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## **The JPMorgan Core Commodity Investable Global Asset Rotator**

### **Synthetic Strategy Rules**



## PART A

### 1. This Document

#### 1.1 Introduction

This document comprises the rules of the JPMorgan Core Commodity Investable Global Asset Rotator, a family of notional rule-based proprietary commodity indices which utilise momentum investment strategies (which, together with the Appendix and related Annexes shall constitute the “**Rules**”). Part A of the Rules prescribes the index methodology applicable for the Index (known as “**Core Commodity-IGAR**” and/ or the “**Index**”), the key components of which are set out in the Appendix and its Annexes.

#### 1.2 Publication of the Rules

These Rules are published by J.P. Morgan Securities Ltd. of 125 London Wall, London EC2Y 5AJ, UK in its capacity as Calculation Agent. See Section 6 for further information in connection with publication of the Rules.

#### 1.3 Amendments

These Rules may be amended from time to time at the discretion of the Calculation Agent and will be re-published (see Section 1.2) no later than one calendar month following such amendment.

#### 1.4 Availability of Rules

Copies of the Rules may be obtained by investors free of charge upon request to the Calculation Agent.

#### 1.5 Risks & disclaimers

Please refer to the Risk Factors and associated Disclaimers set out in Parts B and C of the Rules. No assurance can be given that the investment strategy used to construct Core Commodity-IGAR will be successful or that Core Commodity-IGAR will outperform any alternative basket or investment strategy that might be constructed from the Constituents.

#### 1.6 No offer of securities

These Rules neither constitute an offer to purchase or sell securities nor specific advice of whatever form (tax, legal, accounting or regulatory) in respect of any investment strategy.

#### 1.7 Rules of construction

A reference to a “Section” means a reference to a clause in this Part A unless the otherwise specified and a reference to any “Annex” means a reference to each such specified annex in Part D of this document.

## 2. Summary of Index

### 2.1 Index comprised of variable number of synthetic sub-indices

Each Index represents the performance of an equally-weighted exposure to a number of synthetically constructed sub-indices (each a **"Component Index"**).

### 2.2 Construction of Component Indices

#### 2.2.1 Constituents change on Rebalancing Dates

Component Indices are constructed by reference to the performance of their individual constituents (the **"Constituents"**). The Constituents are selected from a number of sub-asset classes from the global commodities market identified in Annex 5. Subject to the occurrence of any Extraordinary Event (see Section 7), each Component Index shall comprise the same Constituents until the immediately following Rebalancing Date for such Component Index.

#### 2.2.2 Difference between Component Indices

The sole difference between Component Indices is that they rebalance on different days on each month, subject to the effect of an occurrence of a Disrupted Day which may cause the Component Indices to rebalance on the same Index Business Day.

### 2.3 Rebalancing methodology

The rebalancing methodology is carried out on the principal of "momentum investing" which has as its primary assumption that if certain Constituents performed well in the past, they will continue to perform well in the future and the converse applies with respect to poorly performing assets.

### 2.4 Synthetic strategy, no underlying assets in basket

Core Commodity-IGAR is a notional basket of assets because there is no actual portfolio of assets to which any person is entitled or in which any person has any ownership interest. Core Commodity-IGAR merely identifies certain assets in the market, the performance of which is used as a reference point for the purposes of calculating the level of the Index.

## 3. Calculation Agent

### 3.1 Identity

JPMSL or any affiliate or subsidiary designated by it will act as calculation agent in connection with the Index (the **"Calculation Agent"**).

### 3.2 Calculation Agent determinations

All determinations of the Calculation Agent in respect of Core Commodity-IGAR and interpretation of the Rules shall be final, conclusive and binding and no person shall be entitled to make any claim against any of the Relevant Persons in respect thereof. Once a determination or calculation is made or action taken by the Calculation Agent or any other Relevant Person in respect of any aspect of the Core Commodity-IGAR, neither the Calculation Agent nor any other Relevant Person shall be under any obligation to revise any determination or calculation made or action taken for any reason.

### 3.3 Fee

The Calculation Agent shall accrue a fee equivalent to ninety-six basis points (0.96%) per year calculated daily on an Actual/360 basis and notionally deducted daily (in arrears) from the level of each Component Index on each Index Valuation Day. See section 2 of Annex 4 for calculations.

## 4. Calculating the Index Level

### 4.1 Frequency

Subject to the occurrence or existence of a Disrupted Day or a Limit Day, the Calculation Agent shall, based on the USD Levels of the Constituents of the relevant Component Indices as of such Index Valuation Day, calculate the Index Level in respect of each Index Valuation Day for Index publication purposes (although the Calculation Agent may calculate the Index Level with greater frequency and share this calculation with its affiliates for internal purposes).

### 4.2 Weighting of Component Indices

#### 4.2.1 Detail in Appendix

The Appendix sets out the number of Component Indices and the relevant percentage by which such Component Indices are weighted for the Index (e.g. the existence of 5 Component Indices means that each will have a 20% weighting in constituting the Index).

#### 4.2.2 Component Index reweighting

See Annex 1.

#### 4.2.3 Reweighting Dates

The dates for reweighting of the Component Indices for the respective Index are set out in the Appendix, Section 2.

#### 4.2.4 When reweighting takes effect

Reweighting will take effect each month immediately following the Official Close on the relevant Reweighting Date, unless such Reweighting Date is a Disrupted Day or a Limit Day.

### 4.3 Constituent Rebalancing

#### 4.3.1 Detail in Appendix

The Appendix sets out the number of Constituents and the relevant percentage by which such Constituent is weighted for each Component Index.

#### 4.3.2 Constituent rebalancings

On the first Index Valuation Day of every month (the “**Rebalancing Selection Date**”) the Calculation Agent:

- (a) shall determine the Performance of each Constituent in respect of the previous 12 calendar months (being the “**Relevant Observation Period**”); and
- (b) determine the weight to be assigned to each Constituent on the close of the relevant Rebalancing Date for each Component Index,

in accordance with the methodology set out in the Appendix and Annex 2 respectively.

#### 4.3.3 Rebalancing dates

The dates for rebalancing the Constituents of each Component Index are set out in the Appendix, Section 3.

#### 4.3.4 When rebalancing takes effect

Rebalancing will take effect immediately following the Official Close of the relevant Rebalancing Date, provided that if such day is a Disrupted Day or a Limit Day in respect of a Constituent (an “**Affected Constituent**”), rebalancing in respect of such Affected Constituent shall occur on the day on which it has been valued in accordance with Section 5.2(b)(ii).

### 5. Effect of Market Disruption Events and Limit Days

#### 5.1 No effect on Rebalancing Selection Dates

The Rebalancing Selection Date will not be affected by Market Disruption or Limit Events.

#### 5.2 Effect on Index Valuation Days (including Reweighting Dates and Rebalancing Dates)

In relation to each Component Index, if any Index Valuation Day is a Disrupted Day or a Limit Day in respect of any Affected Constituent, then:

- (a) such Index Valuation Day shall remain as the day originally scheduled (the “**Original IVD**”); and
- (b) calculation of the level of the Component Index for such valuation day will be calculated retrospectively based on:
  - (i) the USD Levels of the Constituents (other than the Affected Constituent(s)) on Original IVD; and
  - (ii) the USD Level of each Affected Constituent on the next Scheduled Trading Day that is not a Limit Day or a Disrupted Day for such Constituent,

provided that, if all ten (10) Index Valuation Days immediately following the Original IVD are either Disrupted Days or Limit Days for any Affected Constituent(s), the Calculation Agent shall, on the 10<sup>th</sup> Index Valuation Day following the Original IVD, calculate:

- (A) the USD Level(s) for such Affected Constituent(s);
- (B) the level of the Component Index for the relevant Index Valuation Day; and
- (C) the Index Level for each affected Index Valuation Day,

acting in good faith using such information and/or methods as it determines, in its reasonable discretion, are appropriate (notwithstanding that such day is a Disrupted Day or a Limit Day for one or more Constituents).

## **6. Publication of Index Levels**

### **6.1 Publication source**

The Index Level shall be published on Bloomberg®. (see Appendix 1, Section 1 for appropriate Bloomberg ticker).

### **6.2 Impact of force majeure on publication source**

The Calculation Agent shall not be obliged to provide the Index Level by any alternative method if the Bloomberg ticker is subject to any delay in or interruptions of publication or as a result of the occurrence of a Force Majeure Event.

### **6.3 No obligation to publish on Disrupted Days or Limit Days**

The Calculation Agent is not obliged to publish the Index Level in respect of any day which is a Disrupted Day or a Limit Day, although it may nevertheless do so retrospectively.

### **6.4 Format of publication; number of decimal places**

The Index Level will be reported to four (4) decimal places (although the Calculation Agent may maintain a record of the Index Level with greater precision for internal purposes) on every Index Valuation Day.

## **7. Extraordinary Events**

### **7.1 Successor Constituent**

If any Constituent is:

- (a) not calculated and announced by the relevant Index Sponsor but by a successor sponsor acceptable to the Calculation Agent; or
- (b) replaced by a successor index using, in the determination of the Calculation Agent, the same or substantially similar formula and method of calculation as used in the calculation of the relevant Constituent,

then in each case that successor index (the “**Successor Constituent**”) shall replace the relevant Constituent with effect from a date determined by the Calculation Agent who may make such adjustment to these Rules, as it determines in good faith is appropriate, to account for such change.

## 7.2 Alteration of Constituents

Without prejudice to the ability of the Calculation Agent to amend the Rules (see Section 1.3), the Calculation Agent may, acting in good faith and in a commercially reasonable manner:

- (a) exclude; or
- (b) substitute for,

any Constituent in circumstances where it considers it reasonably necessary to do so to reflect the intention of the Core Commodity-IGAR strategy, including (without prejudice to the generality of the foregoing) changes announced by an index sponsor relating to the modification, exclusion, inclusion or substitution of one Constituent or its futures and options contracts in the Standard & Poor's Goldman Sachs Commodity Index™, or any perception among market participants generally that the published USD Level of the relevant Constituent is inaccurate (and the Index Sponsor of such Constituent fails to correct such USD Level), and if it so excludes or substitutes for any Constituent, then the Calculation Agent may adjust the Rules as it determines in good faith to be appropriate to account for such exclusion or substitution on such date(s) selected by the Calculation Agent.

## 7.3 Material Change

If, at any time, the Index Sponsor of a Constituent:

- (a) announces that it will make a material change in the formula or the method of calculating that Constituent or in any other way materially modifies that Constituent (other than a modification prescribed in that formula or method to maintain that Constituent in the event of changes in constituent commodity futures and other routine events); or
- (b) permanently cancels the Constituent and no successor index exists or fails to calculate and announce the USD Level of the Constituent,

then the Calculation Agent shall remove such Constituent from the universe of the Constituents and may adjust the Rules as it determines in good faith to be appropriate to account for such change(s) on such date(s) selected by the Calculation Agent.

## 7.4 Cancellation of Index Licence

If, at any time:

- (a) the licence granted to the Calculation Agent by the Index Sponsor of any Constituent to use such Constituent for the purposes of Core Commodity-IGAR terminates; or
- (b) the Calculation Agent's right to use any Constituent for the purposes of Core Commodity-IGAR is otherwise impaired or ceases (for any reason),

then, the Calculation Agent shall remove such Constituent from the universe of the Constituents and may adjust the Rules as it determines in good faith to be appropriate to account for such change(s) on such date(s) selected by the Calculation Agent.

## **8. Corrections**

If:

- (a) the USD Level of any Constituent used to calculate the Index Level on any Index Valuation Day is subsequently corrected and the correction is published by the relevant Index Sponsor before the next Rebalancing Date; or
- (b) the Calculation Agent identifies an error or omission in any of its calculations or determinations in respect of Index Level,

then, the Calculation Agent may, if practicable and it considers such correction material, adjust or correct the published Index Level for such day and each subsequent Index Valuation Day and publish such corrected Index Level(s) as soon as reasonably practicable.

## **9. Responsibility for the Rules; Limitations on liability**

### **9.1 Calculation Agent standards**

The Calculation Agent shall act in good faith and in a commercially reasonable manner.

### **9.2 Ambiguities in the Rules**

Whilst these Rules are intended to be comprehensive, ambiguities may arise. If so, the Calculation Agent will resolve such ambiguities and, if necessary, amend these Rules to reflect such resolution.

### **9.3 Limitation of liability**

No Relevant Person shall have any responsibility to any person (whether as a result of negligence or otherwise) for any determinations made or anything done (or omitted to be determined or done) in respect of Core Commodity-IGAR or in respect of the publication of the Index Level (or failure to publish such level) or any use to which any person may put Core Commodity-IGAR or the Index Levels.

## **10. Miscellaneous**

### **10.1 Determinations**

Any determination required to be made or action required to be taken in respect of Core Commodity-IGAR on a day that is not an Index Valuation Day, shall be made or taken (as the case may be) on the next following Index Valuation Day.

### **10.2 Governing law**

These Rules shall be governed by and construed in accordance with the laws of England.



## 11. Definitions

Capitalised terms not otherwise defined herein shall have the following meanings:

<b>"Affected Constituent"</b>	see Section 4.3.4;
<b>"Calculation Agent"</b>	see Section 3;
<b>"Constituent"</b>	means a constituent of the Index described in Annex 5 ( <i>The Constituents</i> );
<b>"Core Commodity-IGAR"</b>	means the index documented in accordance with these Rules referenced in the Appendix, Section 1;
<b>"Disrupted Day"</b>	means a day on which a Market Disruption Event occurs or exists;
<b>"Exchange"</b>	means, in respect of any Constituent, any exchange on which futures or options contracts relating to that Constituent are traded;
<b>"Force Majeure Event"</b>	any event beyond the control of the Calculation Agent, including any act of God, act of governmental authority, or act of public enemy, or due to war, the outbreak or escalation of hostilities, fire, flood, civil commotion, insurrection, labour difficulty including, without limitation, any strike, other work stoppage, or slow-down, severe or adverse weather conditions, power failure, communications line or other technological failure;
<b>"Index Level"</b>	means the level of the Index, determined in accordance with the Rules;
<b>"Index Sponsor"</b>	means, in respect of a Constituent, the corporation or other entity that (a) is responsible for setting and reviewing the rules and procedures and the methods of calculation and adjustments, if any, related to such Constituent and (b) announces (directly or through an agent) the USD Level of such Constituent on a regular basis;
<b>"Index Valuation Day"</b>	means each day (other than a Saturday or a Sunday): (i) on which commercial banks in both New York and London are open generally for business (including for dealings in foreign exchange and foreign currency deposits); and (ii) which is a Scheduled Trading Day for all Constituents;

<b>"Limit Day"</b>	means, in respect of a Constituent, any day on which there is a limitation on, or suspension of, the trading of options or futures contracts on the related commodity imposed by any relevant Exchange by reason of movements exceeding "limit up" or "limit down" levels permitted by such Exchange and which, in the opinion of the Calculation Agent, is material taking into account generally prevailing Scheduled Trading Day trading volumes and other market conditions;
<b>"Market Disruption Event"</b>	means in respect of a Constituent and an Index Valuation Day (as the case may be), the failure by the relevant Index Sponsor to calculate and publish the USD Level for such Constituent;
<b>"Official Close"</b>	means, in respect of all Constituents and on any Index Valuation Day, the latest to occur (monitored on a continuous 24 hour basis) of the official closing times of each relevant Exchange;
<b>"Performance"</b>	has the meaning given to such term in Section 1 ( <i>Performance Calculation</i> ) of Annex 4;
<b>"Rebalancing Date"</b>	means, in relation with any Component Index, (subject to the occurrence of a Market Disruption Event) the Index Valuation Day of every month specified in the Appendix, Section 1;
<b>"Rebalancing Selection Date"</b>	means the first Index Valuation Day of each month (see Section 4.3.2);
<b>"Relevant Observation Period"</b>	means, in respect of any Constituent and any Rebalancing Selection Date, the period commencing on, and including, the last Index Valuation Day of the month occurring thirteen (13) calendar months before the month in which such Rebalancing Selection Date occurs (and, if such day was deemed to have been a Disrupted Day, then the immediately preceding Index Valuation Day for such Affected Constituent which was not a Disrupted Day), to, and including, the last Index Valuation Day of the immediately preceding month to that in which the Rebalancing Selection Date occurs (and, if such day was deemed to have been a Disrupted Day, then the immediately preceding Index Valuation Day for such Affected Constituent which was not a Disrupted Day);

<b>"Relevant Person"</b>	means the Calculation Agent or any of its affiliates or subsidiaries or their respective directors, officers, employees, representatives, delegates or agents (as the case may be);
<b>"Reweighting Date"</b>	means, subject to the occurrence of a Market Disruption Event, the Index Valuation Day of every month specified in the Appendix;
<b>"Rules"</b>	means the rules of the Core Commodity-IGAR as set out in this document (including the Appendix and all Annexes), as the same may be amended, supplemented and/or restated from time to time;
<b>"Scheduled Trading Day"</b>	means, in respect of a Constituent, a day on which the relevant Index Sponsor is scheduled to publish the USD Level of such Constituent and the principal exchange for futures and options contracts on such Constituent is scheduled to be open for trading for its regular trading session;
<b>"Successor Constituent"</b>	has the meaning give to such term in paragraph 7.1 ( <i>Successor Constituent</i> ) of these Rules;
<b>"USD"</b>	means the lawful currency of the United States of America; and
<b>"USD Level"</b>	means, in respect of a Constituent, (i) the closing level of such Constituent as calculated and published by the relevant Index Sponsor, or (ii) in the event of circumstances set out in Section 5.2, as reasonably calculated and published by the Calculation Agent, or (iii) in the event of circumstances set out in Section 7.1, as calculated and published by the sponsor of the relevant Successor Constituent.

## PART B

### RISK FACTORS

The following list of risk factors does not purport to be a complete enumeration or explanation of all the risks associated with Core Commodity-IGAR and should be read in conjunction with the relevant Appendix.

*1. Past performance should not be used as a guide to future performance*

The past performance of any other Core Commodity-IGAR index should not be used as a guide to future performance of that index or the Index. Any back-testing or similar analysis performed by any person in respect of Core Commodity-IGAR must be considered illustrative only and may be based on estimates or assumptions not used by the Calculation Agent when determining the Index Level pursuant to these Rules.

*2. Synthetic Exposure to Commodities*

The Core Commodity-IGAR Indices are purely synthetic. There is no pool of futures to which any person is entitled or in which any person has any ownership interest or which serve as collateral for the return on any product referencing Core Commodity-IGAR.

*3. Constituents are "excess return"*

The return from investing in futures contracts derives from three sources:

- (a) changes in the price of the relevant futures contracts (which is known as the "**price return**");
- (b) any profit or loss realised when rolling the relevant futures contracts (which is known as the "**roll return**"); and
- (c) any interest earned on the cash deposited as collateral for the purchase of the relevant futures contracts (which is known as the "**collateral return**").

The Constituents are "excess return" indices which means that they measure the returns accrued from investing in uncollateralized futures or, in other words, the sum of the price return and the roll return associated with an investment in futures. Investing in any product linked to the Constituents will therefore not generate the same return as one would obtain from investing directly in the relevant futures contracts.

*4. Certain futures contracts lack market depth – impact on liquidity and pricing*

Many commodities, like those in the energy and industrial metals sectors, have liquid futures contracts that expire every month. Therefore, these commodities are rolled forward every month. Other commodities, most notably agricultural and livestock products, only have a few contract months each year that trade with sufficient liquidity. Thus, these commodities, with futures that expire less frequently, roll forward less frequently than every month. The risk of aberrational liquidity or pricing around the maturity date of a commodity futures contract is greater than in the case of other futures contracts because (among other factors) a number of market participants take delivery of the underlying commodities.

## *5. Commodity prices impacted by global macro-economic and political factors*

Prices for commodities are affected by a variety of factors, including changes in supply and demand relationships, governmental programmes and policies, national and international political and economic events, wars and acts of terror, changes in interest and exchange rates, trading and speculative activities in commodities and related contracts, weather, and agricultural, trade, fiscal, monetary and exchange control policies. The price volatility of each commodity also affects the value of the futures and forward contracts related to that commodity and therefore its price at any such time. The price of any one commodity may be correlated to a greater or lesser degree with any other commodity and factors affecting the general supply and demand as well as the prices of other commodities may affect the particular commodity in question.

In respect of commodities in the energy sector, due to the significant level of its continuous consumption, limited reserves, and oil cartel controls, energy prices are subject to rapid price increases in the event of perceived or actual shortages. These factors (when combined or in isolation) may affect the price of futures contracts and, as a consequence, the performance of the Constituents and the Index Level.

The commodities markets are subject to temporary distortions or other disruptions due to various factors, including the lack of liquidity in the markets, the participation of speculators and government regulation and intervention. These circumstances could adversely affect the price of futures contracts and, therefore, the performance of the Constituents and the Index Level.

## *6. Momentum investment strategy*

Core Commodity-IGAR is constructed using what is generally known as a momentum investment strategy. Momentum investing generally seeks to capitalize on trends in the price of assets.

**No assurance can be given that the investment strategy used to construct Core Commodity-IGAR will be successful or that Core Commodity-IGAR will outperform any alternative basket that might be constructed from the Constituents.**

## *7. Return on synthetic basket necessarily different from investment in physical underlyings*

The results that may be obtained from investing in any security or investment or otherwise participating in any transaction linked to Core Commodity-IGAR might well be significantly different from the results that could theoretically be obtained from a direct investment in the Constituents or any related derivatives. Such differences may arise for a number of reasons including, but not limited to, the fees (if any) deducted from the Index Level. As stated, the Calculation Agent is entitled to a fee (described in Section 3.3 and Annex 4, Section 4) which reduces the Index Level when deducted.

## *8. Diversification*

Diversification is generally considered to reduce the amount of risk associated with generating returns, however can be no assurance that Core Commodity-IGAR will be sufficiently diversified at any time to reduce or minimize such risks to any extent.

*9. Calculation Agent discretion*

The Calculation Agent is entitled to exercise certain discretions in relation to Core Commodity-IGAR, including but not limited to, the determination of the values to be used in the event of Market Disruption Events and the interpretation of these Rules. Although the Calculation Agent will make all determinations and take all action in relation to Core Commodity-IGAR acting in good faith, such discretion could have an impact, positive or negative, on the Index Level.

*10. Separation of Rebalancing Dates*

The weight of the Constituents of each Component Index of Core Commodity-IGAR may fluctuate during the period from (and excluding) one Rebalancing Date to (and including) the next following Rebalancing Date due to movements in the USD Level of each of those Constituents. Similarly, the weight of the Component Indices of Core Commodity-IGAR may fluctuate during the period from (and excluding) one Reweighting Date to (and including) the next following Reweighting Date due to movements in the USD Level of each of the underlying Component Indices. Each of these factors may potentially dilute the return of the Index relative to a direct investment in the underlying Constituents over the same period.

*11. Potential Conflicts of Interest*

Potential conflicts of interest may exist in the structure and operation of Core Commodity-IGAR and the conduct of normal business activities by any Relevant Person. Please refer to the following Part C for further details.

**The foregoing list of risk factors is not intended to be exhaustive. Anyone reading these Rules should seek such advice as they consider necessary from their professional advisors, legal, tax or otherwise, without reliance on any Relevant Person to satisfy themselves that they fully understand these Rules and the risks associated with Core Commodity-IGAR.**

## Part C

### NOTICES, DISCLAIMERS AND CONFLICTS

These Rules have been prepared solely for informational purposes and nothing herein constitutes an offer to buy or sell any securities, participate in any transaction or adopt any investment strategy or as legal, tax regulatory or accounting advice. The Rules are of the date specified above and may change at any time without prior notice.

No Relevant Person makes any representation or warranty, whatsoever, express or implied, as to the results that may be obtained through the use of these Rules or Core Commodity-IGAR.

Each Relevant Person hereby expressly disclaims, to the fullest extent permitted by law, all warranties of accuracy, completeness, merchantability, or fitness for a particular purpose with respect to any information contained in this document and no Relevant Person shall have any liability (direct or indirect, special, punitive, consequential or otherwise) to any person even if notified of the possibility of any such damages.

The Calculation Agent is under no obligation to continue the calculation, publication and dissemination of the Index or the Index Level.

During the course of their normal business, the Calculation Agent or any other Relevant Person may enter into or promote, offer or sell transactions or investments (structured or otherwise) linked to Core Commodity-IGAR and/or any of the Constituents. In addition, any Relevant Person may have, or may have had, interests or positions, or may buy, sell or otherwise trade positions in or relating to Core Commodity-IGAR or any of the Constituents, or may invest or engage in transactions with other persons, or on behalf of such persons relating to any of these items. Such activity may or may not have an impact on the Index Level but all persons reading these Rules should be aware that a conflict of interest could arise where anyone is acting in more than one capacity.

Neither the Calculation Agent nor any other Relevant Person has any duty to consider the circumstances of any person when participating in such transactions or to conduct themselves in a manner that is favourable to any person.

The Rules have been developed with the possibility of the Calculation Agent or any of the Relevant Persons entering into or promoting, offering or selling transactions or investments (structured or otherwise) linked to Core Commodity-IGAR, and hedging the obligations that might arise under any such transactions or investments.

The Index provides an exposure of a notional basket of assets because there is no actual portfolio of assets to which any person is entitled or in which any person has any ownership interest. Core Commodity-IGAR merely identifies certain assets in the market, the performance of which will be used as a reference point for the purposes of calculating the Index Level.

The Calculation Agent receives a fee of ninety-six basis points (0.96%) per annum for its services. The fee is deducted on each Index Valuation Day from the level of all Component Indices, calculated on an actual/360 basis.

The Calculation Agent need not publish the Index Level by any alternative method if the relevant Bloomberg ticker (as identified in the Appendix) is subject to any delay in or interruptions of publication for any reason including the occurrence of a Force Majeure Event.

No one may reproduce or disseminate the information contained in these Rules or the Index Level without the prior written consent of the Calculation Agent. Core Commodity-IGAR is the intellectual property of the Calculation Agent and may only be used (as an underlying for financial products or otherwise) by third parties who have entered into a licence agreement with the Calculation Agent. These Rules are not intended for distribution to, or use by any person in, a jurisdiction where such distribution is prohibited by law or regulation.

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## Part D

### Appendix 1: INDEX KEY INFORMATION

Capitalised terms not otherwise defined in this Appendix have the meaning as set out in the Rules.

#### 1. Trade Specific Inputs:

<i>Index Name:</i>	Core Commodity-IGAR Long-Short Index
<i>Bloomberg ticker:</i>	CMDULSER
<i>Number of Component Indices:</i>	5 ("CI")
<i>Number of Constituents per Ct.</i>	14 ("NC")
<i>Maximum Number of Ranked Constituents per Ct.</i>	7 ("MNRC")
<i>Target Weight:</i>	means $[1/MNRC]$ .
<i>Negative Target Weight:</i>	means $[-1/MNRC]$ .
<i>Zero Target Weight:</i>	means zero per cent (0%).

#### 2. Reweighting

<i>Reweighting Methodology:</i>	The Index shall rebalance monthly on the relevant Reweighting Date, in accordance with the Reweighting Algorithm.
<i>Reweighting Dates:</i>	monthly on the 11 <sup>th</sup> Index Valuation Day, subject to the occurrence of a Disrupted Day.
<i>Reweighting Algorithm:</i>	See Annex 1 to this Appendix

#### 3. Rebalancing

<i>Rebalancing Methodology:</i>	Each Component Index shall rebalance monthly on the relevant Rebalancing Date, based on the Performance of the Constituents over the Relevant Observation Period in accordance with the Rebalancing Algorithm.
<i>Rebalancing Dates:</i>	Means the 12 <sup>th</sup> , 13 <sup>th</sup> , 14 <sup>th</sup> , 15 <sup>th</sup> and 16 <sup>th</sup> Index Valuation Day of each month.
<i>Performance:</i>	See Annex 4
<i>Relevant Observation Period:</i>	See Annex 2
<i>Rebalancing Algorithm:</i>	See Annex 2

## 4. Rebalancing Steps

### 4.1 Determination of Strongest and Weakest Constituents

In order to rebalance each Component Index, on each Rebalancing Selection Date, the Calculation Agent shall determine both the Strongest Constituents and the Weakest Constituents by:

- a. calculating the Performance of each Constituent over the Relevant Observation Period using the Performance Calculation in Annex 4 hereto;
- b. ranking all Constituents with a positive Performance over the Relevant Observation Period according to their Performances in descending order from the strongest to the weakest and applying the Long Consistency Test (see Section 5.1 hereof) to such Constituents; and
- c. ranking the Constituents with a negative or zero Performance over the Relevant Observation Period according to their Performances in ascending order from the weakest to the strongest and applying the Short Consistency Test (see Section 5.2 hereof).

### 4.2 Ranking the Constituents

#### 4.2.1 Strongest Constituents

The Constituents with a positive Performance which have successfully passed the Long Consistency Test are the eligible long Constituents (the “**Eligible Long Constituents**”). Among the Eligible Long Constituents, those which display the strongest positive Performance, subject to the MNRC, are termed the strongest Constituents (the “**Strongest Constituents**”) and are assigned the Target Weight. The Target Weight shall be assigned to each of the Strongest Constituents even if their number is less than the MNRC.

#### 4.2.2 Weakest Constituents

The Constituents with a negative or zero Performance which have successfully passed the Short Consistency Test are the eligible short Constituents (the “**Eligible Short Constituents**”). Among the Eligible Short Constituents, those which display the weakest negative or zero Performance, subject to the MNRC, are the weakest Constituents (the “**Weakest Constituents**”) and are assigned the Negative Target Weight. The Negative Target Weight shall be assigned to each of the Weakest Constituents even if their number is less than the MNRC.

#### 4.2.3 The remaining Constituents are zero weighted

The remaining Constituents (if any) are assigned the Zero Target Weight.

#### 4.2.4 Strongest Constituents and Weakest Constituents never to exceed the MNRC

The Calculation Agent shall calculate the Performance of each Constituent to the required number of decimal places to ensure that neither the number of Strongest Constituents nor the number of Weakest Constituents ever exceeds the MNRC.

### 4.3 Rebalancing inputs

The Strongest Constituents and the Weakest Constituents are used as inputs in the Rebalancing Algorithm run on the immediately following Rebalancing Date for such Component Index.

## 5. Consistency Tests

### 5.1 The Long Consistency Test

5.1.1 The Long Consistency Test is applied to Constituents displaying a positive Performance.<sup>1</sup>

On each Rebalancing Selection Date (the “**Relevant Rebalancing Selection Date**”), the Calculation Agent shall calculate the “**Consistency**” of each Constituent for which the Performance is a positive number in accordance with the following formula:

$$Consistency_i(Month_m) = \sum_{h=1}^{h=12} Indicator_i(Month_{m-h+1})$$

Where:

$$Indicator_i(Month_{m-h+1}) = \begin{cases} C_h & \text{if } Level_i(Month_{m-h+1}) > Level_i(Month_{m-h}) \\ 0 & \text{Otherwise} \end{cases}$$

Where:

$Consistency_i(Month_m)$  is the Consistency of the  $i^{th}$  Constituent at the Relevant Rebalancing Selection Date.

$Level_i(Month_{m-h+1})$  is the USD Level of the  $i^{th}$  Constituent at the close of the last Index Valuation Day of the  $h^{th}$  calendar month preceding the Relevant Rebalancing Selection Date which is not a Disrupted Day for the Constituent in question.

$Level_i(Month_{m-h})$  is the USD Level of the  $i^{th}$  Constituent at the close of the last Index Valuation Day of the  $(h+1)^{th}$  calendar month preceding the Relevant Rebalancing Selection Date which is not a Disrupted Day for the Constituent in question.

$C_h$  is defined by  $C_h = A \times e^{-r \cdot (h-1)}$

$A, r$  are constants that are calibrated so that:  $\frac{C_1}{C_{12}} = 5$  and

$$\sum_{h=1}^{12} C_h = 12,$$

which gives  $A=1.97449$   $r=0.14631$  to an accuracy of 5 decimal places.

### 5.1.2 Requirement to pass the Long Consistency Test

The  $i^{th}$  Constituent will be deemed to have successfully passed the Long Consistency Test on the Relevant Rebalancing Selection Date if:

$$Consistency_i(Month_m) \geq 6$$

---

<sup>1</sup> The Long Consistency Test is designed to identify the Constituents which are showing consistent recent increases in price on the basis of monthly observations where recent months are weighted more significantly than earlier months.

## 5.2 Short Consistency Test

5.2.1 The Short Consistency Test is applied to Constituents displaying a negative or zero Performance.<sup>2</sup>

On each Relevant Rebalancing Selection Date, the Calculation Agent shall calculate the “**Short Consistency**” of each Constituent of the Index in accordance with the following formula:

$$ConsistencyS_i(Month_m) = \sum_{h=1}^{h=12} IndicatorS_i(Month_{m-h+1})$$

Where:

$$IndicatorS_i(Month_{m-h+1}) = \begin{cases} C_h & \text{if } Level_i(Month_{m-h+1}) < Level_i(Month_{m-h}) \\ 0 & \text{Otherwise} \end{cases}$$

Where:

$Level_i(Month_{m-h+1})$ ,  $Level_i(Month_{m-h})$  and  $C_h$  are defined in Section 5.1 hereof.

### 5.2.2 Requirement to pass the Short Consistency Test

The  $i^{th}$  constituent will be deemed to have successfully passed the “**Short Consistency Test**” on the Relevant Rebalancing Selection Date if:

$$ConsistencyS_i(Month_m) \geq 6$$

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<sup>2</sup> The Short Consistency Test is designed to identify the Constituents which are showing consistent recent decreases in price on the basis of monthly observations where recent months are weighted more significantly than earlier months.

## Annex 1 - Re-weighting Algorithm

Section 1: Index commencement date and commencement level

The Index's starting level was 100 on 15<sup>th</sup> September 2006 (the "First Index Valuation Day"), as follows:

$$CMDULSER(t_0) = 100$$

Section 2: Index Level in respect of any Index Valuation Day t

At the close of each Index Valuation Day t (the "Relevant Index Valuation Day"), the Index Level shall be calculated by the Calculation Agent in accordance with the following formula:

$$CMDULSER(t) = CMDULSER(RWD_{n-1}) \times \left[ 1 + \frac{1}{CI} \times \sum_{k=1}^{CI} \left( \frac{Component\ Index_k(t)}{Component\ Index_k(RWD_{n-1})} - 1 \right) \right]$$

Where:

$CMDULSER(t)$  is the Index Level on the relevant Index Valuation Day.

$n$  is the number of Reweighting Dates from, and including, the First Index Valuation Day to, and including,  $RWD_{n-1}$ .

$RWD_{n-1}$  is the Reweighting Date immediately preceding the Relevant Index Valuation Day.

$CMDULSER(RWD_{n-1})$  is the Index Level on the Reweighting Date immediately preceding the Relevant Index Valuation Day, rounded to 4 decimal places.

$Component\ Index_k(t)$  is the Component Index level for the k<sup>th</sup> Component Index on the relevant Index Valuation Day, rounded to 4 decimal places.

$Component\ Index_k(RWD_{n-1})$  is the Component Index level for the k<sup>th</sup> Component Index on the Reweighting Date immediately preceding the Relevant Index Valuation Day, rounded to 4 decimal places.

## Annex 2 -Rebalancing Algorithm

### Section 1: Component Indices commencement date and commencement level

Each Component Index k's starting level was 100 on 15<sup>th</sup> September 2006 (the "**First Index Valuation Day**"), as follows:

$$\text{Component Index}_k(t_0) = 100$$

### Section 2: Component Indices level in respect of any Index Valuation Day t

At the close of each Index Valuation Day t (the "**Relevant Index Valuation Day**"), the k<sup>th</sup> Component Index level shall be calculated by the Calculation Agent in accordance with the following formula:

$$\begin{aligned} \text{Component Index}_k(t) = \\ \text{Component Index}_k(RD_{n-1,k}) \times \left\{ 1 + \sum_{i=1}^{NC} \left[ WC_i(RD_{n-1,k}) \times \left( \frac{Level_i(t)}{Level_i(RD_{n-1,k})} - 1 \right) \right] \right\} \times (1 - Fee_t) \end{aligned}$$

Where:

$\text{Component Index}_k(t)$  is the index level of the k<sup>th</sup> Component Index on the Relevant Index Valuation Day.

$n$  is the number of Rebalancing Dates for the k<sup>th</sup> Component Index from, and including, the First Index Valuation Day to, and including,  $RD_{n-1,k}$ .

$RD_{n-1,k}$  is the Rebalancing Date for the k<sup>th</sup> Component Index immediately preceding the Relevant Index Valuation Day.

$Level_i(t)$  is the USD Level of the i<sup>th</sup> Constituent at the close of the Relevant Index Valuation Day t.

$Level_i(RD_{n-1,k})$  is the USD Level of the i<sup>th</sup> Constituent at the close of the Rebalancing Date for the k<sup>th</sup> Component Index immediately preceding the Relevant Index Valuation Day.

$WC_i(RD_{n-1,k})$  is any of the Target Weight, the Negative Target Weight or the Zero Target Weight of the i<sup>th</sup> Constituent implemented at the close of the Rebalancing Date for the k<sup>th</sup> Component Index immediately preceding the Relevant Index Valuation Day.

$Fee_t$  See Annex 4.

$\text{Component Index}_k(RD_{n-1,k})$  is the level of the k<sup>th</sup> Component Index on the Rebalancing Date for the k<sup>th</sup> Component Index immediately preceding the Relevant Index Valuation Day, rounded to 4 decimal places.

### **Annex 3 - Additional Risk Factors specific to the Core Commodity-IGAR Long-Short Index**

In addition to the general risk factors set out in Part B, the following risk factors are relevant to the Index:

#### *.1 The use of a “long-short strategy”*

The Index employs a technique generally known as “long-short” strategy. This means that each Component Index could include a number of notional long positions and a number of notional short positions. Unlike long positions, short positions are theoretically subject to unlimited risk of loss because there is no limit on the amount by which the price of the relevant asset may appreciate before the short position is closed. The Component Indices may engage in notional short positions in accordance with the Index calculation algorithms set out herein and it is therefore possible that during the time from, but excluding, one Rebalancing Date to, and including, the next following Rebalancing Date any notional short position included in any Component Index may appreciate substantially with an adverse impact on its Component the Index Level, and consequently, on the Index Level.

#### *.2 The use of leverage*

The Index employs a technique generally known as “long-short” strategy. This means that for each of the Component Indices, and as part of this strategy, the sum of the absolute values of the Target Weights may be greater than 1 and, consequently, any Component Index and hence the Index itself may include leverage. Leverage offers greater potential for enhanced performance of the Index, but also brings greater risk. Where the synthetic portfolio is leveraged, any price movements in the Constituents may result in a proportionately higher reduction in the Index Level than if they were not leveraged.

## Annex 4: Performance and Fee Calculation

### Section 1 Performance Calculation

On each Rebalancing Selection Date (the “**Relevant Rebalancing Selection Date**”), and in relation with each Component Index, the Performance over a period of 12 months of the  $i^{th}$  Constituent shall be calculated over the Relevant Observation Period by the Calculation Agent in accordance with the following formula:

$$Performance_i (Month_m) = \left[ \frac{Level_i (Month_m)}{Level_i (Month_{m-12})} \right] - 1, \text{ (expressed as a percentage)}$$

Where:

$Level_i (Month_m)$  is the USD Level of the  $i^{th}$  Constituent at the close of the last Index Valuation Day of the month immediately preceding the Relevant Rebalancing Selection Date which is not a Disrupted Day (which may be a different day for different Constituents).

$Level_i (Month_{m-12})$  is the USD Level of the  $i^{th}$  Constituent at the close of the last Index Valuation Day of the 12<sup>th</sup> calendar month preceding the Relevant Rebalancing Selection Date which is not a Disrupted Day (which may be a different day for different Constituents).

### Section 2: Fee Calculation

On each Index Valuation Day, the fee accruing to the Calculation Agent is defined as:

$$Fee_t = 1 - \left( 1 - \frac{0.96}{100} \right)^{\frac{CalendarDays}{360}}$$

Where:

$CalendarDays$  is the number of calendar days from, and including, the Rebalancing Date immediately preceding the Relevant Index Valuation Day to, but excluding, the Relevant Index Valuation Day.



## Annex 5: Constituents

Subject to Section 7 of Part A, the following table sets out the Constituents potentially comprising the Index, together with their respective Bloomberg® tickers.

<b>Asset</b>	<b>Bloomberg® ticker</b>	<b>Asset</b>	<b>Bloomberg® ticker</b>
<b>Energy:</b>		<b>Industrial metals</b>	
Brent Crude Oil	SPGCBRP	Nickel	SPGCIKP
Crude Oil	SPGCCLP	Lead	SPGCILP
Gasoline (RBOB)	SPGCHUP	Copper	SPGCICP
Heating Oil	SPGCHOP	Aluminium	SPGCIAP
Natural Gas	SPGCNGP		
<b>Precious metals</b>		<b>Agriculture</b>	
Silver	SPGCSIP	Soybean	SPGCSOP
Gold	SPGCGCP	Wheat	SPGCWHP
		Corn	SPGCCNP