects a subset of Spreads and Commodities from the universe of 19 Commodities and 41 potential Spreads, with each Spread being either a Bull Spread or Bear Spread. The selection is made with reference to the momentum and return skewness of each of the Spreads (applied to the corresponding Bear Spread and Bull Spread) in respect of each Commodity. Spreads

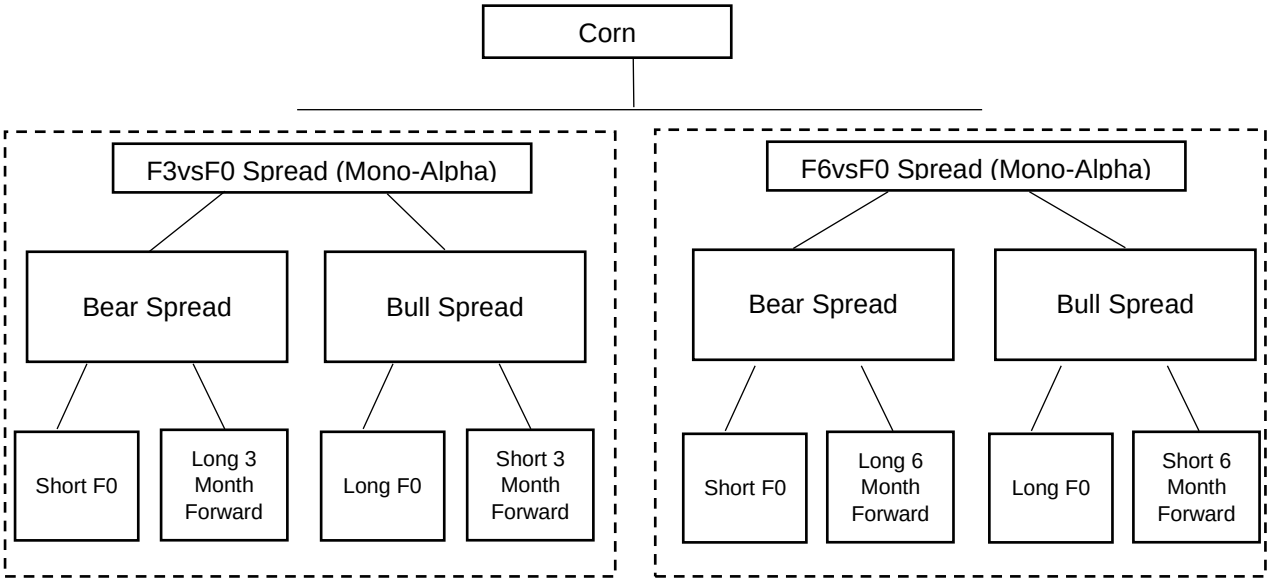
that have exhibited positive momentum and negative return skewness are considered as eligible Spreads on which the Index takes exposure. Spreads that exhibit negative momentum or positive return skewness are excluded from the Index.

Once the provisional list of Commodities and the associated Spreads has been determined, an Initial Weight is allocated to each Spread in proportion to the Risk Adjusted Return of each such Spread.

Eligible Spreads (Bull and Bear Spreads) for Selection

Commodity	F3vsF0 Spread (Long 3 Month Forward / Short F0)	F6vsF0 Spread (Long 6 Month Forward / Short F0)	AnnRollvsF0 Spread (Long Annual Roll / Short F0)	Sector
WTI Crude Oil	Yes	Yes	Yes	Energy
Gasoline	Yes	Yes	Yes	Energy
Natural Gas	Yes	Yes	Yes	Energy
Zinc	Yes	Yes	No	Metals
Nickel	Yes	Yes	No	Metals
Aluminum	Yes	Yes	No	Metals
Copper	Yes	Yes	No	Metals
Corn	Yes	Yes	No	Grains
Soybeans	Yes	Yes	No	Grains
Soybeans Oil	Yes	Yes	No	Grains
Soybean Meal	Yes	Yes	No	Grains
Wheat (CBOT)	Yes	Yes	No	Grains
Wheat (KCBOT)	Yes	Yes	No	Grains
Sugar No.11	Yes	Yes	No	Softs
Coffee	Yes	Yes	No	Softs
Cotton	Yes	Yes	No	Softs
Lean Hogs	Yes	Yes	No	Livestock
Live Cattle	Yes	Yes	No	Livestock
Feeder Cattle	Yes	Yes	No	Livestock

Below is an example of Commodity Corn and its associated Spreads and Components.



2.3 THE DIVERSIFICATION REQUIREMENTS

After the Initial Weights have been assigned, they are adjusted such that the weights satisfy the specific Commodity Caps and Group Caps, each as defined in Table 1 under the definition of "Components".

The process of selection and the application of the diversification requirements are described in Section 2.6. (*Weighting Methodology*).

2.4 HOLDINGS CALCULATION

On any Index Business Day *t*, each Component *i* has a Holding, $H_{i,t}$, associated with it. This Holding represents the proportion in which the Index Level will change when the level of that Component changes. In this section, we outline the Holdings, $\{H_{1,t}, \ldots, H_{n,t}\}$, calculations on any Index Business Day *t*.

On each Index Rebalance Day, the Holding of each Component i, is rebalanced in accordance with the Target Holdings and the Weighting Methodology.

2.4.1 Target Holdings Calculation on a Holdings Calculation Date

The calculation of the Target Holdings on a Holdings Calculation Date R, requires as input the set of Weights in respect of that Holdings Calculation Date R and the Component Levels of the Components on the Index Business Day immediately preceding such Holdings Calculations Date, R.

On any Holdings Calculation Date R, let the Weight of each Component *i* be denoted by $W_{i,R}$ so that $\{W_{1,R}, \ldots, W_{n,R}\}$ are the Weights of the *n* Components in the Index, as determined by the Weighting Methodology of the Index in respect of Holdings Calculation Date R. Analogously, let $\{C_{1,R-1}, \ldots, C_{n,R-1}\}$ be the set of Component Levels of the Components on the Index Business Day immediately preceding the Holdings Calculation Date R. The Index Target Holdings, $\{TH_{1,R}, \ldots, TH_{n,R}\}$, for each of the *n* Components in the Index are calculated according to the formula below:

$$TH_{i,R} = I_{R-1} \times \frac{W_{i,R}}{C_{i,R-1}} \; for\ every\ Component\ i = 1, \ldots, n$$

Where $\mathbf{I_{R-1}}$ is the Index Level on the Index Business Day immediately preceding Holdings Calculation Date R.

For example, if, on the Index Business Day preceding a Holdings Calculation Date R, the Index level is 100, the Component Level is 80 and the Weight of that Component is 40%, then the Target Holding of that Component in respect of that Holdings Calculation Date will be equal to: 100*(0.4)/80 = 0.5.

2.4.2 Daily Holdings Calculation

On any Index Business Day *t*, the set of Holdings $\{H_{1,t}, \ldots, H_{n,t}\}$ is calculated according to the following rule:

(i) *If t* is the Index Business Day immediately following the Holdings Calculation Date R, the Holdings $\{H_{1,t}, \ldots, H_{n,t}\}$ for each of the *n* Components in the Index are calculated according to the formula below:

$$H_{i,t} = H_{i,R} + \frac{TH_{i,R} - H_{i,R}}{3} \; for \; every \; Component \; i = 1, \ldots, n$$

(ii) *If t* is the second Index Business Day immediately following the Holdings Calculation Date R, the Holdings *{$H_{1,t}$, …, $H_{n,t}$}* for each of the *n* Components in the Index are calculated according to the formula below:

$$H_{i,t} = H_{i,R} + 2 \times \frac{TH_{i,R} - H_{i,R}}{3} \; for \; every \; Component \; i = 1, \ldots, n$$

(iii) *If t* is the third Index Business Day immediately following the Holdings Calculation Date R, the Holdings *{$H_{1,t}$, …, $H_{n,t}$}* for each of the *n* Components in the Index are calculated according to the formula below:

$$H_{i,t} = TH_{i,R} \; for \; every \; Component \; i = 1, \ldots, n$$

(iv) On any other Index Business Day *t*, the Holding of each Component *i* on such Index Business Day *t* , $H_{i,t}$, is set to be equal to the Holding of that particular Component on the previous Index Business Day, $H_{i,t-1}$.

2.5 DAILY INDEX 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 Index level, I_t, is calculated (rounded to eight decimal places) based on the value of the Index on the preceding Index Business Day, I_{t-1}, and the change in level of each of the Components, according to the formula:

$$I_t = I_{t-1} + \sum_i H_{i,t}\left(C_{i,t} - C_{i,t-1}\right)$$

Where:

$\boldsymbol{I_t}$	is the Index Level on the close of Index Business Day t;
$\boldsymbol{H_{i,t}}$	is the Holding of Component i on the Index Business Day t;
$\boldsymbol{C_{i,t}}$	is the level of Component i on the Index Business Day t; and
t-1	is the Index Business Day immediately preceding Index Business Day t.

The Index Start Date as well as the Initial Index Level, which is the value of the Index on the Index Start Date, are specified in the Definitions section.

For example, if the Index were comprised of two components (for simplicity) 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 was equal to 102.0564, the Index Level on Index Business Day t will 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.

2.6 WEIGHTING METHODOLOGY

The Weights of the Components (each Deferred Index and each F0 Macquarie Single Commodity Index) are derived from the Final Weights of the Mono-Alpha Indices or the Inverse Mono-Alpha Indices, as described below.

The Final Weights of the Mono-Alpha Indices or the Inverse Mono-Alpha Indices are determined in four steps and are described in Section 2.6.2 (*Mono-Alpha / Inverse Mono-Alpha Index Weights*) below.

2.6.1 Component Weights

Once the Final Weights of each Mono-Alpha and Inverse Mono-Alpha Index in respect of each Commodity and Spread have been determined, the Weight (rounded to 12 decimal places) applied to each Deferred Index and each F0 Index (i.e. each Component) comprising each Mono-Alpha and Inverse Mono-Alpha Index is determined in respect of the relevant Holdings Calculation date R in accordance with the following:

(a) in respect of the relevant Commodity C and a Bear Spread S_{BEAR} on such Holdings Calculation date R and for the purpose of the Holdings Calculation, the Weight (W_i) is calculated as follows:

(i) If the Component i for such Commodity C and Bear Spread S_{BEAR} is a Deferred Index:

$$W_i = FW_{C,S,R}$$

(ii) If the Component i for such Commodity C and Bear Spread S_{BEAR} is an F0 Index:

$$W_i = -1 \times VAF_{C,S,R} \times FW_{C,S,R}$$

(b) in respect of the relevant Commodity C and a Bull Spread S_{BULL} on such Holdings Calculation date R and for the purpose of the Holdings Calculation, , the Weight (W_i) is calculated as follows:

(i) If the Component i for such Commodity C and Bull Spread S_{BULL} is a Deferred Index:

$$W_i = -1 \times FW_{C,S,R}$$

(ii) If the Component i for such Commodity C and Bull Spread S_{BULL} is an F0 Index:

$$W_i = +1 \times VAF_{C,S,R} \times FW_{C,S,R}$$

Where $\boldsymbol{VAF_{C,S,R}}$ is the Volatility Adjustment Factor in respect of the relevant Commodity and the relevant Spread and is calculated as the ratio of the standard deviation of returns of the Deferred Index to the standard deviation of returns of the F0 Index over a period of 63 days ending on the day immediately preceding the Holdings Calculation Date. The formula for standard deviation is given below.

The Volatility Adjustment Factor is applied to adjust the exposure of the F0 (nearby) leg of each Mono-Alpha and Inverse Mono-Alpha Index such that the historic volatility of the deferred leg is equal to the historic volatility of the nearby leg. That is, for each Mono-Alpha Index Final Weight, the Index either takes a long (Bear Spread) or short (Bull Spread) position in its respective Deferred Index and a short (Bear Spread) or long (Bull Spread) position in its respective F0 Index.

For the avoidance of doubt, if any Component (deferred Index or F0 (nearby) Index) comprises more than one Mono-Alpha or Inverse Mono-Alpha Index (i.e. a shared Component) then the Final Weights used for the purpose of the Holdings Calculation is the combined sum of the Final Weights of the corresponding shared Component with respect to each Mono-Alpha and Inverse Mono-Alpha Index.

2.6.2 Mono-Alpha / Inverse Mono-Alpha Index Weights

For each Commodity, a set of theoretical Mono-Alpha Indices (Bear Spreads) and Inverse Mono-Alpha (Bull Spreads) Indices are calculated in order to determine the Spreads that are selected on each Holdings Calculation Date.

INTERMEDIATE CALCULATIONS

In order to determine the Final Weights of the Mono-Alpha Indices and the Inverse Mono-Alpha Indices, the average daily return (mean return), standard deviation and risk adjusted return (ratio of the mean return to the standard deviation) of each Mono-Alpha Index and each Inverse Mono-Alpha Index in respect of each Commodity and Spread is calculated.

Each non-Energy Commodity will have two Mono-Alpha Indices and two Inverse Mono-Alpha Indices associated with it with differing Spreads, either an F3vsF0 Mono-Alpha Index or an F3vsF0 Inverse Mono-Alpha Index or an F6vsF0 Mono-Alpha Index or an F6vsF0 Inverse Mono-Alpha Index. Each Energy Commodity will have three Mono-Alpha Indices (including the AnnRollvsF0 Mono-Alpha Index) and three corresponding Inverse Mono-Alpha Indices associated with it. For example, WTI Crude Oil will have:

(a) Mono-Alpha Indices:

(i) an F3vsF0 Mono-Alpha Index constructed by taking +100% exposure to the 3 Month Forward Index and -100% x $VAF_{CL,F3,R}$exposure to the corresponding F0 Index,

(ii) an F6vsF0 Mono-Alpha Index constructed by taking +100% exposure to the 6 Month Forward Index and -100% x $VAF_{CL,F6,R}$ exposure to the corresponding F0 Index, and

(iii) an AnnRollvsF0 Mono-Alpha Index constructed by taking +100% exposure to the Annual Roll Index and -100% x $VAF_{CL,AR,R}$ exposure to the corresponding F0 Index; and

(b) Inverse Mono-Alpha Indices:

(i) an F3vsF0 Inverse Mono-Alpha Index constructed by taking -100% exposure to the 3 Month Forward Index and +100% x $VAF_{CL,F3,R}$exposure to the corresponding F0 Index,

(ii) an F6vsF0 Inverse Mono-Alpha Index constructed by taking -100% exposure to the 6 Month Forward Index and +100% x $VAF_{CL,F6,R}$ exposure to the corresponding F0 Index, and

(iii) an AnnRollvsF0 Mono-Alpha Index constructed by taking -100% exposure to the Annual Roll Index and +100% x $VAF_{CL,AR,R}$ exposure to the corresponding F0 Index.

Each Mono-Alpha Index and each Inverse Mono-Alpha Index is rebalanced on each Holdings Calculation Date using the most recent Volatility Adjustment Factor. That is, the Volatility Adjustment Factor calculated on the current Holdings Calculation Date is applied, for the purpose of each Mono-Alpha Index and each Inverse Mono-Alpha index rebalance, as though it were the Volatility Adjustment Factor calculated throughout the entire history of such Mono-Alpha Index or such Inverse Mono-Alpha Index (as applicable).

Therefore, in respect of each Commodity C and each Spread (S_{BEAR} and S_{BULL}) on a given Holdings Calculation Date R the Index calculates the Volatility Adjustment Factor, the Mean Return and the Standard Deviation, the Risk Adjusted Return and the Skewedness as set out below.

(i) **Volatility Adjustment Factor** ($VAF_{C,S,R}$) is calculated as the bounded ratio of the standard deviation of prior 63 daily returns of the Deferred index over the standard deviation of prior 63 daily returns of the F0 Index as follows:

$$MUR_{C,X,R} = \frac{1}{63} \times \sum_{i=1}^{63} \left(DUR_{C,X,R-i}\right)$$

$$DUR_{C,X,R-i} = \frac{U_{C,X,R-i}}{U_{C,X,R-i-1}} - 1$$

$$SDU_{C,X,R} = \sqrt{\frac{1}{62} \sum_{i=1}^{63} \left(DUR_{C,X,R-i} - MUR_{C,X,R}\right)^2}$$

$$VAF_{C,S,R} = \min\left(1.25, \max\left(0.75, \frac{SDU_{C,DEF,R}}{SDU_{C,F0,R}}\right)\right)$$

Where:

$\boldsymbol{MUR_{C,X,R}}$ is the Mean Return of the Underlying Index in respect of Commodity C and Component of Spread X (i.e. F0, F3, F6 or Annual Roll) on Holdings Calculation Date R;

$\boldsymbol{DUR_{C,X,R-i}}$ is the Daily Return (as defined below) of the Underlying Index in respect of Commodity C and Component of Spread X on Holdings Calculation Date $R - i$;

$\boldsymbol{U_{C,X,R-i}}$ is the Underlying Index Level (as defined below) in respect of Commodity C and Component of Spread X on Holdings Calculation Date $R - i$;

$\boldsymbol{SDU_{C,X,R}}$ is the Standard Deviation of the Daily Returns of the Underlying Index in respect of commodity C and Component of Spread X on Holdings Calculation Date R;

$\boldsymbol{VAF_{C,S,R}}$ is the Volatility Adjustment Factor for the Mono-Alpha Index or the Inverse Mono-Alpha Index (as applicable) in respect of Commodity C and Spread S on Holdings Calculation Date R;

$\boldsymbol{DEF}$ is the Deferred Component of Spread S;

$\boldsymbol{F0}$ is the F0 Component of Spread S; and

Spread $\boldsymbol{S}$ is, in respect of a Mono-Alpha Index or a Inverse Mono-Alpha Index, the Bull Spread or the Bear Spread, as applicable.

(ii) **Mean Return** is calculated as the average of the prior 120 daily returns, ending on the Index Business Day immediately preceding R.

$$MR_{C,S,R} = \frac{1}{120} \times \sum_{i=1}^{120} \left(DR_{C,S,R-i}\right)$$

$$DR_{C,S,R-i} = \frac{MA_{C,S,R-i}}{MA_{C,S,R-i-1}} - 1$$

Where:

$\boldsymbol{MR_{C,S,R}}$ is the Mean Return of the Mono-Alpha Index or the Inverse Mono-Alpha Index (as applicable) in respect of Commodity C and Spread S on Holdings Calculation Date R;

$\boldsymbol{DR_{C,S,R-i}}$ is the Daily Return of the Mono-Alpha Index or the Inverse Mono-Alpha Index (as applicable) in respect of Commodity C and Spread S on Holdings Calculation Date $R - i$;

$\boldsymbol{MA_{C,S,R-i}}$ is the level of the Mono-Alpha Index or the Inverse Mono-Alpha Index (as applicable) in respect of Commodity C and Spread S on Holdings Calculation Date $R - i$; and

Spread $\boldsymbol{S}$ is, in respect of a Mono-Alpha Index or a Inverse Mono-Alpha Index, the Bull Spread or the Bear Spread, as applicable.

(iii) **Standard Deviation** is calculated as the standard deviation of the prior 120 daily returns, ending on the Index Business Day immediately preceding R, in accordance with the following formula:

$$SD_{C,S,R} = \sqrt{\frac{1}{119}\sum_{i=1}^{120}\left(DR_{C,S,R-i} - MR_{C,S,R}\right)^2}$$

Where:

$\boldsymbol{SD_{C,S,R}}$ is the Standard Deviation of the Daily Returns of the Mono-Alpha Index or the Inverse Mono-Alpha Index (as applicable) in respect of commodity C and Spread S on Holdings Calculation Date R;

$\boldsymbol{MR_{C,S,R}}$ is the mean return of the Daily Returns of the Mono-Alpha Index or the Inverse Mono-Alpha Index (as applicable) in respect of commodity C and Spread S on Holdings Calculation Date R:

$$MR_{C,S,R} = \frac{1}{120}\sum_{i=1}^{120} DR_{C,S,R-i}$$

Spread S is, in respect of a Mono-Alpha Index or a Inverse Mono-Alpha Index, the Bull Spread or the Bear Spread, as applicable.

(iv) **Risk Adjusted Return** is calculated as the ratio of the **Mean Return** divided by the **Standard Deviation** in accordance with the following formula:

$$RAR_{C,S,R} = \frac{MR_{C,S,R}}{SD_{C,S,R}}$$

(v) **Skewness** is calculated as the measure of asymmetry of the return distribution of the Mono-Alpha Index or the Inverse Mono-Alpha Index (as applicable) over a period of 120 days, ending on the Index Business Day immediately preceding R in accordance with the following formula:

$$SK_{C,S,R} = \frac{120}{119 * 118}\sum_{i=1}^{120}\left(\frac{DR_{C,S,R-i} - MR_{C,S,R}}{SD_{C,S,R}}\right)^3$$

Negative skewness indicates that the tail on the left side of the return distribution is longer or fatter than the right side and represents the fact that over the observation window the underlying asset has experienced a large negatively daily return or a number of significant negative daily returns.

Conversely, positive skewness indicates that the tail on the right side of the return distribution is longer or fatter than the left side and represents the fact that over the observation window the underlying asset has experienced a large positive daily return or a number of significant positive daily returns.

On each Holdings Calculation Date R, and in respect of each Commodity and each Mono-Alpha Index or Inverse Mono-Alpha Index (as applicable), if the Deferred Contract is **different** from the F0 Contract (i.e. resulting in non-zero spread exposure in the Mono-Alpha Index or the Inverse Mono-Alpha Index (as the case may be), which is taking long exposure (in respect of such Mono-Alpha Index) or short exposure (in respect of such Inverse Mono-Alpha Index), as applicable, to the Deferred Contract and short exposure (in respect of such Mono-Alpha Index) or long exposure (in respect of such Inverse Mono-Alpha Index), as applicable, to the F0 Contract between the current and following Holding Calculation Dates) then such Mono-Alpha Index or such Inverse Mono-Alpha Index (as applicable) will be referred to as a being part of the **Active Mono-Alpha Set**. The **Active Mono-Alpha Set** may be subject to certain seasonal overrides as laid out in the Definitions section of this document.

On each Holdings Calculation Date R, and in respect of each Mono-Alpha Index and each Inverse Mono-Alpha Index, if the Mean Return is **strictly positive** and the Skewness is **strictly negative**, then each such Mono-Alpha Index and each such Inverse Mono-Alpha Index will be considered as being part of the **Potential Mono-Alpha Set**. A sub-set of the Potential Mono-Alpha Set will be utilised for preliminary weight allocations, as further detailed below.

2.6.3 Mono-Alpha / Inverse Mono-Alpha Index Weights - Steps

After the signals are calculated and the Active Mono-Alpha Set and the Potential Mono-Alpha Set are determined, the following steps are taken (detailed further below) to determine the Final Weights of the Mono-Alpha Indices that are then used to calculate the Component Weights, as described in the Component Weights Sub-Section:

Step 1 (*Zero Weights*): A Final Weight of zero will be allocated to all Mono-Alpha Indices and Inverse Mono-Alpha Indices that are not part of both the Active Mono-Alpha Set and the Potential Mono-Alpha Set.

Step 2 (*Determination of Non-Zero Weights)*: A non-zero Initial Weight, the determination of which is described below, will be allocated to all Mono-Alpha Indices and all Inverse Mono-Alpha Indices that are the intersection of the Active Mono-Alpha Set and the Potential Mono-Alpha Set, i.e. the Mono-Alpha Indices and the Inverse Mono-Alpha Indices that display a **strictly positive** Mean Return and **strictly negative** Skewness and have a non-zero spread exposure between the current Holdings Calculation Date and the following Holdings Calculation Date in respect of the long/short exposures established by the Deferred Indices and the F0 Indices that comprise such Mono-Alpha Indices and Inverse Mono-Alpha Indices, as applicable. The absolute Initial Weights in this step will sum up to 100%.

Step 3 (*Iterative Capping Procedure*): The absolute Initial Weights are then subject to an ***Iterative Capping Procedure*** in order to determine the Final Weights of the Mono-Alpha Indices and the Inverse Mono-Alpha Indices.

STEP 1: ZERO WEIGHTS

For each Mono-Alpha Index and each Inverse Mono-Alpha Index that is not part of either the Active Mono-Alpha Set or the Potential Mono-Alpha Set, a Weight of zero is applied:

$$IW_{C,S,R} = 0$$

STEP 2: DETERMINATION OF NON-ZERO WEIGHTS

Each Mono-Alpha Index and each Inverse Mono-Alpha Index that is part of the intersection of the Active Mono-Alpha Set and the Potential Mono-Alpha Set is weighted according to its Risk Adjusted Returns in accordance with the following formula:

$$IW_{C,S,R} = \frac{abs(RAR_{C,S,R})}{\sum_1^n abs(RAR_{C,S,R})}$$

Where:

$\boldsymbol{IW_{C,S,R}}$ is the Initial Weight allocated to the Mono-Alpha Index or the Inverse Mono-Alpha Index (as applicable) in respect of Commodity C and Spread S on Holdings Calculation Date R. Note that the Initial Weight at this stage is positive irrespective of whether the underlying Index is a Mono-Alpha Index or an Inverse Mono-Alpha Index.

$\sum_1^n \boldsymbol{abs}(\boldsymbol{RAR_{C,S,R}})$ is the sum of the absolute Risk Adjusted Returns with respect to each Mono-Alpha Index and each Inverse Mono-Alpha Index that is part of the intersection of the Active Mono-Alpha Set and the Potential Mono-Alpha Set.

$\boldsymbol{n}$ is the total number of Mono-Alpha Indices and Inverse Mono-Alpha Indices that are part of the intersection of the Active Mono-Alpha Set and the Potential Mono-Alpha Set.

The Initial Weights are then subject to the Iterative Capping Procedure described below to obtain the set of Final Weights in respect of each Mono-Alpha Index and each Inverse Mono-Alpha Index.

STEP 3: ITERATIVE CAPPING PROCEDURE

The following weight caps are imposed (with reference to the Table 1 under the definition of Components in the Definitions section):

(i) The sum of the absolute weights of the Mono-Alpha Indices and the Inverse Mono-Alpha Indices in respect of each Commodity belonging to a Group is capped. There are two groups; Petroleum Group which is capped at 30% and Wheat Group which is capped at 10%.

(ii) The sum of the absolute weights of the Mono-Alpha Indices and the Inverse Mono-Alpha Indices in respect of a particular Commodity is capped.

Step A: The Temporary Weight applied to each Mono-Alpha Index and each Inverse Mono-Alpha Index in respect of Commodity C, Spread S on Holdings Calculation date R is assigned the Initial Weight and the Excess weight is equal to zero.

$$TW_{C,S,R} = IW_{C,S,R}$$

$$Excess = 0$$

For the avoidance of doubt, all Temporary Weights at this step are positive.

Step B: For each Mono-Alpha Index and each Inverse Mono-Alpha Index belonging to the **Petroleum** Group:

If the sum of the weights of all Mono-Alpha Indices and Inverse Mono-Alpha Indices in respect of each Commodity belonging to the Petroleum Group is greater than 30% then:

$$FW_{C,S,R} = \frac{TW_{C,S,R}}{\sum_1^P TW_{C,S,R}} \times 30\%$$

$$Excess = Excess_{-1} + \sum_1^P TW_{C,S,R} - 30\%$$

Where:

$\sum_1^P \boldsymbol{TW_{C,S,R}}$ is the sum of the Temporary Weights of all Mono-Alpha Indices and Inverse Mono-Alpha Indices (as applicable) in respect of each Commodity belonging to the Petroleum Group;

P is the set of Mono-Alpha Indices and Inverse Mono-Alpha Indices in respect of the Commodities belonging to the Petroleum Group; and

Excess$_{-1}$ is the Excess determined in the immediately preceding step.

In such a case where the Final Weight has been assigned as above, all such Mono-Alpha Indices and Inverse Mono-Alpha Indices whose respective Commodities are belonging to the Petroleum Group will be regarded as being capped.

Step C: For each Mono-Alpha Index and Inverse Mono-Alpha Index belonging to the **Wheat** Group:

If the sum of the weights of all Mono-Alpha Indices and Inverse Mono-Alpha Indices in respect of each Commodity belonging to the Wheat Group is greater than 10% then:

$$FW_{C,S,R} = \frac{TW_{C,S,R}}{\sum_1^W TW_{C,S,R}} \times 10\%$$

$$Excess = Excess_{-1} + \sum_1^W TW_{C,S,R} - 10\%$$

Where:

$\sum_1^W \boldsymbol{TW_{C,S,R}}$ is the sum of the Temporary Weights of all Mono-Alpha Indices and Inverse Mono-Alpha Indices in respect of each Commodity belonging to the Wheat Group; and

W is the set of Mono-Alpha Indices and Inverse Mono-Alpha Indices in respect of the Commodities belonging to the Wheat Group.

In such a case, where the Final Weight has been assigned as above, all Mono-Alpha Indices and Inverse Mono-Alpha Indices whose respective Commodities are belonging to the Wheat Group will be regarded as being capped.

Step D: For each Mono-Alpha Index and Inverse Mono-Alpha Index in respect of each Commodity that has a cap of less than 20%:

If the sum of the weights of all Mono-Alpha Indices and Inverse Mono-Alpha Indices with respect to such Commodity is greater than the corresponding Commodity Cap (with reference to the Table 1 under the definition of Components in the Definitions section):

$$FW_{C,S,R} = \frac{TW_{C,S,R}}{\sum_1^M TW_{C,S,R}} \times Cap_c$$

$$Excess = Excess_{-1} + \sum_1^M TW_{C,S,R} - Cap_c$$

Where:

$\boldsymbol{Cap_c}$ is the weight Cap in respect of Commodity c as specified in the Table 1;

$\sum_1^M \boldsymbol{TW_{C,S,R}}$ is the sum of the Temporary Weights of all Mono-Alpha Indices and Inverse Mono-Alpha Indices in respect of Commodity C on Holdings Calculation Date R; and

M is the set of Mono-Alpha Indices and Inverse Mono-Alpha Indices in respect of Commodity c.

At the end of this step, if the sum on the weights of the Mono-Alpha Indices and the Inverse Mono-Alpha Indices in respect of any Commodity is equal to the corresponding Commodity cap, then those Mono-Alpha Indices and Inverse Mono-Alpha Indices will be regarded as being capped for the purpose of the remaining calculations.

Step E: For each Commodity that has a cap of 20%, if the sum of the weights of each Mono-Alpha Index and Inverse Mono-Alpha Index in respect of that Commodity is greater than 20%:

$$FW_{C,S,R} = \frac{TW_{C,S,R}}{\sum_1^N TW_{C,S,R}} \times 20\%$$

$$Excess = Excess_{-1} + \sum_1^N TW_{C,S,R} - 20\%$$

Where**:**

$\sum_1^N \boldsymbol{TW_{C,S,R}}$ is the sum of the Temporary Weights of the *N* Mono-Alpha Indices and Inverse Mono-Alpha Indices (one for each Spread) in respect of Commodity C on Holdings Calculation Date R; and

N is the set of Mono-Alpha Indices and Inverse Mono-Alpha Indices in respect of Commodity c.

At the end of this step, if the sum on the weights of the Mono-Alpha Indices and the Inverse Mono-Alpha Indices in respect of any Commodity is equal to the corresponding Commodity cap, then those Mono-Alpha Indices and Inverse Mono-Alpha Indices will be regarded as being capped for the purpose of the remaining calculations.

Step F: Distribute the final Excess weight in proportion to all eligible uncapped Commodity Spreads, in accordance with the following formula:

$$TW_{C,S,R} = TW_{C,S,R} \times \left(1 + \frac{Excess}{\sum_1^U TW_{C,S,R}}\right)$$

$$Excess = 0$$

Where:

$\sum_1^U \boldsymbol{TW_{C,F,R}}$ is the sum of the weights of all Mono-Alpha Indices and Inverse Mono-Alpha Indices in respect of the uncapped Commodities; and

U is the number of uncapped Commodities.

Steps B to F are repeated until the sum of weights of the Mono-Alpha Indices and Inverse Mono-Alpha Indices in respect of each Commodity or Group of Commodities satisfy the Caps specified in Table 1 under the definition of Components in the Definitions section, in which case:

$$FW_{C,S,R} = TW_{C,S,R}$$

SECTION 3: MARKET DISRUPTION EVENTS

The Index is ultimately comprised of a set of futures on physical commodities, the Underlying Contracts. On an Index Business Day, disruptions can occur that prevent these Underlying Contracts from being traded. When this happens, it is necessary for the calculations of the Index to be adjusted so that it remains replicable by market participants, i.e. adjustments must be made to the Index calculations to ensure that the Index Levels reflect futures prices that were attainable in the market at the times they would need to be traded in order to replicate the performance of the Index.

On an Index Rebalance Day, this is generally achieved by delaying any changes to the composition of each Component (or component of a Component) that is directly dependent on the disrupted Underlying Contracts. On any other Index Business Day, given that the replication of the Index does not require trading of Underlying Contracts on such days, in the event that a price is not available for a particular Underlying Contract, that price will be appropriately substituted by the Index Calculation Agent in order for the calculations in respect of a particular Index Business Day to take place.

3.1 MARKET DISRUPTION EVENT

Market Disruption Event, in respect of the Index, 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;

(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;

(iv) any other event, if the Index Sponsor reasonably determines that the event materially interferes with the ability of market participants to hedge the Index;

(v) the occurrence of a Market Disruption Event in respect of an Underlying Contract that shares the same Commodity.

The Index Calculation Agent will determine the Index Level under Market Disruption Events in accordance with the following section.

3.2 INDEX CALCULATION UNDER MARKET DISRUPTION EVENTS

When a Market Disruption Event occurs or is continuing on an Index Business Day, the Index Calculation Agent will determine the basket of futures contracts that is equivalent to the basket of Components that the Index represents, in respect of that Index Business Day. Once this basket is determined, the Index Calculation Agent will make such adjustments as are necessary to ensure the Index Levels reflect contract prices that were attainable in the market at the times they would need to be traded in order to replicate the performance of the index, as described below.

If, on an Index Rebalance Day, a Market Disruption Event with respect to one or more Underlying Contracts occurs (such day, a **Disrupted Index Rebalance Day** and each such Contract, a **Disrupted Contract** or **Underlying Contract *j***), then the Index Calculation for subsequent Index Business Days, until the second consecutive non-disrupted Index Business Day, will be modified as follows:

(i) As long as a Market Disruption Event that occurred or was continuing on the Index Rebalance Day *R* is continuing, the Index Level will be calculated according to the following formula:

$$I_t = I_{t-1} + \sum_j H'_{j,t}\left(f_{j,t} - f_{j,t-1}\right)$$

Where:

$\boldsymbol{H'_{j,t}}$ is the Equivalent Holding for Underlying Contract *j* as calculated according to sub-paragraphs (ii)-(v) below; and

$\boldsymbol{f_{j,t}}$ is the settlement price of Underlying Contract *j* as of the Index Business Day *t*.

(ii) The Index Calculation Agent shall determine the Equivalent Holdings and the Equivalent Target Holdings with respect to the Index.

The Equivalent Holdings is the set of holdings *{H'$_{1,R}$, …, H'$_{m,R}$}* of the Underlying Contracts *{F$_1$...F$_m$}*, which perfectly describes the returns of the Index in the time period from the immediately preceding Index Rebalance Day to the Disrupted Index Rebalance Day *R*.

The Equivalent Target Holdings is a set of target holdings *{TH'$_{1,R}$, …, TH'$_{m,R}$}* for the Underlying Contracts, which perfectly describes the returns of the Index on the days following the Disrupted Index Rebalance Day *R* and until the first subsequent Index Rebalance Day.

The Equivalent Holdings and the Equivalent Target Holdings shall be determined for all Underlying Contracts, therefore some Equivalent Holding for Underlying Contract *j* on the Disrupted Index Rebalance Day R, *H'$_{j,R}$* and/or some Equivalent Target Holding of Contract *j* on the Disrupted Index Rebalance Day R, *TH'$_{j,R}$* may have a value of 0.

(iii) On the Index Business Day *t* immediately following a Disrupted Index Rebalance Day *R* and until all Market Disruption Events that occurred on the Disrupted Index Rebalance Day have ceased, the Equivalent Holdings *{H'$_{1,t}$, …, H'$_{m,t}$}* are calculated based on the following formula:

$$H'_{j,t} = TH'_{j,R} + SCH_{j,t}$$

Where:

$\boldsymbol{TH'_{j,R}}$ means the Equivalent Target Holding of Contract *j* on Index Rebalance Day R;

$\boldsymbol{SCH_{j,t}}$ means (i) if the relevant Underlying Contract *j* is a Disrupted Contract, an amount calculated in accordance with the following: $H'_{j,t-1} - TH'_{j,R}$; or (ii) if relevant Underlying Contract *j* is not a Disrupted Contract, zero (0); and

$\boldsymbol{H'_{j,t-1}}$ means the Equivalent Holding of Contract j on Index Business Day t-1.

(iv) For each Disrupted Contract, the Equivalent Holding $H'_{j,t}$ shall be equal to the Equivalent Target Holding $TH'_{j,t}$ on the first Index Business Day following a Disrupted Index Rebalance Day on which no Market Disruption Event in respect of that Disrupted Contract occurs or is continuing. If a Market Disruption Event continues for more than 5 Index Business Days following a Disrupted Index Rebalance Day, the Index Calculation Agent shall, in good faith and its sole discretion, determine the levels of each disrupted Component (being each Component corresponding to a Disrupted Contract) that will be used in the calculation of Holdings and Index Levels.

(v) For each Underlying Contract that is not a Disrupted Contract, the Holding $H_{j,t}$ on the Index Business Day immediately following the Disrupted Index Rebalance Day shall be the Equivalent Target Holding.

(vi) On the second consecutive non-disrupted Index Business Day immediately following a Disrupted Index Rebalance Day, the Index Calculation Agent will resume calculation of the Index in accordance with Section 2.5 (*Daily Index Calculation*).

Further explanation of Holdings and Equivalent Holdings:

On each Index Business Day, the Index is represented as a basket of its Components with a Holding in respect of each Component determined on the immediately preceding Index Rebalance Day according to the "Holdings Calculation" section above. For the purposes of determination of whether disruption to futures trading affects the Index, however, the Holdings of the Index must instead be expressed in terms of the futures contracts that ultimately underlie the Index. As the Index is a linear basket of its Components, and because the same holds true of all components of those Components (whether such components are futures or indices), it is possible to work through the Holdings of the Index and, by ultimately breaking down each index to the futures contracts that comprise it, determine a new set of Holdings that, in respect of that Index Business Day, exactly represents the composition of the Index in terms of its Underlying Contracts.

SECTION 4: DEFINITIONS

Active Mono-Alpha Set, on an Index Calculation Date, is the group of Mono-Alpha Indices and Inverse Mono-Alpha Indices with Spreads in which the Deferred Contract is different from the F0 Contract (i.e. resulting in a non-zero spread exposure by taking long (or short, as applicable) exposure to the Deferred Contract and short (or long, as applicable) exposure to the F0 contract).

AnnRollvsF0 Spread is the Mono-Alpha Index generated by taking long exposure to the annual roll (Deferred Index) and short exposure to the F0 Index in respect of a Commodity.

Cap, in respect of each Commodity, is the maximum aggregate absolute weight that can be allocated to the Mono-Alpha Indices and Inverse Mono-Alpha Indices (as applicable) that comprise the long/short spread exposure, as specified in Table 1 under the definition of Components.

Commodity is each commodity corresponding to each Component.

Components are the Macquarie Single Commodity Indices specified in the columns headed "Deferred Index" and "F0 Index" in the table below:

TABLE 1

COMMODITY	F3VSF0 SPREAD		F6VSF0 SPREAD		ANNROLLVSF0 SPREAD		GROUP	GROUP CAP	CAP
	DEFERRED INDEX	F0 INDEX	DEFERRED INDEX	F0 INDEX	DEFERRED INDEX	F0 INDEX			
WTI Crude Oil	MQSDCL3E	MQSDCLER	MQSDCL6E	MQSDCLER	MQSYCLRA	MQSDCLER	PETROLEUM	30%	30%
Gasoline	MQSDXB3E	MQSDXBER	MQSDXB6E	MQSDXBER	MQSYXBRA	MQSDXBER	PETROLEUM		30%
Natural Gas	MQSDNG3E	MQSDNGER	MQSDNG6E	MQSDNGER	MQSYNGRA	MQSDNGER	NONE		20% *
Zinc	MQSDLX3E	MQSDLXER	MQSDLX6E	MQSDLXER			NONE		20%
Nickel	MQSDLN3E	MQSDLNER	MQSDLN6E	MQSDLNER			NONE		20%
Aluminum	MQSDLA3E	MQSDLAER	MQSDLA6E	MQSDLAER			NONE		20%
Copper	MQSDHG3E	MQSDHGER	MQSDHG6E	MQSDHGER			NONE		20%
Corn	MQSDC3E	MQSDCER	MQSDC6E	MQSDCER			NONE		20%
Soybeans	MQSDS3E	MQSDSER	MQSDS6E	MQSDSER			NONE		15%
Soybeans Oil	MQSDBO3E	MQSDBOER	MQSDBO6E	MQSDBOER			NONE		5%
Soybean Meal	MQSDSM3E	MQSDSMER	MQSDSM6E	MQSDSMER			NONE		5%
Wheat (CBOT)	MQSDW3E	MQSDWER	MQSDW6E	MQSDWER			WHEAT	10%	10%
Wheat (KCBOT)	MQSDKW3E	MQSDKWER	MQSDKW6E	MQSDKWER			WHEAT		10%
Sugar [No. 11]	MQSDSB3E	MQSDSBER	MQSDSB6E	MQSDSBER			NONE		10%
[Arabica] Coffee	MQSDKC3E	MQSDKCER	MQSDKC6E	MQSDKCER			NONE		5%
Cotton	MQSDCT3E	MQSDCTER	MQSDCT6E	MQSDCTER			NONE		5%
Lean Hogs	MQSDLH3E	MQSDLHER	MQSDLH6E	MQSDLHER			NONE		7.5 %
Live Cattle	MQSDLC3E	MQSDLCER	MQSDLC6E	MQSDLCER			NONE		10%
Feeder Cattle	MQSCFC3E	MQSCFCER	MQSCFC6E	MQSCFCER			NONE		5%

* On any Holdings Calculation Date that falls in the month of October, November, December, January, February and March, the Cap applied to Natural Gas is set to 0% to avoid taking any exposure to Natural Gas Spreads during the winter months and all Mono-Alpha Indices and Inverse Mon-Alpha Indices (as applicable) in respect of Natural Gas will not be considered as being part of the Active Mono-Alpha Set.

The calculation and methodology of each Deferred Index and F0 Index in the "Macquarie Single Commodity Indices" is set out in the Macquarie Single Commodity Indices Index Manual (as amended from time to time), which is available on request or at:

http://static.macquarie.com/dafiles/Internet/mgl/global/shared/corporate/trading-and-hedging/commodities/macquarie-single-commodity-indices.pdf (or any successor page). For ease of reference, only ticker references have been included.

Each non-energy Commodity is represented by four Components, two Spreads (each either a Bear Spread or a Bull Spread) and one Group. Each Energy Commodity is represented by six Components, three Spreads (each, either a Bear Spread or a Bull Spread) and one Group.

For example:

Commodity: WTI Crude Oil

Group: Petroleum

Components and Spreads:

F3vsF0 Spread: MQSDCL3E, which (in the case of a Bear Spread) can be assigned a positive weight or (in the case of a Bull Spread) can be assigned a negative weight and MQSDCLER, which (in the case of a Bear Spread) can be assigned a negative weight or (in the case of a Bull Spread) can be assigned a positive weight, together referred to as "WTI Crude Oil F3vsF0 Spread".

F6vsF0 Spread: MQSDCL6E which (in the case of a Bear Spread) can be assigned a positive weight or (in the case of a Bull Spread) can be assigned a negative weight and MQSDCLER, which (in the case of a Bear Spread) can be assigned a negative weight or (in the case of a Bull Spread) can be assigned a positive weight, together referred to as "WTI Crude Oil F6vsF0 Spread".

AnnRollvsF0 Spread: MQSYCLRA which (in the case of a Bear Spread) can be assigned a positive weight or (in the case of a Bull Spread) can be assigned a negative weight and MQSDCLER, which (in the case of a Bear Spread) can be assigned a negative weight or (in the case of a Bull Spread) can be assigned a positive weight, together referred to as "WTI Crude Oil AnnRollvsF0 Spread".

Component Level, in respect of an Index Business Day, is the closing level of each Component as determined by the Index Calculation Agent. If the Index Business Day is not a day on which the Component is scheduled to be published, the Component Level for that day will be the most recent available Component Level on the most recent publication day.

Contract is a futures contract traded in a Trading Facility and having a Commodity as underlying.

Deferred Contract, in respect of each Commodity and Spread, on Holding Calculation Date R, is the contract that the Deferred Index (either 3 Month Forward, 6 Month Forward or Annual Roll) will be fully invested by the end of the month in which the Holding Calculation Date R falls.

Deferred Index, in respect of each Commodity and each Spread, is the Macquarie Single Commodity Index specified in Table 1 in the definition of Components under the relevant column headed "Deferred Index" (depending on the applicable Spread) and in the row corresponding to the relevant Commodity.

Energy Commodity is each of WTI Crude Oil, Gasoline and Natural Gas.

Equivalent Holdings, in respect of an Index Business Day, are numbers which, if applied as Holdings to the Underlying Contracts of the Index, would perfectly describe the performance of the Index in respect of that Index Business Day. Equivalent Holdings are determined in order to facilitate calculation of the Index where any Underlying Contract is subject to a Market Disruption Event. The calculation of Equivalent Holdings is set out in Section 3 (*Market Disruption Events*).

Equivalent Target Holdings, in respect of an Index Business Day, are numbers which, if applied as Holdings to the Underlying Contracts of the Index, would perfectly describe what the performance of the Index would have been if the Holdings of the Index were instead equal to the Target Holdings of the Index. Equivalent Target Holdings are determined in order to facilitate calculation of the Index where any Underlying Contract is subject to a Market Disruption Event. The calculation of Equivalent Target Holdings is set out in Section 3 (*Market Disruption Events*).

Expiration is the date established by relevant Trading Facility for each Contract and is typically the date on which trading on that particular Contract ceases.

F0 Contract, in respect of each Commodity and each Spread and on each Holding Calculation Date R, is the contract in which the F0 Index will be fully invested by the end of the month in which such Holding Calculation Date R falls.

F0 Index, in respect of each Commodity and each Spread, is the Macquarie Single Commodity Index specified in Table 1 in the definition of Components under the relevant column headed "F0 Index" (depending on the applicable Spread) and in the row corresponding to the relevant Commodity.

F3vsF0 Spread, in respect of a Commodity, is the Mono-Alpha Index generated by taking long exposure to the 3 month forward (Deferred Index) and short exposure to the F0 Index, in each case in respect of such Commodity.

F6vsF0 Spread, in respect of a Commodity, is the Mono-Alpha Index generated by taking long exposure to the 6 month forward (Deferred Index) and short exposure to the F0 Index, in each case in respect of such Commodity.

Final Weight is the weight applied (after capping in accordance with the Iterative Capping Procedure) to each Component represented in the Index from one rebalancing to the next and is calculated, in respect of the Mono-Alpha Indices and the Inverse Mono-Alpha Indices, as set out in Section 2.6.2 (*Mono-Alpha / Inverse Mono-Alpha Index Weights*).

Group, in respect of each Commodity, is specified in Table 1 in the definition of "Components". Groups are utilised in the Iterative Capping Procedure.

Holding, in respect of a Component and an Index Business Day, is a number which is determined by the Index Calculation Agent as described in Section 2.4 (*Holdings Calculation*) of the Index Methodology section. The Holding in respect of a Component is determined in order to calculate the daily Index Level and represents the proportionate effect on the Index Level of a change in the relevant Component level.

Holdings Calculation Date is the Index Business Day on which the Target Holdings are periodically calculated in order to rebalance the Holding of each Component back to the specified Weights. The Holdings Calculation Date is the **tenth Index Business Day** of each calendar month.

Index Business Days are the days in the Index Calendar.

Index Calendar is the set of trading days of the New York Mercantile Exchange schedule.

Initial Index Level is 100.

Index Level is the level of the Index that is calculated according to Section 2 (*Index Methodology*) of this Methodology.

Index Rebalance Days is the set of Index Business Days comprised of the Holdings Calculation Date and the subsequent two Index Business Days.

Index Sponsor is Macquarie Bank Limited (**Macquarie**), the entity that calculates and publishes or announces (directly or through an agent) the daily level of the Index.

Index Start Date is 13 August 2004.

Index Ticker is Excess Return – **MQCP760E** Index (Bloomberg).

Initial Weight is the starting weight applied (before capping in accordance with the Iterative Capping Procedure) to each Component represented in the Index from one rebalancing to the next.

Mono-Alpha Index, in respect of each Commodity and each Spread, is the theoretical index series (rounded to 12 decimal places) generated by taking +100% exposure to the Deferred Index and exposure equal to: -100% * VAF to the corresponding F0 Index. Each such Mono-Alpha Index is rebalanced on each Holdings Calculation Date (using prices as of the Holdings Calculation Date) and calculated in accordance with the methodology set out in Section 2.4 (*Holdings Calculation*) (assuming the holdings are calculated on one day only) and Section 2.5 (*Daily Index Calculation*), as though such Mono-Alpha Index was the "Index", where Market Disruptions are *not* taken into account. The dates on which the Mono-Alpha Index series is calculated is with reference to the Index Calendar.

Inverse Mono-Alpha Index, in respect of each Commodity and each Spread, is the theoretical index series (rounded to 12 decimal places) generated by taking -100% exposure to the Deferred Index and exposure equal to: +100% * VAF to the corresponding F0 Index. Each such Inverse Mono-Alpha Index is rebalanced on each Holdings Calculation Date (using prices as of the Holdings Calculation Date) and calculated in accordance with the methodology set out in Section 2.4 (*Holdings Calculation*) (assuming the holdings are calculated on one day only) and Section 2.5 (*Daily Index Calculation*), as though such Inverse Mono-Alpha Index was the "Index", where Market Disruptions are *not* taken into account. The dates on which the Inverse Mono-Alpha Index series is calculated is with reference to the Index Calendar.

non-Energy Commodity is each Commodity that is not an Energy Commodity.

Potential Mono-Alpha Set is the group of Mono-Alpha Indices (Bear Spreads) combined with the group of Inverse Mono-Alpha Indices (Bull Spreads) that are determined to exhibit strictly positive momentum and strictly negative skewness.

Settlement Price, in respect of a Contract, is the price, expressed in US dollars, published by the relevant Exchange or Trading Facility for such Contract and referred to by such Exchange or Trading Facility as the settlement price for that particular contract. If, in respect of a Contract, any Index Business Day is not a business day of the relevant Exchange or Trading Facility, then the Settlement Price of such Contract will be the most recent available price on the most recent business day of the relevant Exchange or Trading Facility.

Spread is either F3vsF0 (closer to the front of the curve), F6vsF0 (6 Month Forward spread) or AnnRollvsF0 (further down the curve) and describes the relative spread exposure by reference

to the contracts along a commodity futures curve. Each Spread can either be a Bear Spread or a Bull Spread, depending on the direction of the exposures applied to the contracts that comprise the Spread.

Target Holdings are a set of multipliers derived from the Weights, which are utilized to rebalance the Components of the Index on each Holdings Calculation Date. Calculation of Target Holdings is described in Section 2.4 (*Holdings Calculation*) of the Index Methodology section.

Temporary Weight is the absolute weight assigned to each Mono-Alpha Index or Inverse Mono-Alpha Index (as applicable) during the Iterative Capping Procedure before they are finalised.

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

Underlying Contracts, in respect of an Index Business Day, are all Contracts which are, directly or indirectly, an underlying of the Index or, if that Index Business Day is a Holdings Calculation Date, scheduled to be an underlying of the Index according to the methodology of that Index or that of its Components.

Volatility Adjustment Factor (VAF), in respect of a Mono-Alpha Index or an Inverse Mono-Alpha Index, is the scalar by which the exposure of the short (in respect of a Mono-Alpha Index) or long (in respect of an Inverse Mono-Alpha Index) leg (applied to the F0 Index) is multiplied such that the realised volatility of the long exposure (in respect of a Mono-Alpha Index) or short exposure (in respect of an Inverse Mono-Alpha Index) (or Deferred Index) is equal to the realised volatility of the short exposure (in respect of a Mono-Alpha Index) or long exposure (in respect of an Inverse Mono-Alpha Index) (or F0 Index). The Volatility Adjustment Factor is a number **between 0.75 and 1.25** (i.e. an adjustment either upwards or downwards by a maximum of 25%). The volatility in respect of each of the long and short legs of the Mono-Alpha index and Inverse Mono-Alpha Index are calculated using 63 days of returns up to and including the day immediately preceding the Holdings Calculation Date.

Weights are the weights periodically established by the Weighting Methodology (as set out in Section 2.6 (*Weighting Methodology*) for each Component.

Weighting Methodology is described in Section 2.6 (*Weighting Methodology)* and is used to determine the Weights of the Index on each Holdings Calculation Date, which are used to determine the Holdings of the Index in respect of each Holdings Calculation Date.

SECTION 5: CORRECTIONS, CHANGES, CESSATION AND DISCRETION

5.1 CORRECTIONS AND ERROR HANDLING

5.1.1 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**).

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.

5.1.2 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 5.2 *(Changes in Methodology)*).

5.1.3 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.

5.2 CHANGES IN METHODOLOGY

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 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).

5.3 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.

5.4 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:

- Section 3 *(Market Disruption Events);* and
- Section 5 *(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 6: OVERSIGHT, ROLES AND CONFLICTS

6.1 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 document, 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 division;
- 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, provided that the Managing Director from the Commodities and Global Markets group will not be a voting member of the Committee, but shall act in an advisory capacity only. 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.

6.2 INDEX ADMINISTRATOR AND INDEX CALCULATION AGENT

6.2.1 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.

6.2.2 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 division of Macquarie Bank Limited acts as Index Calculation Agent in respect of the Index as of the date of this 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 document.

6.2.3 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.

6.2.4 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.

6.3 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 an index described in this document 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.

SECTION 7: GENERAL INFORMATION

7.1 VALUATION AND CALCULATIONS

The Index Calculation Agent shall, unless stated otherwise, perform all calculations in this Index Manual. 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.

7.2 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 5 *(Corrections, Changes, Cessation and Discretion*)). See Section 5.1.2 regarding the publication of Material Errors.

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

7.3 HISTORICAL VALUES OF THE INDEX

Hypothetical back-tested historical values of the Index 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.

SECTION 8: NOTICES AND DISCLAIMERS

8.1 REGULATORY STATUS

This material is prepared and distributed in the UK by Macquarie Bank Limited, London Branch (MBLLB) and in the EEA member states (other than the UK) by Macquarie Bank International Limited (MBIL) 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). MBIL is incorporated and registered in England and Wales (Company No. 06309906, Firm Reference No. 471080). The registered office for MBLLB and MBIL is Ropemaker Place, 28 Ropemaker Street, London, EC2Y 9HD. MBLLB is authorized and regulated by the Australian Prudential Regulation Authority. Authorised by the Prudential Regulation Authority and subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. Details about the extent of our regulation by the Prudential Regulation Authority are available from us on request. MBIL is authorized by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority.

8.2 NOT RESEARCH OR AN OFFER

This document 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 document 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 document been reviewed by any regulatory authority, and the distribution of this document and availability of related financial instruments in certain jurisdictions may be restricted by law.

This document 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.

8.3 THIRD-PARTY DISCLAIMER

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