

# Macquarie Single Commodity Extended Post Roll Indices

**Index Manual  
March 2023**

## IMPORTANT INFORMATION

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### BASIS OF PROVISION

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This document (the **Index Manual**) sets out the rules for the Macquarie Single Commodity Extended Post Roll Indices (each, an **Index**) and reflects the methodology for determining the composition and calculation of each Index (the **Methodology**). The Methodology and each 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 Indices. 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.

For the purposes of the remainder of this document, each reference to the Index in singular form shall be interpreted as being applicable to each Index covered by this Index Manual.

### SUITABILITY OF INDEX

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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

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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

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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

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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

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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

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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 any 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

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### 1.1 INTRODUCTION AND INDEX OBJECTIVE

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Each Index aims to provide a return based on a notional investment in futures contracts (each, a **Component**) on an individual commodity (a **Commodity**). Physical commodities are not easily investable on a direct and replicable basis. However, futures contracts on commodities represent a widely utilized synthetic proxy for direct investment in commodities. For this reason, each Index is constituted of, and reflects the price performance of, a Component comprised of a notional exchange traded futures contract (a **Contract**) relating to a physical commodity. In order to ensure the continuity of each Index, when the Contract that underlies a Component of an Index approaches expiration, it will be replaced by an identical Contract with a later expiration (which process is referred to as the Index “rolling” from one Contract into the next Contract). Each Index thus synthetically tracks a sequence of Contracts relating to a Commodity (the universe of tradable calendar futures contracts on a Commodity, known as the “futures curve”). Accordingly, each Index will represent systematic and replicable benchmarks for investment in an individual Commodity.

Each Index replicates the returns obtained by holding a Component (or, during a Roll Period, more than one Component) that represents a specified Contract (or, during a Roll Period, more than one Contract) from one Index Business Day to the next. The Contract(s) associated with each Index will change through time, with Contracts being removed and added according to the Methodology described in Section 2 (*Index Methodology*).

Each Index is differentiated by the Index Specifications corresponding to that Index. The Index Specifications set out (i) certain parameters specific to an Index (such as the Index Name and Index Start Date), (ii) the calendar contracts that underlie the Index, and (iii) the parameters that determine the timing of rolling from one contract to the next (i.e. the point on the futures curve targeted by the Index).

Each Macquarie Single Commodity Extended Post Roll Index provides exposure to a single Commodity at the very front of the futures curve and aims to hold this exposure for as long as possible (i.e. as close as possible to the Contract’s Expiry Date) before rolling to the next Contract on the curve with sufficient liquidity.

The Indices are designed to be replicable and are calculated daily in an excess return format.

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

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The Indices are calculated and maintained by the Index Calculation Agent and supervised by the Index Administrator and the Index Oversight Committee, as described in Section 7 (*Oversight, Roles, Conflicts and Reviews*). All determinations with regard to the Indices 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 6 (*Corrections, Changes, Cessation and Discretion*) for further information.

In respect of each Index, the Index Level as of the Index Start Date is equal to the Index Start Level specified in Annex A (*Index Specifications*). Thereafter, each Index Level is calculated as set out in Section 2 (*Index Methodology*).

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

### 1.3 INDEX SPECIFICATIONS

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Each Index is differentiated by the Index Specifications corresponding to that Index. The Index Specifications set out (i) certain parameters specific to an Index (such as the Index Name, Bloomberg Ticker, the Index Calendar, the Index Start Date and the Index Start Level), (ii) the Commodity on which such Index is based, (iii) the parameters that determine the timing of rolling from one Contract into the next Contract (i.e. the Roll Start Date and the Roll Length), (iv) the calendar contracts that the Index will roll into (i.e. the Static Contract Roll Schedule) and (v) the Index Type, which defines the method of calculating the Index Level (as described in Section 2.2 (*Index Level Calculation*)). Accordingly, the Index Specifications determine exposure to a particular part of the futures curve of a commodity and the Index will reflect the performance of such point on the curve.

The Index Administrator may, at any time, commence calculation and publication of new Indices pursuant to the Methodology. In such circumstances the Index Administrator will publish a revised version of the Methodology, revised only to augment Annex A (*Index Specifications*) with the new Index Specifications relating to the new Indices.

## SECTION 2: INDEX METHODOLOGY

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On a daily basis, each Index seeks to replicate synthetically the returns obtained by notionally holding a Component (or, during a Roll Period, more than one Component) that represents a specified Contract (or, during a Roll Period, more than one Contract) from one Index Business Day to the next. The Contract(s) associated with each Index will change through time, with Contracts being removed and added according to a calendar month contract schedule that is part of the set of parameters specified in its Index Specification, as described in more detail in Section 2.1 (*Roll Weights Calculation*) below.

The following sections detail how the Index Calculation Agent will calculate the Index Level of each Index on each Index Business Day, based on the inputs set out in the relevant Index Specifications.

**Section 2.1 (*Roll Weights Calculation*)** describes how the weights of the new Contract and the expiring Contract are determined; and

**Section 2.2 (*Index Level Calculation*)** describes the daily calculation of the Index Level.

### 2.1 ROLL WEIGHTS CALCULATION

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Futures contracts have fixed expiry dates, after which trading comes to an end. In order to accurately reflect a financial investment in a physical commodity, futures contracts are removed from the basket which is tracked by the Index prior to their expiry in a process called “rolling” the futures contracts.

Contracts are rolled on the close of each Index Business Day and over a series of Index Business Days. Rolling entails adjusting the Contracts the Index references to reduce exposure to the Contract which is scheduled to expire and increase exposure to a further dated Contract. Thus, during the Roll Period the Index will reference more than one Contract, with the proportion of exposure to each Contract changing on the close of each Index Business Day. This is achieved by applying a “roll weight” to each Contract which, over the duration of the Roll Period, will change to reflect the changing composition of Contracts associated with each Index. These weights are then used to calculate the Index on the following Index Business Day.

The Roll Weight allocates exposure between the Contract Rolling Out and the Contract Rolling In on each Index Business Day. The Roll Weight,  $RW_t$ , in respect of an Index Business Day,  $t$ , is calculated according to the following formula:

(A) If the Index Business Day,  $t$ , is outside a Roll Period:

$$RW_t = 1$$

(B) If the Index Business Day,  $t$ , is during a Roll Period:

$$RW_t = RW_{t-1} - RF$$

Where:

$RW_{t-1}$  is the Roll Weight in respect of Index Business Day,  $t-1$ ; and



**RF (or Roll Fraction)** in respect of an Index, means the fraction of exposure rolled out of the Contract Rolling Out and rolled into the Contract Rolling In on each Index Business Day of the Roll Period. The Roll Fraction is equal to the inverse of the Roll Length of such Index.

- (C) If a Market Disruption Event occurs on such Index Business Day,  $t$ , then each Contract will have its roll postponed, as described in Section 3.2 (*Roll Weight Calculation under Market Disruption Events*).

Worked Example of Roll Weights Calculation:

For example, the Last Holding Day for the Macquarie Aluminum Single Commodity Extended Post Roll Index type A is the Index Business Day that is at least one (1) Aluminum Trading Day before the Expiry Date of the Aluminum Contract Rolling Out. The Roll Length is two (2) and therefore, the Roll Start Date is the Index Business Day immediately preceding the Last Holding Day.

The Roll Weights calculations for February 2018 Aluminum Contract are then calculated as follows:

- (A) The Expiry Date of the Contract Rolling Out (February 2018 Contract) is 19 February 2018.
- (B) The Last Holding Day for the Contract Rolling Out is 16 February 2018.
- (C) The Roll Start Date is 15 February 2018.
- (D) In respect of the Index Business Days following the previous Roll Period to 14 February 2018 (the Index Business Day before the Roll Start Date), the Roll Weight is equal to 1.
- (E) In respect of February 15, which is the first (1<sup>st</sup>) Index Business Day in the Roll Period associated with the February Aluminum Contract, the Roll Weight is equal to 0.5
- (F) In respect of February 16, which is the second (2<sup>nd</sup>) and final Index Business Day in the Roll Period associated with the February Aluminum Contract, the Roll Weight is equal to 0
- (G) In respect of all other Index Business Days previous to the start of the Roll Period for March 2018 Aluminum Contract, the Roll Weight is equal to 1

## 2.2 INDEX LEVEL CALCULATION

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The level of an Index (the **Index Level**),  $I_t$ , will be calculated as set out below.

### 2.2.1 Excess Return Calculation

An Index with the Index Type specified as Excess Return (an **Excess Return Index**) represents the performance of a synthetic, unfunded exposure to the Contracts in such Index; that is, the Index tracks what an investor would receive if it purchased or sold the futures contracts underlying the Index without taking into consideration the cost of investment capital.

On an Index Business Day,  $t$ , the level of an Excess Return Index (the **Excess Return Index Level**,  $I_t$ ) is calculated (rounded to eight decimal points) based on the Index Level on the immediately preceding Index Business Day,  $I_{t-1}$ , and the Index Daily Return,  $IDR_t$  (as defined below), according to the following formula:

$$I_t = I_{t-1} \times (1 + \text{IDR}_t).$$

The **Index Daily Return**,  $\text{IDR}_t$ , is calculated according to the following formula:

$$\text{IDR}_t = \frac{\text{RW}_{t-1} \times \text{HRO}_{t-1} \times \text{PRO}_t + (1 - \text{RW}_{t-1}) \times \text{HRI}_{t-1} \times \text{PRI}_t}{\text{RW}_{t-1} \times \text{HRO}_{t-1} \times \text{PRO}_{t-1} + (1 - \text{RW}_{t-1}) \times \text{HRI}_{t-1} \times \text{PRI}_{t-1}} - 1$$

Where:

<b><math>\text{RW}_{t-1}</math></b>	is defined in Section 2.1 ( <i>Roll Weights Calculation</i> );
<b><math>\text{HRO}_{t-1}</math></b>	is the Holding Rolling Out, in respect of the Index Business Day, t-1;
<b>Holding Rolling Out</b>	in respect of an Index and an Index Business Day, is a multiplier equal to 1. The Holding Rolling Out represents the exposure of the Index to the Contract Rolling Out;
<b><math>\text{HRI}_{t-1}</math></b>	is the Holding Rolling In, in respect of Index Business Day, t-1;
<b>Holding Rolling In</b>	in respect of an Index and an Index Business Day, is a multiplier equal to 1. The Holding Rolling In represents the exposure of the Index to the Contract Rolling In;
<b><math>\text{PRO}_t</math></b>	is the Contract Price on Index Business Day, t of the Contract Rolling Out in respect of Index Business Day, t-1 ;
<b><math>\text{PRI}_t</math></b>	is the Contract Price on Index Business Day, t of the Contract Rolling In in respect of Index Business Day, t-1;
<b><math>\text{PRO}_{t-1}</math></b>	is the Contract Price on Index Business Day, t-1 of the Contract Rolling Out in respect of Index Business Day, t-1; and
<b><math>\text{PRI}_{t-1}</math></b>	is the Contract Price on Index Business Day, t-1 of the Contract Rolling In in respect of Index Business Day, t-1.

### 2.2.2 Worked Example of Index Level Calculation

For example, for the Macquarie Lean Hogs Extended Post Roll ER Index Version A, the Daily Index Calculation in respect of March 31<sup>st</sup> 2000 is as follows:

- The immediately preceding Index Business Day is March 30
- The Contract Rolling Out is the April 2000 Lean Hogs contract
- The Contract Rolling In is the June 2000 Lean Hogs contract
- The Roll Weight in respect of March 30<sup>th</sup> is 0.857143 (6dp)
- The Index Level in respect of March 30 is 110.60344828
- The prices for the Contract Rolling Out and the Contract Rolling In are as follows:

	Contract Rolling Out	Contract Rolling In
30 <sup>th</sup> March 2000	64.15	73.55
31 <sup>st</sup> March 2000	64.35	73.15

- The calculation of the Index Daily Return is therefore:
 
$$\frac{64.35 \times 0.857143 + 73.15 \times 0.142857}{64.15 \times 0.857143 + 73.55 \times 0.142857} = 1.00174501$$

The Excess Return Index Level in respect of 31<sup>st</sup> March is therefore, 110.79645244.

## SECTION 3: MARKET DISRUPTION EVENTS

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Each Macquarie Single Commodity Extended Post Roll Index is comprised of one or more Contracts on a particular Commodity (the **Underlying Contracts**). On any given Index Business Day, disruptions can occur that prevent these Contracts from being traded. When this happens, it is necessary for the calculations of the affected 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 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.

During a Roll Period, this is generally achieved by delaying any changes to the composition of each affected Index. On any other Index Business Day, given replication of an Index does not require trading of Contracts on such days, in the event that a price is not available for a Contract, a price will be appropriately substituted in order for the calculations in respect of a particular Index Business Day to take place.

### 3.1 MARKET DISRUPTION EVENTS

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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 on which 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.

### 3.2 ROLL WEIGHT CALCULATION DURING MARKET DISRUPTION EVENTS

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If a Market Disruption Event occurs during a Roll Period, the approach taken by the Index Calculation Agent is to delay changes to the Index composition until the Market Disruption Event affecting the Index has concluded, provided that in the event that a Market Disruption Event continues for multiple days, the Index Calculation Agent will make a good faith determination in respect of the market price to be attributed to the affected Underlying Contracts.

If, on an Index Business Day during a Roll Period,  $t$ , a Market Disruption Event occurs, then each Underlying Contract affected by the Market Disruption Event will have its roll postponed according to the following methodology:

- (i) For each Commodity  $i$  not affected by the Market Disruption Event, the Roll Weight,  $RW_{i,t}$  is defined in the usual course, as in Section 2.1 (*Roll Weights Calculation*).
- (ii) For each Commodity  $i$  affected by the Market Disruption Event, the Roll Weight,  $RW_{i,t}$ , will be set equal its previous value, i.e.,  $RW_{i,t} = RW_{i,t-1}$ .
- (iii) Where the Roll Type of the Index is specified in Annex A (*Index Specifications*) as:
  - (a) Extend, the Roll Weight on subsequent Index Business Days not affected by such Market Disruption Event will be determined without taking into account the Index Business Days on which such Market Disruption Event occurred or was continuing; or
  - (b) Recoup, the postponed portion of the roll in (ii) above will roll on the first Index Business Day not affected by a Market Disruption Event.

In the event that the Roll Period ends without the Roll Weight being fully redistributed into the Contract Rolling In, then the Roll Period is extended until there is no Market Disruption Event, provided that if the Roll Period is extended to include the Market Disruption Longstop Date and the Market Disruption Event is still continuing on such Market Disruption Longstop Date, then a Market Disruption Adjustment Event shall occur and the Index Calculation Agent may take action in accordance with Section 5.1 (*Adjustment Events*).

Where **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 Underlying Contract affected by the Market Disruption Event and market practice.

## SECTION 4: DEFINITIONS

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**Adjustment Event** is defined in Section 5.1 (*Adjustment Events*).

**Affected Index Level** is defined in Section 6.1.1 (*Errors*).

**Asset Class Specific Adjustment Event** is defined in Section 5.2 (*Asset Class Specific Definitions – Adjustment Events*).

**Bloomberg Ticker**, in respect of an Index, is the ticker under which the relevant Index Level will be published, as specified in the relevant Index Specifications.

**Calculation Error** is defined in Section 6.1.1 (*Errors*).

**Change in Economic Assumptions** is defined in Section 5.1 (*Adjustment Events*).

**Collateral Return** is defined in Section 2.2.2 (*Total Return Calculation*).

**Commodity** is defined in Section 1.1 (*Introduction and Index Objective*) and, in respect of an Index, is the physical commodity that underlies the Contract referenced by the Index, as specified in the relevant Index Specifications.

**Component**, in respect of an Index, is defined in Section 1.1 (*Introduction and Index Objective*) and means each Contract.

**Component Change Event** is defined in Section 5.1 (*Adjustment Events*).

**Component Licensing Event** is defined in Section 5.1 (*Adjustment Events*).

**Contract** is defined in Section 1.1 (*Introduction and Index Objective*) and, in respect of an Index, is a futures contract traded on the Trading Facility of such Index and having a Commodity as underlying.

**Contract Change Event** is defined in Section 5.2 (*Asset Class Specific Definitions – Adjustment Events*).

**Contract Prices**, in respect of an Index Business Day, are the prices of the Contract Rolling In and the Contract Rolling Out, published by the relevant Trading Facility and referred to by the Trading Facility as the settlement price for that particular Contract. If the Index Business Day is not a trading day of the relevant Trading Facility, then the Settlement Price of that particular Contract will be the most recent available price on the most recent Index Business Day.

**Contract Range**, in respect of an Index, is the set of Contracts that the Index takes exposure to and is specified in the relevant Index Specification. The letters translate to months according to the following table:

Month	Letter
January	F
February	G
March	H
April	J
May	K

June	M
July	N
August	Q
September	U
October	V
November	X
December	Z

**Contract Rolling In** of a Commodity on an Index Business Day is the Contract from the Contract Range set whose Expiry Date immediately follows the Expiry Date of the Contract Rolling Out. The Contract Rolling In represents the Contract to which the Index is exposed during and subsequent to the Roll Period in which the Index rolls its exposure from the Contract Rolling Out to the Contract Rolling In.

**Contract Rolling Out** of a Commodity on an Index Business Day is the Contract associated with the upcoming Roll Period relative to that Index Business Day. If the current Index Business Day is part of a Roll Period, the Contract Rolling Out is the Contract associated with that Roll Period. The Contract Rolling Out represents the Contract to which the Index is exposed prior to and during the Roll Period in which the Index rolls its exposure from the Contract Rolling Out to the Contract Rolling In.

**Dealer** is defined in Section 5.1 (*Adjustment Events*).

**Error** is defined in Section 6.1.1 (*Errors*).

**Excess Return Index** is defined in Section 2.2.1 (*Excess Return Calculation*).

**Excess Return Index Level** is defined in Section 2.2.1 (*Excess Return Calculation*).

**Expiry Date** (or **Last Trading Date**, i.e. **LTD**) is the date established by relevant Trading Facility for each Contract and is typically the date on which trading on that particular Contract ceases.

**First Notice Date (FND)** is established for each Contract by the relevant Trading Facility and is typically the first day on which notices of intent to deliver against futures market positions can be received.

**General Adjustment Event** is defined in Section 5.1 (*Adjustment Events*).

**Holding Rolling In** is defined in Section 2.2.1 (*Excess Return Calculation*).

**Holding Rolling Out** is defined in Section 2.2.1 (*Excess Return Calculation*).

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

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

**Index Business Days**, in respect of an Index, are the days in the Index Calendar.

**Index Business Day,  $t - 1$** , in respect of an Index Business Day  $t$ , is the Index Business Day immediately preceding such Index Business Day  $t$ .

**Index Calculation Agent** is defined in Section 7.2.2 (*Index Calculation Agent*).

**Index Calendar**, in respect of an Index, is the calendar of days in respect of which an Index Level will be published, as specified in the relevant Index Specifications.

**Index Currency**, in respect of an Index, is US Dollar (USD).

**Index Daily Return** is defined in Section 2.2.1 (*Excess Return Calculation*).

**Index Level**, in respect of an Index and an Index Business Day, is defined in Section 2.2 (*Index Level Calculation*) and is the level of such Index as calculated and published by the Index Calculation Agent.

**Index Live Date**, in respect of each Index, is the date on which the Methodology of the Index was finalised. The Index Live Date for the Macquarie Single Commodity Extended Post-Roll Indices is 2 January 2018.

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

**Index Name**, in respect of an Index, is the name that identifies such Index, as specified in the relevant Index Specifications.

**Index Oversight Committee** is defined in Section 7.1 (*Oversight, Roles, Conflicts and Reviews*).

**Index Publication Days** are defined in Section 8.2 (*Publication of Index Level*).

**Index Specifications** is a set of variables particular to an Index, as set out in the table in Annex A (*Index Specifications*) hereto.

**Index Start Date**, in respect of an Index, is specified in the relevant Index Specifications. The Index Calculation Agent may calculate, but not publish, the Index Level in respect of Index Business Days preceding the Index Start Date if that is required for calculating the Index Level of the Index on the Index Start Date or on following days.

**Index Start Level**, in respect of an Index, is the Index Level of such Index on the Index Start Date and is specified in the Index Specifications.

**Initial Calculation Date**, in respect of an Index, 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 6.1.1 (*Errors*).

**Last Holding Date**, in respect of an Index and a Contract in the Contract Range set for that Index, is the last Index Business Day when the Index is exposed to that Contract and is specified in the relevant Index Specification. This is the last Index Business Day on which the Index exposure moves from that Contract (“Contract Rolling Out”) into the Contract Rolling In.

**Market Disruption Event** is defined in Section 3.1 (*Market Disruption Events*).

**Market Disruption Longstop Date** is defined in Section 3.2 (*Roll Weight Calculation During Market Disruption Events*).

**Material Error** is defined in Section 6.1.1 (*Errors*).



**Methodology** is as defined in the section entitled “Important Information”.

**Publication Time** is defined in Section 8.2 (*Publication of Index Level*).

**Regulatory Event** is defined in Section 5.3 (*Regulatory Event*).

**Replicability Event** is defined in Section 5.1 (*Adjustment Events*).

**Risk Factors** is as defined in the section entitled “Important Information”.

**Roll Fraction**, in respect of an Index, means the fraction of exposure rolled out of the Contract Rolling Out and into the Contract Rolling In on each Index Business Day of the Roll Period. The Roll Fraction is equal to the inverse of Roll Length.

**Roll Length**, in respect of an Index, is the number of the Index Business Days required to periodically move the exposure from the Contract Rolling Out into the Contract Rolling In. The Roll Length value is specified in the Index Specification.

**Roll Period**, in respect of an Index and a Contract in the Contract Range set, is the set of Index Business Days consisting of the period starting from, and including, the Roll Start Date and lasting for the number of Index Business Days established by the Roll Length, up to (and including) the Last Holding Date.

**Roll Start Date**, in respect of an Index and a Contract in the Contract Range set for that Index, is the Index Business Day that precedes the Last Holding Date for that Contract by the number of Index Business Days of the Roll Length minus one. This is the Index Business Day on which the Index exposure periodically starts to move from that Contract (“Contract Rolling Out”) into the Contract Rolling In. For example, if the Last Holding Date for a Contract is the 3<sup>rd</sup> Index Business Day previous to the Expiry Date of that Contract and the Roll Length is 2, the Roll Start Date is the 4<sup>th</sup> Index Business Day previous to the Expiry Date of that Contract.

The **Roll Weights** allocate exposure between the Contract Rolling Out and the Contract Rolling In.

**Trading Facility**, in respect of an Index, is the regulated futures exchange, facility or platform on or through which the Contracts underlying such Index are traded, as specified in the relevant Index Specifications.

**Underlying Contracts** is defined in Section 3 (*Market Disruption Events*).

## SECTION 5: ADJUSTMENT EVENTS AND REGULATORY EVENT

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### 5.1 ADJUSTMENT EVENTS

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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.

**Adjustment Event** means, in respect of a Component, each General Adjustment Event and each Asset Class Specific Adjustment Event (as defined in Section 5.2 (*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 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).

## 5.2 ASSET CLASS SPECIFIC DEFINITIONS – ADJUSTMENT EVENTS

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### 5.2.1 Exchange Traded Components

The following terms are applicable in respect of each Component.

**Asset Class Specific Adjustment Event** means Contract Change Event.

**Contract Change Event** means, in respect of a Component, any of the following:

- (i) the specifications of an Underlying Contract are materially altered by the relevant Trading Facility; or
- (ii) an Underlying Contract is permanently no longer traded on the relevant Trading Facility.

## 5.3 REGULATORY EVENT

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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 6: CORRECTIONS, CHANGES, CESSATION AND DISCRETION

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### 6.1 CORRECTIONS AND ERROR HANDLING

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#### 6.1.1 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.

#### 6.1.2 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 6.2 (*Changes in Methodology*)).

#### 6.1.3 Restatement of Index Levels

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

- (1) 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.
- (2) 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.

## 6.2 CHANGES IN METHODOLOGY

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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.

## 6.3 CESSATION OF INDEX

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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.

## 6.4 DISCRETION

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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*);
- Section 5 (*Adjustment Events and Regulatory Event*); and
- Section 6 (*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 7: OVERSIGHT, ROLES, CONFLICTS AND REVIEWS

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### 7.1 INDEX GOVERNANCE

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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 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, 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.

### 7.2 INDEX ADMINISTRATOR AND INDEX CALCULATION AGENT

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#### 7.2.1 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.

### **7.2.2 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 document.

### **7.2.3 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.

### **7.2.4 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.

## **7.3 CONFLICTS**

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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 an Index. The Index Administrator and/or its affiliates may underwrite or issue other securities or financial instruments indexed to an Index, and the Index Administrator or its affiliates may license an Index for publication or for use by unaffiliated third parties. These activities could present conflicts of interest and could affect the value of an 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 an 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.

## 7.4 REVIEWS

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The Index Administrator has procedures in place to review a sample of its indices (which may not include these Indices) 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 the reasons therefor. Any such changes approved by the Index Oversight Committee shall be implemented in accordance with Section 6.2 (*Changes in Methodology*).

## SECTION 8: GENERAL INFORMATION

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### 8.1 VALUATION AND CALCULATIONS

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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.

### 8.2 PUBLICATION OF INDEX LEVEL

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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 6 (*Corrections, Changes, Cessation and Discretion*)). See Section 6.1.2 regarding the publication of Material Errors.

**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 Days**, in respect of an Index, are the days that are in the Index Calendar.

### 8.3 HISTORICAL VALUES OF THE INDEX

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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.

## **SECTION 9: NOTICES AND DISCLAIMERS**

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### **9.1 REGULATORY STATUS**

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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.

### **9.2 NOT RESEARCH OR AN OFFER**

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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 an Index. Any offering or potential transaction that may be related to an 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.

### **9.3 THIRD-PARTY DISCLAIMER**

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

## APPENDIX A – INDEX SPECIFICATIONS

Appendix A may be supplemented from time to time by the addition of new Index Specification Tables.

Index Name	Macquarie Feeder Cattle Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTFCA
Commodity	Feeder Cattle
Trading Facility	CME
Contract Range	F,H,J,K,Q,U,V,X
Roll Length	4
Last Holding Date	The Index Business Day that is previous or equal to 11th Trading Day before LTD
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	Chicago Mercantile Exchange (Non-Dairy Commodity contracts)

Index Name	Macquarie Lean Hogs Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTLHA
Commodity	Lean Hogs
Trading Facility	CME
Contract Range	G,J,M,N,Q,V,Z
Roll Length	7
Last Holding Date	The Index Business Day that is previous or equal to 5th Trading Day of the delivery month of the Contract
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	Chicago Mercantile Exchange (Non-Dairy Commodity contracts)

Index Name	Macquarie Sugar Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTSBA
Commodity	Sugar
Trading Facility	NYBOT
Contract Range	H,K,N,V
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 1 Trading Day after the Exchange Traded Option LTD with that Contract underlying
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	ICE Futures US (Coffee Sugar and Cocoa contracts)

Index Name	Macquarie Aluminium Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTLAA
Commodity	Aluminium
Trading Facility	LME
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z

Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 1 Trading Day before LTD
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	London Metal Exchange

Index Name	Macquarie Copper Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTLPA
Commodity	Copper
Trading Facility	LME
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 1 Trading Day before LTD
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	London Metal Exchange

Index Name	Macquarie Nickel Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTLNA
Commodity	Nickel
Trading Facility	LME
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 1 Trading Day before LTD
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	London Metal Exchange

Index Name	Macquarie Lead Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTLLA
Commodity	Lead
Trading Facility	LME
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 1 Trading Day before LTD
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	London Metal Exchange

Index Name	Macquarie Zinc Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTLXA
Commodity	Zinc
Trading Facility	LME
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z
Roll Length	2

Last Holding Date	The Index Business Day that is previous or equal to 1 Trading Day before LTD
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	London Metal Exchange

Index Name	Macquarie Soybean Oil Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTBOA
Commodity	Soybean Oil
Trading Facility	CBOT
Contract Range	F,H,K,N,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3rd Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	Chicago Board of Trade (Agricultural contracts)

Index Name	Macquarie Corn Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTCXA
Commodity	Corn
Trading Facility	CBOT
Contract Range	H,K,N,U,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3rd Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	Chicago Board of Trade (Agricultural contracts)

Index Name	Macquarie Cocoa Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTCCA
Commodity	Cocoa
Trading Facility	NYBOT
Contract Range	H,K,N,U,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3rd Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	ICE Futures US (Coffee Sugar and Cocoa contracts)

Index Name	Macquarie WTI Crude Oil Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTCLA
Commodity	WTI Crude Oil
Trading Facility	NYMEX

Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3rd Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	New York Mercantile Exchange

Index Name	Macquarie Cotton Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTCTA
Commodity	Cotton
Trading Facility	NYBOT
Contract Range	H,K,N,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3rd Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	ICE Futures US (Cotton and FCOJ contracts)

Index Name	Macquarie High Grade Copper Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTHGA
Commodity	High Grade Copper
Trading Facility	COMEX
Contract Range	H,K,N,U,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3rd Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	COMEX/Globex (CME Group)

Index Name	Macquarie Heating Oil Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTHOA
Commodity	Heating Oil
Trading Facility	NYMEX
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3rd Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	New York Mercantile Exchange

Index Name	Macquarie Coffee Extended Post Roll ER Index Version A
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Bloomberg Ticker	MQSCTKCA
Commodity	Coffee
Trading Facility	NYBOT
Contract Range	H,K,N,U,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3rd Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	ICE Futures US (Coffee Sugar and Cocoa contracts)

Index Name	Macquarie Wheat (Kansas) Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTKWA
Commodity	Wheat (Kansas)
Trading Facility	KCBOT
Contract Range	H,K,N,U,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3rd Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	Chicago Board of Trade (Agricultural contracts)

Index Name	Macquarie Live Cattle Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTLCA
Commodity	Live Cattle
Trading Facility	CME
Contract Range	G,J,M,Q,V,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3rd Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	Chicago Mercantile Exchange (Non-Dairy Commodity contracts)

Index Name	Macquarie Brent Crude Oil Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTCOA
Commodity	Brent Crude Oil
Trading Facility	ICE
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3rd Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00



Index Calendar	ICE Futures Europe (Crude and Refined contracts)
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Index Name	Macquarie Gas Oil Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTQSA
Commodity	Gas Oil
Trading Facility	ICE
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3rd Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	ICE Futures Europe (Crude and Refined contracts)

Index Name	Macquarie Natural Gas Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTNGA
Commodity	Natural Gas
Trading Facility	NYMEX
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z
Roll Length	2
Last Holding Date before (and excluding) 3 January 2022	The Index Business Day that is previous or equal to 3rd Trading Day before min(LTD, FND)
Last Holding Date from (and including) 3 January 2022	The Index Business Day that is previous or equal to 5th Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	New York Mercantile Exchange

Index Name	Macquarie Unleaded Gasoline Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTXBA
Commodity	Unleaded Gasoline
Trading Facility	NYMEX
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3rd Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	New York Mercantile Exchange

Index Name	Macquarie Soybeans Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTSXA
Commodity	Soybeans

Trading Facility	CBOT
Contract Range	F,H,K,N,X
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3rd Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	Chicago Board of Trade (Agricultural contracts)

Index Name	Macquarie Soybean Meal Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTMA
Commodity	Soybean Meal
Trading Facility	CBOT
Contract Range	F,H,K,N,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3rd Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	Chicago Board of Trade (Agricultural contracts)

Index Name	Macquarie Wheat (Chicago) Extended Post Roll ER Index Version A
Bloomberg Ticker	MQSCTWXA
Commodity	Wheat (Chicago)
Trading Facility	CBOT
Contract Range	H,K,N,U,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3rd Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	Chicago Board of Trade (Agricultural contracts)

Index Name	Macquarie Feeder Cattle Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTFCB
Commodity	Feeder Cattle
Trading Facility	CME
Contract Range	F,H,J,K,Q,U,V,X
Roll Length	4
Last Holding Date	The Index Business Day that is previous or equal to 15th Trading Day before LTD
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	Chicago Mercantile Exchange (Non-Dairy Commodity contracts)

Index Name	Macquarie Lean Hogs Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTLHB
Commodity	Lean Hogs
Trading Facility	CME
Contract Range	G,J,M,N,Q,V,Z
Roll Length	7
Last Holding Date	The Index Business Day that is previous or equal to the 3rd Trading Day before the start of the delivery month of the Contract
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	Chicago Mercantile Exchange (Non-Dairy Commodity contracts)

Index Name	Macquarie Aluminium Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTLAB
Commodity	Aluminium
Trading Facility	LME
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3 Trading Days before LTD
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	London Metal Exchange

Index Name	Macquarie Copper Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTLPB
Commodity	Copper
Trading Facility	LME
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3 Trading Days before LTD
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	London Metal Exchange

Index Name	Macquarie Nickel Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTLNB
Commodity	Nickel
Trading Facility	LME
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3 Trading Days before LTD
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	London Metal Exchange

Index Name	Macquarie Lead Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTLLB
Commodity	Lead
Trading Facility	LME
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3 Trading Days before LTD
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	London Metal Exchange

Index Name	Macquarie Zinc Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTLXB
Commodity	Zinc
Trading Facility	LME
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 3 Trading Days before LTD
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	London Metal Exchange

Index Name	Macquarie Soybean Oil Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTBOB
Commodity	Soybean Oil
Trading Facility	CBOT
Contract Range	F,H,K,N,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 5th Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	Chicago Board of Trade (Agricultural contracts)

Index Name	Macquarie Corn Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTCXB
Commodity	Corn
Trading Facility	CBOT
Contract Range	H,K,N,U,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 5th Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	Chicago Board of Trade (Agricultural contracts)

Index Name	Macquarie WTI Crude Oil Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTCLB
Commodity	WTI Crude Oil
Trading Facility	NYMEX
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 5th Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	New York Mercantile Exchange

Index Name	Macquarie Cotton Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTCTB
Commodity	Cotton
Trading Facility	NYBOT
Contract Range	H,K,N,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 5th Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	ICE Futures US (Cotton and FCOJ contracts)

Index Name	Macquarie High Grade Copper Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTHGB
Commodity	High Grade Copper
Trading Facility	COMEX
Contract Range	H,K,N,U,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 5th Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	COMEX/Globex (CME Group)

Index Name	Macquarie Heating Oil Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTHOB
Commodity	Heating Oil
Trading Facility	NYMEX
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 5th Trading Day before min(LTD, FND)

Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	New York Mercantile Exchange

Index Name	Macquarie Coffee Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTKCB
Commodity	Coffee
Trading Facility	NYBOT
Contract Range	H,K,N,U,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 5th Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	ICE Futures US (Coffee Sugar and Cocoa contracts)

Index Name	Macquarie Wheat (Kansas) Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTKWB
Commodity	Wheat (Kansas)
Trading Facility	KCBOT
Contract Range	H,K,N,U,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 5th Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	Chicago Board of Trade (Agricultural contracts)

Index Name	Macquarie Live Cattle Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTLCB
Commodity	Live Cattle
Trading Facility	CME
Contract Range	G,J,M,Q,V,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 5th Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	Chicago Mercantile Exchange (Non-Dairy Commodity contracts)

Index Name	Macquarie Brent Crude Oil Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTCOB
Commodity	Brent Crude Oil
Trading Facility	ICE
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z

Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 5th Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	ICE Futures Europe (Crude and Refined contracts)

Index Name	Macquarie Gas Oil Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTQSB
Commodity	Gas Oil
Trading Facility	ICE
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 5th Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	ICE Futures Europe (Crude and Refined contracts)

Index Name	Macquarie Natural Gas Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTNGB
Commodity	Natural Gas
Trading Facility	NYMEX
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 5th Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	New York Mercantile Exchange

Index Name	Macquarie Unleaded Gasoline Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTXBB
Commodity	Unleaded Gasoline
Trading Facility	NYMEX
Contract Range	F,G,H,J,K,M,N,Q,U,V,X,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 5th Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	New York Mercantile Exchange

Index Name	Macquarie Soybeans Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTSXB

Commodity	Soybeans
Trading Facility	CBOT
Contract Range	F,H,K,N,X
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 5th Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	Chicago Board of Trade (Agricultural contracts)

Index Name	Macquarie Soybean Meal Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTSMB
Commodity	Soybean Meal
Trading Facility	CBOT
Contract Range	F,H,K,N,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 5th Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	Chicago Board of Trade (Agricultural contracts)

Index Name	Macquarie Wheat (Chicago) Extended Post Roll ER Index Version B
Bloomberg Ticker	MQSCTWXB
Commodity	Wheat (Chicago)
Trading Facility	CBOT
Contract Range	H,K,N,U,Z
Roll Length	2
Last Holding Date	The Index Business Day that is previous or equal to 5th Trading Day before min(LTD, FND)
Index Start Level	100
Index Start Date	01-Mar-00
Index Calendar	Chicago Board of Trade (Agricultural contracts)