

# JPMorgan Commodity Target Volatility Index Series

## Index Rules

**J.P.Morgan**

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# PART A

## General Rules

### 1. This Part A: General Rules

#### 1.1 Introduction

This Part A: General Rules sets out a general framework for the J.P. Morgan Commodity Target Volatility Index Series, which is a family of notional rule-based proprietary indices. In addition to this Part A: General Rules, each J.P. Morgan Commodity Target Volatility Index (each an **Index**) will include:

- (a) a separate Part B that contains, among other things, specific rules for a targeted volatility strategy, which will be embedded into the Index (the **Applicable Target Vol Strategy Rules**); and
- (b) an additional annex attached to the Applicable Target Vol Strategy Rules (the **Information Annex**). The Information Annex sets out specific information pertaining to the Index such as (amongst other information): (a) the Index Name and its Bloomberg Ticker; (b) the Underlying Index (or Underlying Indices) and the applicable Bloomberg Tickers for such Underlying Index (or Underlying Indices); (c) the Currency of the Index, and (d) other specific rules (if any) applicable to the Index.

#### 1.2 Publication and availability of the Index Rules

The Index Rules for an Index are comprised of this Part A: General Rules, the Applicable Target Vol Strategy Rules and the Information Annex. The Index Rules for an Index are published by J.P. Morgan Securities Ltd. of 125 London Wall, London EC2Y 5AJ, UK in its capacity as Index Calculation Agent of the Index.

The Index Calculation Agent may, in its discretion, publish the Index Rules applicable to an Index by only publishing this Part A: General Rules, the Applicable Target Vol Strategy Rules and Information Annex that apply to such Index.

Copies of the Index Rules for an Index may be obtained by holders of investments linked to the Index free of charge on request to the Index Calculation Agent.

#### 1.3 Amendments

The Index Rules for an Index may be amended from time to time at the discretion of the Index Calculation Agent and will be re-published (in a manner determined by the Index Calculation Agent from time to time) no later than one calendar month following such amendment.

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

#### 1.4 No offer of securities

The Index Rules for an Index 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 or investment that may be linked to such Index.

### 2. Synthetic strategies, no components of an Underlying Index nor assets held

Each Index is constructed on “notional” Underlying Indices because there is no actual portfolio of the constituent commodities of the Underlying Indices or assets to which any person is entitled or in which any person has any ownership interest. Each Index merely identifies certain Underlying Indices (that in turn reference particular commodity futures contracts) and rules-based trading strategies, the performance of which are used as a reference point for the purposes of calculating the level of the Index.

### 3. Index Calculation Agent

#### 3.1 Identity

J.P. Morgan Securities Ltd. or any affiliate or subsidiary designated by it will act as calculation agent in connection with each Index (the **Index Calculation Agent**).

#### 3.2 Index Calculation Agent standards

The Index Calculation Agent shall act in good faith and in a commercially reasonable manner in respect of determinations made by it pursuant to the Index Rules for an Index.

#### 3.3 Index Calculation Agent determinations

All determinations of the Index Calculation Agent pursuant to the Index Rules for an Index and interpretation of the Index Rules shall be final, conclusive and binding and no person shall be entitled to make any claim against the Index Calculation Agent or any of the Relevant Persons in respect thereof. Neither the Index Calculation Agent nor any Relevant Person shall:

- (a) be under any obligation to revise any determination or calculation made or action taken for any reason in connection with the Index Rules for an Index [or an Index]; or
- (b) 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 an Index or in respect of the publication of any Index Level or Adjusted Index Level (or failure to publish such level) or any use to which any person may put an Index or the Index Levels or Adjusted Index Levels.

#### **4. Calculation of Index Levels**

##### **4.1 Base Level and Base Date**

The Base Level and Base Date of an Index are specified in the Information Annex for the Index.

##### **4.2 Publication of Index Levels**

In respect of each Index, the Index Calculation Agent shall calculate (and publish in a manner determined by the Index Calculation Agent from time to time) the Index Level in respect of each Index Business Day in accordance with the Applicable Target Vol Strategy Rules and the information provided in the Information Annex.

##### **4.3 Disrupted Days**

An Index Business Day for an Index shall be a **"Disrupted Day"** on the occurrence or existence of a Disruption Event in respect of any Underlying Index of the Index in respect of such Index Business Day.

##### **4.4 Adjusted Index Levels**

In respect of each Index, the Index Calculation Agent shall calculate an Adjusted Index Level in respect of each Index Business Day that is a Disrupted Day in accordance with the Applicable Target Vol Strategy Rules and the information provided in the Information Annex. Adjusted Index Levels are calculated as of an Index Business Day after the relevant Index Business Day and will generally represent a notional tradable level (i.e. a level based on notional tradable settlement prices of relevant underlying commodity futures contracts).

Adjusted Index Levels are available on request from the Index Calculation Agent during the period starting on the date of calculation of the Adjusted Index Level and ending 30 calendar days thereafter or such longer period determined by the Index Calculation Agent in its sole discretion.

#### **5. Corrections in respect of an Index**

If, in respect of an Index:

- (a) the level of any Underlying Index, variable, input or other matter which is used for any calculation relevant to the Index Level and/or Adjusted Index Level (as applicable) for any Index Business Day is subsequently corrected and the correction is published by the relevant Underlying Index Sponsor or relevant publication source; or
- (b) the Index Calculation Agent identifies an error or omission in any of its calculations or determinations in respect of the Index Level and/or Adjusted Index Level (as applicable) for any Index Business Day,

then, the Index Calculation Agent may, if practicable and it considers such correction material, adjust or correct the Index Level and/or Adjusted Index Level (as applicable) for such day and/or each subsequent Index Business Day. The Index Calculation Agent shall publish (in such manner determined by the Index Calculation Agent) corrected Index Level(s) as soon as reasonably practicable.

#### **6. Extraordinary Events**

##### **6.1 Extraordinary Events for Underlying Indices**

- (a) If any Underlying Index of an Index is permanently cancelled or is not calculated and announced by the applicable Underlying Index Sponsor of such Underlying Index, but is: (A) calculated and announced by a successor sponsor (the **Successor Sponsor**) acceptable to the Index Calculation Agent, and/or (B) replaced by a successor index (the **Successor Underlying Index**) using, in the determination of the Index Calculation Agent, the same or a substantially similar formula for and method of calculation as used in the calculation of such Underlying Index, then the Index Calculation Agent may deem such Underlying Index of the Index to be: (i) the Underlying Index so calculated and announced by that Successor Sponsor or (ii) that Successor Underlying Index, as the case may be, with effect from a date determined by the Index Calculation Agent and the Index Calculation Agent may make such adjustment to the Index Rules of the Index, as it determines in good faith is appropriate, to account for such change.
- (b) If: (A) an Underlying Index Sponsor makes a material change in the formula for or the method of calculating an Underlying Index of an Index or in any other way materially modifies that Underlying Index (other than a modification prescribed in that formula or method to maintain the Underlying Index in the event of changes in constituent commodities and other routine events), or (B) the Underlying Index Sponsor permanently cancels the Underlying Index of an Index; or (C) the Underlying Index Sponsor fails

to calculate and announce the Underlying Index of an Index for a continuous period of three (3) Index Business Days and the Index Calculation Agent determines that there is no Successor Sponsor and/or Successor Underlying Index (such events (A), (B) and (C) to be collectively referred to as **Index Disruption Events**), then the Index Calculation Agent may at its option, make such adjustment(s) that it determines to be appropriate to any variable, calculation methodology, valuation terms or any other rule in relation to the relevant Index to account for the Index Disruption Event including, without limitation, (i) calculating the level of the Underlying Index, with effect from a date determined by the Index Calculation Agent, in accordance with the formula for and method of calculating the Underlying Index last in effect prior to the Index Disruption Event, but using only those futures contracts contemplated by the formula for and method of calculation of the Underlying Index as such formula and method existed immediately prior to the relevant Index Disruption Event (other than those futures contracts that have ceased to be listed on any relevant exchange), or (ii) substituting the Underlying Index with a replacement Underlying Index selected by the Index Calculation Agent or excluding the Underlying Index from the Index.

## 6.2 Cancellation of relevant licence

If in respect of an Index, at any time, the licence granted (if required) to the Index Calculation Agent (or its affiliates) to use any Underlying Index for the purposes of the Index terminates, or the Index Calculation Agent's rights to use any Underlying Index for the purpose of the Index is otherwise disputed, impaired or ceases (for any reason), the Index Calculation Agent may exclude or substitute the relevant Underlying Index from the Index and make such adjustments to the Index Rules, as it determines in good faith to be appropriate to account for such event on such dates as selected by the Index Calculation Agent.

## 6.3 Change in Law – Substitution or Exclusion of Underlying Indices

Without prejudice to the ability of the Index Calculation Agent to amend the Index Rules, the Index Calculation Agent may in respect of an Index, acting in good faith and in a commercially reasonable manner exclude or substitute any Underlying Index following the occurrence (and/or continuation) of a Change in Law, and if it excludes or substitutes any Underlying Index, then the Index Calculation Agent may adjust the Index Rules as it determines in good faith to be appropriate to account for such exclusion or substitution on such date(s) selected by the Index Calculation Agent.

## 6.4 Index Cancellation

If the Index Calculation Agent determines that no adjustment that it could make pursuant this section 6 in connection with an Index Disruption Event under section 6.1, the use of any Underlying Index under section 6.2 or Change in Law under section 6.3, will produce a commercially reasonable result, then the Index Calculation Agent may cease calculating and publishing the Index from a date determined by the Index Calculation Agent. Notwithstanding this section 6.4, the Index Calculation Agent is under no obligation to continue the calculation, publication and dissemination of an Index.

## 7. Definitions

Capitalised terms defined below shall have the following meanings in the Index Rules for each Index:

**Adjusted Index Level** in respect of an Index, has the meaning given in the Applicable Target Vol Strategy Rules for the Index;

**Applicable Target Vol Strategy Rules** means, in respect of an Index, the separate part of this document that contains (amongst other rules) the rules of the target volatility strategy applicable to the Index;

**Base Date** means, in respect of an Index, the base date specified as such in the Information Annex for the Index;

**Base Level** means, in respect of an Index, the base level specified as such in the Information Annex for the Index;

**Change in Law** means:

(a) due to:

- (i) the adoption of, or any change in, any applicable law, regulation or rule (including, without limitation, any tax law); or
- (ii) the promulgation of, or any change in, the interpretation by any court, tribunal or regulatory authority with competent jurisdiction of any applicable law, rule, regulation or order (including, without limitation, as implemented by the U.S. Commodity and Futures Trading Commission or any exchange or trading facility),

in either case, the Index Calculation Agent determines in good faith that (x) it is contrary to such law, rule, regulation or order for any market participants that are brokers or financial intermediaries (individually or collectively) to hold, acquire or dispose of (in whole or in part) any Underlying Index of the relevant Index, any transaction referencing the Underlying Index or any component of the Underlying Index (including without limitation, commodities futures contracts) or, (y) holding a position in any Underlying Index of the relevant Index, any transaction referencing the Underlying Index or any component of the Underlying Index

(including without limitation, commodity futures) is (or, but for the consequent disposal or termination thereof, would otherwise be) in excess of any allowable position limit(s) applicable to any market participants that are brokers or financial intermediaries (individually or collectively) under any such law, rule, regulation in relation to such Underlying Index, transaction referencing the Underlying Index or component of the Underlying Index traded on any exchange(s) or other trading facility (including, without limitation, any relevant exchange); or

- (b) the occurrence or existence of any:
- (i) suspension or limitation imposed on trading futures contracts (relating to any Underlying Index, any transaction referencing the Underlying Index or any component of the Underlying Index) including without limitation, commodities futures contracts; or
  - (ii) any other event that causes trading in futures contracts (relating to any Underlying Index, any transaction referencing the Underlying Index or any component of the Underlying Index ) to cease including without limitation, commodities futures contracts.

**Disrupted Day** has the meaning given in section 4.3 of this Part A: General Rules;

**Disruption Event** means, in respect of an Index Business Day and an Underlying Index of an Index, the occurrence of any of the following events:

- (a) a material limitation, suspension, discontinuation or disruption of trading in one or more options or futures contracts on a relevant commodity or commodities related to the Underlying Index, which results in failure by the relevant exchange on which such option(s) and/or futures contract(s) is/are traded to report an official settlement price for such option(s) and/or futures contract(s) on such Index Business Day;
- (b) a limitation, suspension or disruption of trading in one or more options or futures contracts on a relevant commodity or commodities related to the Underlying Index, by reason of movements exceeding “limit up” or “limit down” levels permitted by the relevant exchange and which, in the opinion of the Index Calculation Agent, is material to trading volume and market conditions in such option(s) or futures contract(s) on such Index Business Day;
- (c) publication by the relevant exchange of a “limit price” as the official settlement price for any futures contract on the relevant commodity or commodities related to the Underlying Index (by reason of movements exceeding “limit up” or “limit down” levels permitted by the relevant exchange);
- (d) the occurrence of a Non-Publication Event; or
- (e) a relevant exchange on which one or more options or futures contracts on a relevant commodity or commodities related to the Underlying Index is not open for trading during its regular trading session, regardless of whether any such exchange closes prior to its scheduled closing time.

**Index Business Day** means, in respect of an Index, the index business days specified as such in the Information Annex for the Index, subject to adjustment in accordance with the Index Rules for the Index;

**Index Calculation Agent** means J.P. Morgan Securities Ltd. or any affiliate or subsidiary designated by it in accordance with section 3.1 of this Part A: General Rules;

**Index** means, as defined in section 1.1 of this Part A: General Rules, each index comprised in the J.P. Morgan Commodity Target Volatility Index Series;

**Index Level** in respect of an Index, has the meaning given in the Applicable Target Vol Strategy Rules for the Index;

**Index Rules** means, in respect of an Index, the rules of the Index which are comprised of this Part A: General Rules, the Applicable Target Vol Strategy Rules for the Index and the Information Annex for the Index;

**Information Annex** means, in respect of an Index, the Information Annex annexed to the Applicable Target Vol Strategy Rules that sets out specific information pertaining to the Index;

**Non-Publication Event** means, the failure by the relevant exchange, index sponsor or other price source to announce publicly or publish the following (or the information necessary for determining the following): (a) the official settlement price for any relevant futures contract on the relevant commodity or commodities related to the Underlying Index of an Index or (b) the official published closing level of the Underlying Index of an Index;

**Relevant Persons** means any affiliate or subsidiary of the Index Calculation Agent or their respective directors, officers, employees, representatives, delegates or agents;

**Underlying Index** means, in respect of an Index, each commodity index or other index specified as such in the Information Annex for the Index (and together, in respect of an Index, the **Underlying Indices**);

**Underlying Index Sponsor** means the sponsor or any successor sponsor of the relevant Underlying Index, as may be specified in the Information Annex for the Index.

## Notices, Disclaimers and Conflicts

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The foregoing notices, disclaimers and conflicts disclosure is not intended to be exhaustive. Anyone reading these Index 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 Index Rules and the risks associated with a J.P. Morgan Commodity Target Volatility Index.

**PART B**  
**Applicable Target Vol Strategy Rules**  
**J.P. Morgan Long Commodity Target Volatility Indices**

**1. Introduction**

This Part B sets out the Applicable Target Vol Strategy Rules for the J.P. Morgan Long Commodity Target Volatility Indices (each a “**Long Commodity Target Vol Index**” or “**Index**” and together the “**Long Commodity Target Vol Indices**” or “**Indices**”). The Long Commodity Target Vol Indices are a sub-family of indices of the J.P. Morgan Commodity Target Volatility Index Series that provide long-only exposure to one or more Underlying Indices and utilise a mathematical volatility targeting algorithm to dynamically adjust the Exposure Level to the Underlying Indices. The Exposure Level is adjusted on Rebalancing Dates based on changes in historical volatility of the Underlying Indices with the aim that the realised volatility of the Index should be approximately equal to or less than a pre-determined Target Volatility. Accordingly, in general terms, where the historical realised volatility (and riskiness) of the Underlying Indices increases, the exposure to the Underlying Indices will be reduced on the next rebalancing and on the other hand, if the historical realised volatility decreases the exposure will be increased, subject to maximum and minimum exposure level restrictions.

Historical volatility is used as a measure of the risk associated with the Underlying Indices. It is intended to give an indication of the variability of the returns and accordingly risks of the relevant Underlying Indices. The historical volatility of the Underlying Indices is determined by reference to the greater of the historical volatility over two separate periods (Historical Volatility Lookback Period 1 & 2).

The Information Annex (annexed to this Part B) for a Long Commodity Target Vol Index sets out, without limitation, the following specific information pertaining to the Long Commodity Target Vol Index:

- Name of the Index and Bloomberg ticker;
- Currency of the Index;
- Number of Underlying Indices;
- Underlying Indices of the Index;
- Weights of the Underlying Indices;
- Target Volatility;
- Index Business Days;
- Rebalancing Selection Dates and Rebalancing Dates;
- Adjustment Factor;
- Maximum Exposure Level;
- Minimum Exposure Level; and
- Historical Volatility Lookback Periods 1 & 2.

The Index Rules of each Long Commodity Target Vol Index are comprised of the General Rules in Part A, the Applicable Target Vol Strategy Rules in this Part B and the Information Annex to this Part B for the Index.

**2. Rebalancing the Exposure Level of the Underlying Indices**

**2.1 Rebalancing the Exposure Level**

The Exposure Level applied to the Underlying Indices on each Rebalancing Date is determined on the Rebalancing Selection Date immediately before the Rebalancing Date (**Rebalancing Date RD n-1**) in accordance with the methodology described in sections 2.2 to 2.4 below.

**2.2 Step 1: Determining Non-Volatility Targeted Levels**

Firstly, the Index Calculation Agent shall calculate a “**Non Volatility Targeted Level**” in respect of each Index Business Day solely for the purposes of utilising such levels to determine the Historical Volatility in respect of Rebalancing Selection Dates pursuant to section 2.3 below. The Non Volatility Targeted Levels for each Index Business Day of an Index shall be calculated in accordance with the rules for calculating Index Levels of the Index in section 3.1(a) below except that: (a) the Exposure Level shall be fixed at 100%, (b) sections 2.3 and 2.4 below shall not apply, (c) the Adjustment Factor shall be deemed to be 0%; and (d) section 3.1(a) shall be used to calculate the Index Level for each Index Business Day including where Rebalancing Date n-1 is a Disrupted Day and the words “If Rebalancing Date n-1 is not a Disrupted Day,” at the beginning of section 3.1(a) shall be deleted.

Calculating Non Volatility Targeted Levels allows the Historical Volatility of the Underlying Indices to be determined by reference to a static basket, monthly rebalanced, of the Underlying Indices as opposed to a dynamic basket of the Underlying Indices that adjusts exposure based on the volatility targeting algorithm.

### 2.3 Step 2: Calculating the Historical Volatility

Secondly, in respect of the relevant Rebalancing Selection Date, the Index Calculation Agent will determine the historical volatility of the Underlying Indices (**Historical Volatility**) observed over two separate periods (being Historical Volatility Lookback Period 1 and Historical Volatility Lookback Period 2) in accordance with the formulae below. The Historical Volatility of the Underlying Indices for the purposes of determining the Exposure Level shall be the greater of the Historical Volatility observed over Historical Volatility Lookback Period 1 and Historical Volatility Lookback Period 2 as set out below.

$$HistoricalVol(RD_{n-1}) = Max(HistoricVol_1(RD_{n-1}), HistoricVol_2(RD_{n-1}))$$

Where:

$$HistoricalVol_1(RD_{n-1}) = \sqrt{\frac{252}{m_1 - 1} \times \sum_{j=1}^{m_1} \left( Rtn(j,1) - \frac{1}{m_1} \sum_{k=1}^{m_1} Rtn(k,1) \right)^2}$$

$$HistoricalVol_2(RD_{n-1}) = \sqrt{\frac{252}{m_2 - 1} \times \sum_{j=1}^{m_2} \left( Rtn(j,2) - \frac{1}{m_2} \sum_{k=1}^{m_2} Rtn(k,2) \right)^2}$$

where:

$m_1$  means each Index Business Day of Historical Volatility Lookback Period 1 of the Index as specified in the Information Annex;

$m_2$  means each Index Business Day of Historical Volatility Lookback Period 2 of the Index as specified in the Information Annex;

$$Rtn(d,1) = \frac{NVTLevel(d,1)}{NVTLevel(d-1,1)} - 1$$

$$Rtn(d,2) = \frac{NVTLevel(d,2)}{NVTLevel(d-1,2)} - 1$$

$NVTLevel(d,1)$  is the level of the Non-Volatility Targeted Level in respect of the d-th Index Business Day in the Lookback Period 1, calculated in accordance with section 2.2 above.

$NVTLevel(d,2)$  is the level of the Non-Volatility Targeted Level in respect of the d-th Index Business Day in the Lookback Period 2, calculated in accordance with section 2.2 above.

### 2.4 Step 3: Calculate the Exposure Level

Immediately after determining the Historical Volatility of the Underlying Indices for the Index in respect of the relevant Rebalancing Selection Date, the Index Calculation Agent shall calculate the Exposure Level to apply to the Index from, but excluding, the Rebalancing Date (**Rebalancing Date n-1**) immediately following the Rebalancing Selection Date in accordance with the following formula:

$$ExposureLevel(RD_{n-1}) = Max\left( Min\left( \frac{TargetVol}{HistoricalVol(RD_{n-1})}, MaxExposureLevel \right), MinExposureLevel \right)$$

Where:

$HistoricVol(RD_{n-1})$  means the Historical Volatility of the Index determined in respect of the relevant Rebalancing Selection Date in accordance with section 2.3 above;

$MinExposureLevel$  means the Minimum Exposure Level of the Index as specified in the Information Annex;

*MaxExposureLevel* means the Maximum Exposure Level of the Index as specified in the Information Annex;

*TargetVol* means the Target Volatility of the Index as specified in the Information Annex.

### 3 Index Levels

#### 3.1 Calculation and Publication of Index Levels

The level for each Long Commodity Target Vol Index (**Index Level**) shall be calculated and published in respect of each Index Business Day t from but excluding the Rebalancing Date immediately preceding such Index Business Day (**Rebalancing Date n-1**) to, and including, the Rebalancing Date immediately after Rebalancing Date n- 1 (**Rebalancing Date n**) as follows:

- (a) If Rebalancing Date n-1 is not a Disrupted Day, the Index Level shall be calculated in respect of each Index Business Day t, from and excluding Rebalancing Date n-1 to, and including, Rebalancing Date n, in accordance with the following formula:

$$Index(t) = Index(RD_{n-1}) \left[ 1 + ExposureLevel(RD_{n-1}) \times \sum_{i=1}^{NS} W_i \times Perf_i(t) * \frac{FX_i(RD_{n-1})}{FX_i(t)} \right] \times (1 - AF)^{\frac{CalendarDays}{360}}$$

Where:

*Index(RD<sub>n-1</sub>)* means the Index Level calculated and published in respect of Rebalancing Date n-1 pursuant to this section 3.1, rounded to 4 decimals;

*NS* means the total Number of Underlying Indices of the Index as specified in the Information Annex;

*W<sub>i</sub>* means the Weight of Underlying Index i as specified in the Information Annex;

$$Perf_i(t) = \left( \frac{Level_i(t)}{Level_i(RD_{n-1})} - 1 \right)$$

where:

*Level<sub>i</sub>(t)* means the Underlying Index Closing Level (as defined in section 3.1(c)) of Underlying Index i for Index Business Day t determined as of Index Business Day t;

*Level<sub>i</sub>(RD<sub>n-1</sub>)* means the Underlying Index Closing Level (as defined in section 3.1(c)) of Underlying Index i in respect of Rebalancing Date n-1 determined as of Index Business Day *RD<sub>n-1</sub>*;

*AF* means the Adjustment Factor of the Index as specified in the Information Annex;

*Calendar Days* means the number of calendar days from, and including, Rebalancing Date n-1 to, but excluding, Index Business Day t.

*ExposureLevel(RD<sub>n-1</sub>)* means the Exposure Level of the Index determined in accordance with section 2.4 above and applied to the Index from but excluding Rebalancing Date n-1.

*FX<sub>i</sub>(t)* means the FX Rate of Underlying Index i for Index Business Day t of the Underlying Index;

*FX<sub>i</sub>(RD<sub>n-1</sub>)* means the FX Rate of Underlying Index i for Rebalancing Date n-1;

**FX Rate** means in respect of an Underlying Index, the spot exchange rate, defined as Currency of the Underlying Index per Currency of the Index (each as specified in the information annex). The FX Rate shall be one (1) if the Currency of the Underlying Index and Currency of the Index are the same. The Index Calculation Agent shall determine the rate based on daily fixes published on the Bloomberg page for the WMS references (FX Reference Rate) specified in the Information Annex (if applicable). If the relevant rate is not published on the relevant date (or such other page as may replace that page on that service, or such other service as may be nominated as the information vendor, for the purpose of displaying rates or prices comparable to that rate), the **FX Rate** shall be the rate

determined by the Index Calculation Agent taking into account all information that in good faith it deems relevant.

- (b) If Rebalancing Date n-1 is a Disrupted Day, the Index Level shall be calculated in respect of each Index Business Day t from but excluding Rebalancing Date n-1 to, and including, Rebalancing Date n, in accordance with the following formula:

$$Index(t) = \left[ Index_{Adj}(RD_{n-1}) + Index(RD_{n-1}) \times ExposureLevel(RD_{n-1}) \times \sum_{i=1}^{NS} W_i \times Perf_{Adj,i}(t) * \frac{FX_i(RD_{n-1})}{FX_i(t)} \right] \times (1 - AF)^{\frac{CalendarDys}{360}}$$

Where:

$Index_{Adj}(RD_{n-1})$  means an adjusted level of the Index in respect of Rebalancing Date n-1 as determined by the Index Calculation Agent using the method for calculating the Index level in section 3.1(a) except that the Underlying Index Closing Levels (as defined in section 3.1(c)) of any Underlying Index shall be determined as of Index Business Day t; and

$Index(RD_{n-1})$  means the Index Level calculated and published in accordance with this section 3.1 above in respect of Rebalancing Date n-1;

$$Perf_{Adj,i}(t) = \left( \frac{Level_{adj}(t)}{Level_{adj}(RD_{n-1})} - 1 \right)$$

where  $Level_{adj}(t)$  means the Underlying Index Closing Level (as defined in section 3.1(c)) of Underlying Index i in respect of Index Business Day t determined as of Index Business Day t;

where  $Level_{adj}(RD_{n-1})$  means the Underlying Index Closing Level (as defined in section 3.1(c)) of Underlying Index i in respect of Rebalancing Date n-1 determined as of Index Business Day t.

All the other terms not defined in this section 3.1(b) have the meaning given in section 3.1(a).

- (c) For the purposes of this section 3.1, **Underlying Index Closing Level** means, in respect of an Underlying Index and Index Business Day, the official published closing level of the Underlying Index for such day. If the Index Business Day is a Disrupted Day in respect of the Underlying Index (**Affected Underlying Index**), the Underlying Index Closing Level in respect of the Index Business Day shall be deemed to be an adjusted level determined by the Index Calculation Agent as of the relevant determination day using the then current method for calculating the Affected Underlying Index but based on and by reference to the relevant closing prices of each futures contract on a relevant commodity or commodities related to the Affected Underlying Index as follows:

- (i) in respect of each futures contract on a commodity related to an Affected Underlying Index where all of such futures contracts are not affected by the Disruption Event for such Index Business Day, the official settlement price of such futures contract will be that announced or published by the applicable exchange for the Index Business Day; and
- (ii) in respect of each futures contract on a commodity related to an Affected Underlying Index which are affected by the Disruption Event on the Index Business Day t and any future contracts on such commodity related to the Affected Underlying Index which are not affected by a Disruption Event in respect of the Index Business Day t, the closing price of such futures contracts will be determined as of the relevant determination day based on (A) the official settlement price of such contracts on the first Index Business Day following the Index Business Day (but on or before the relevant determination day as of which the Underlying Index Closing Level is calculated) on which all such futures contracts are not affected by a Disruption Event; or (B) if a price is not available pursuant to (A) as of the relevant determination day, the last available published price for each contract. If the five (5) Index Business Days immediately following the original Index Business Day are Disrupted Days for such contracts, the Index Calculation Agent shall determine the closing price for the futures contract acting in good faith and using such information and/or methods as it determines, in its reasonable discretion are appropriate

- (d) Index Levels calculated in respect of an Index Business Day  $t$  pursuant to this section 3.1 are calculated as of Index Business Day  $t$ .

### **3.2 Calculation of Adjusted Index Levels (not published but available on request)**

The Index Calculation Agent shall calculate an Adjusted Index Level in respect of each Index Business Day that is a Disrupted Day in respect of any Underlying Index. Adjusted Index Levels are calculated as of an Index Business Day after the relevant Index Business Day and will generally represent a notional tradable level (i.e. a level based on notional tradable settlement prices of relevant underlying commodity futures contracts). An Adjusted Index Level in respect of an Index Business Day  $t$  shall be calculated (and be available on request in accordance with section 4.3 of Part A) in accordance with the rules for calculating the Index Level in section 3.1 above except that the determination of any Underlying Index Closing Level shall be made as of the Index Business Day after Index Business Day  $t$  when each futures contract on a relevant commodity or commodities related to any Affected Underlying Index is no longer affected by a Disruption Event on such Index Business Day after Index Business Day  $t$  unless the five (5) Index Business Days immediately following Index Business Day  $t$  are Disrupted Days for such relevant futures contracts, in which case the Adjusted Index level shall be calculated as of such fifth (5<sup>th</sup>) Index Business Day.

## Information Annex B1.0: JPMCCI Ex Front Month Agriculture 10 ER Index

This Information Annex B1.0 should be read in conjunction with the General Rules set forth in Part A and Applicable Target Vol Strategy Rules set forth in Part B for the JPMorgan Commodity Target Volatility Index Series. This Information Annex sets out the specific information pertaining to the JPMCCI Ex Front Month Agriculture 10 ER Index.

Index Name and Bloomberg Ticker	JPMCCI Ex Front Month Agriculture 10 ER Index (Bloomberg Ticker: JMAB010E Index)
Applicable Target Vol Strategy Rules	See Part B ( <i>Applicable Target Vol Strategy Rules: JPMorgan Long Commodity Target Volatility Indices</i> ).
Currency of the Index	U.S. dollar
Number of Underlying Indices	One
Underlying Index and its Bloomberg Ticker:	JPMorgan JPMCCI Ex-Front Month Agriculture Excess Return Index (Bloomberg ticker JMCXXAGE)
Currency of Underlying Index	U.S. dollar
Weight	100%
Underlying Index Sponsor:	J.P. Morgan Securities Ltd. or its successors and assigns
Index Business Days:	JPMCCI Ex-Front Month Agriculture ER Index Business Days
Rebalancing Dates:	The first Index Business Day of each calendar month
Rebalancing Selection Dates:	The Index Business Day which falls two Index Business Days prior to the Rebalancing Date
Target Volatility	10%
Maximum Exposure Level	100%
Minimum Exposure Level	0%
Base Date	30 December 1994
Base Level	100.00
Historical Volatility Lookback Period 1	The 21 Index Business Days from but excluding the Index Business Day that falls 21 Index Business Days before the relevant Rebalancing Selection Date to and including the Rebalancing Selection Date.
Historical Volatility Lookback Period 2	The 63 Index Business Days from but excluding the Index Business Day that falls 63 Index Business Days before the relevant Rebalancing Selection Date to and including the Rebalancing Selection Date.
Adjustment Factor	0%