

Underlying supplement no. 9a-I
*To the prospectus dated November 7, 2014 and
the prospectus supplement dated November 7, 2014*

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JPMORGAN CHASE & CO.

Notes Linked to the J.P. Morgan Enhanced Beta Select Alternative Benchmark Total Return Index

JPMorgan Chase & Co. may, from time to time, offer and sell notes linked in whole or in part to the J.P. Morgan Enhanced Beta Select Alternative Benchmark Total Return Index (the "Index"). This underlying supplement no. 9a-I describes the Index, the relationship between JPMorgan Chase & Co. and the sponsor of the Index and other relevant information. This underlying supplement no. 9a-I supplements the terms described in the accompanying product supplement, the prospectus supplement and the prospectus. A separate term sheet or pricing supplement, as the case may be, will describe terms that apply to specific issuances of the notes, including any changes to the terms specified below. We refer to these term sheets and pricing supplements generally as terms supplements. The accompanying product supplement, the relevant terms supplement or another relevant underlying supplement will describe any other index or reference asset to which the notes are linked. If the terms described in the relevant terms supplement are inconsistent with those described in this underlying supplement, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement or the prospectus, the terms described in the relevant terms supplement will control. In addition, if this underlying supplement no. 9a-I and the accompanying product supplement or another relevant underlying supplement contain information relating to the same index to which the notes are linked, the information contained in the document with the most recent date will control.

The notes are not futures contracts or swaps and are not regulated under the Commodity Exchange Act of 1936, as amended (the "Commodity Exchange Act"). The notes are offered pursuant to an exemption from regulation under the Commodity Exchange Act, commonly known as the hybrid instrument exemption, that is available to securities that have one or more payments indexed to the value, level or rate of one or more commodities, as set out in section 2(f) of that statute. Accordingly, you are not afforded any protection provided by the Commodity Exchange Act or any regulation promulgated by the Commodity Futures Trading Commission.

Investing in the notes involves a number of risks. See "Risk Factors" in the accompanying product supplement and "Risk Factors" beginning on page US-3.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the notes or passed upon the accuracy or the adequacy of the relevant terms supplement, this underlying supplement no. 9a-I, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement or the prospectus. Any representation to the contrary is a criminal offense.

The notes are not bank deposits, are not insured by the Federal Deposit Insurance Corporation or any other governmental agency and are not obligations of, or guaranteed by, a bank.

J.P.Morgan

November 19, 2014

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We have not authorized anyone to provide any information other than that contained or incorporated by reference in the relevant terms supplement, this underlying supplement no. 9a-I, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement or the prospectus with respect to the notes offered by the relevant terms supplement and with respect to JPMorgan Chase & Co. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. The relevant terms supplement, together with this underlying supplement no. 9a-I, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement and the prospectus, will contain the terms of the notes and will supersede all other prior or contemporaneous oral statements as well as any other written materials including preliminary or indicative pricing terms, correspondence, trade ideas, structures for implementation, sample structures, fact sheets, brochures or other educational materials of ours. The information in each of the relevant terms supplement, this underlying supplement no. 9a-I, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement and the prospectus may only be accurate as of the date of that document.

The notes are not appropriate for all investors and involve important legal and tax consequences and investment risks that should be discussed with your professional advisers. You should be aware that the regulations of Financial Industry Regulatory Authority, Inc., or FINRA, and the laws of certain jurisdictions (including regulations and laws that require brokers to ensure that investments are suitable for their customers) may limit the availability of the notes. The relevant terms supplement, this underlying supplement no. 9a-I, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement and the prospectus do not constitute an offer to sell or a solicitation of an offer to buy the notes in any circumstances in which that offer or solicitation is unlawful.

In the relevant terms supplement, this underlying supplement no. 9a-I, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement and the prospectus, “we,” “us” and “our” refer to JPMorgan Chase & Co., unless the context requires otherwise. To the extent applicable, the index described in this underlying supplement no. 9a-I is deemed to be one of the “Indices” referred to in the accompanying product supplement.

SUPPLEMENTAL TERMS OF THE NOTES

The following supplemental terms of the notes supplement, and to the extent they are inconsistent, supersede, the description of the general terms of the debt securities set forth in the accompanying product supplement and under the headings "Description of Notes" in the prospectus supplement and "Description of Debt Securities" in the prospectus. Capitalized terms used but not defined in this underlying supplement no. 9a-I have the meanings assigned in the relevant terms supplement, this underlying supplement no. 9a-I, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement and the prospectus.

General

This underlying supplement no. 9a-I describes the Index, the relationship between JPMorgan Chase & Co. and the sponsor of the Index and terms that will apply generally to notes linked in whole or in part to the Index and other relevant information. This underlying supplement no. 9a-I supplements the terms described in the accompanying product supplement and the prospectus supplement and the prospectus. A separate term sheet or pricing supplement, as the case may be, will describe terms that apply to specific issuances of the notes, including any changes to the terms specified below. We refer to these term sheets and pricing supplements generally as terms supplements. The accompanying product supplement, the relevant terms supplement or another accompanying underlying supplement will describe any other index or reference asset to which the notes are linked. If the terms described in the relevant terms supplement are inconsistent with those described in this underlying supplement, any other accompanying underlying supplement, the accompanying product supplement, the prospectus supplement or the prospectus, the terms described in the relevant terms supplement will control. In addition, if this underlying supplement no. 9a-I and the accompanying product supplement or another accompanying underlying supplement contain information relating to the Index, the information contained in the document with the most recent date will control.

The notes are unsecured and unsubordinated obligations of JPMorgan Chase & Co. linked in whole or in part to the J.P. Morgan Enhanced Beta Select Alternative Benchmark Total Return Index (the "**Index**"). The Index is a notional dynamic index that currently tracks the return of 22 weighted synthetic excess return sub-indices (out of a universe of 26 potential synthetic excess return sub-indices) (each, an "**Index Constituent**" and, collectively, the "**Index Constituents**"), plus the return on three-month U.S. Treasury bills. Each of the Index Constituents is a Contag Beta Index (as defined under "Background on the J.P. Morgan Contag Beta Indices" in this underlying supplement), a JPMCCI Ex-Front Month Index (as defined under "Background on the JPMCCI Ex-Front Month Indices" in this underlying supplement) or a Seasonal Roll Index (as defined under "Background on the JPMorgan Seasonal Roll Indices" in this underlying supplement).

The "**index calculation agent**" means J.P. Morgan Securities plc ("**JPMS plc**") or any affiliate or subsidiary designated by JPMS plc to calculate and publish the official closing level of the Index. The index calculation agent is currently JPMS plc. See "The J.P. Morgan Enhanced Beta Select Alternative Benchmark Total Return Index" below. JPMS plc is our affiliate and may have interests adverse to you. Please see "Risk Factors — The index sponsor and index calculation agent of each J.P. Morgan Commodity Index are affiliates of ours, may adjust the relevant J.P. Morgan Commodity Index in a way that affects its level and have no obligation to consider your interests."

Postponement of a Determination Date

Notwithstanding any contrary definition in the accompanying disclosure statement, a **"trading day,"** with respect to the Index, is, unless otherwise specified in the relevant terms supplement, a day, as determined by the calculation agent, on which the New York Stock Exchange is scheduled to be open for trading for its regular trading session, without regard to after-hours trading or any other trading outside of the regular trading session hours.

Notwithstanding any contrary definition in the accompanying disclosure statement, a **"scheduled trading day,"** with respect to the Index, is, unless otherwise specified in the relevant terms supplement, a trading day.

RISK FACTORS

*Your investment in the notes will involve certain risks. Investing in the notes is not equivalent to investing directly (or taking a short position) in the Index, any of the Index Constituents or any of the futures contracts underlying the Index Constituent or any futures contracts or exchange-traded or over-the-counter instruments based on, or other instruments linked to, any of the foregoing. **You should consider carefully the following discussion of risks, as well as the discussion of risks included in the relevant terms supplement, the accompanying product supplement and any accompanying underlying supplement, before you decide that an investment in the notes is suitable for you.***

There may be potential conflicts between your interests and those of JPMorgan Chase & Co., the calculation agent, the index sponsor, the index calculation agent and other affiliates of ours.

We and our affiliates play a variety of roles in connection with notes linked to the Index, including acting as the issuer and the calculation agent for the notes, and as the sponsor and the calculation agent of the Index and the Index Constituents (each, a “**J.P. Morgan Commodity Index**” and collectively, the “**J.P. Morgan Commodity Indices**”), as well as hedging our obligations under the notes. In performing these duties, the economic interests of ours, the calculation agent, the index calculation agent, the index sponsor and other affiliates of ours would be potentially adverse to your interests as an investor in the notes. Additionally, we and our affiliates may from time to time develop other indices or sell products that may take positions that are contrary to your economic interests.

The index sponsor and index calculation agent of each J.P. Morgan Commodity Index are affiliates of ours, may adjust the relevant J.P. Morgan Commodity Index in a way that affects its level and have no obligation to consider your interests.

JPMS plc, one of our affiliates, currently acts as the index sponsor for the J.P. Morgan Commodity Indices and is responsible for maintaining the J.P. Morgan Commodity Indices and developing the guidelines and policies governing their composition and calculation. In addition, either JPMS plc or our Global Index Research Group (“**GIRG**”) currently acts as the index calculation agent for the J.P. Morgan Commodity Indices and the relevant index calculation agent is responsible for calculating the J.P. Morgan Commodity Indices. GIRG is part of our Global Research division and resides within J.P. Morgan Securities LLC. The index sponsor and/or the index calculation agent of each J.P. Morgan Commodity Index is entitled to exercise discretion in good faith and in a commercially reasonable manner in relation to that J.P. Morgan Commodity Index, including, but not limited to:

- the interpretation of the rules governing that J.P. Morgan Commodity Index;
- the calculation of the level of that J.P. Morgan Commodity Index in the event of certain market disruptions and the determination of the values of one or more constituents in the event of market disruptions or as a result of manifest errors in, or unavailability of, certain values;
- the removal or replacement of a constituent of that J.P. Morgan Commodity Index upon the occurrence of certain extraordinary events, including changes in law, relating to that constituent; or
- the cancelation of that J.P. Morgan Commodity Index.

The index sponsor of a J.P. Morgan Commodity Index may also amend the rules governing that J.P. Morgan Commodity Index in its discretion. See the relevant index description in this underlying supplement for additional information. Although the relevant index sponsor and index calculation agent will make all determinations and take all action in relation to the relevant J.P. Morgan Commodity Index acting in good faith, it should be noted that the policies and judgments for which

the index sponsor and/or the index calculation agent are responsible could have an impact, positive or negative, on the level of the relevant J.P. Morgan Commodity Index and the value of your notes. For example, the changing of a constituent may affect the performance of the relevant J.P. Morgan Commodity Index, and therefore, the return on the notes, as the replacement constituent may perform significantly better or worse than the affected constituent.

Although judgments, policies and determinations concerning the J.P. Morgan Commodity Indices are made by JPMS plc and/or GIRG, as applicable, JPMorgan Chase & Co. is the ultimate parent company of JPMS plc and GIRG and ultimately controls JPMS plc and GIRG. Unlike other indices, the maintenance of the J.P. Morgan Commodity Indices (other than the JPMCCI Ex-Front Month Indices) is not governed by an independent committee. The index sponsor and index calculation agent of each J.P. Morgan Commodity Index have no obligation to consider your interests in taking any actions that might affect the value of your notes. Furthermore, the inclusion of any constituent in a J.P. Morgan Commodity Index is not an investment recommendation by us, the index sponsor or the index calculation agent of that constituent, or of any of the futures contracts underlying that constituent.

Each J.P. Morgan Commodity Index may not be successful and may not outperform any alternative strategy that might be employed with respect to the constituents underlying that J.P. Morgan Commodity Indices.

The J.P. Morgan Commodity Indices follow proprietary strategies that operate on the basis of predetermined rules. No assurance can be given that the investment strategy on which any J.P. Morgan Commodity Index is based will be successful or that that J.P. Morgan Commodity Index will outperform any alternative strategy that might be employed with respect to the constituents underlying that J.P. Morgan Commodity Index. In particular, none of the J.P. Morgan Commodity Indices follows a strategy that accounts for the price momentum or volatility of their underlying constituents. The methodologies underlying the J.P. Morgan Commodity Indices include complicated mathematical calculations. Accordingly, an investment in notes linked to the Index may not be appropriate for all investors. You should discuss any investment in the notes with your professional advisers.

The J.P. Morgan Commodity Indices comprise notional assets.

The exposures to the futures contracts ultimately underlying each J.P. Morgan Commodity Index are purely notional and will exist solely in the records maintained by or on behalf of the calculation agent. There is no actual portfolio of assets to which any person is entitled or in which any person has any ownership interest. Consequently, you will not have any claim against any of the futures contracts ultimately underlying any J.P. Morgan Commodity Index.

The J.P. Morgan Commodity Indices have a limited operating history and may perform in unanticipated ways.

The Index was established on December 1, 2012 and therefore has limited operating history. In addition, many of the other J.P. Morgan Commodity Indices were established recently. See the relevant index description in this underlying supplement for additional information. Any back-testing or similar analysis in respect of a J.P. Morgan Commodity Index must be considered illustrative only and may be based on estimates or assumptions not used by the index calculation agent when determining the level of that J.P. Morgan Commodity Index. In particular, the calculation agent of the JPMCCI Ex-Front Month Indices (as defined under "Background on the JPMCCI Ex-Front Month Indices" in this underlying supplement) has exercised discretion, under the supervision of the supervisory committee that governs the JPMCCI Ex-Front Month, in varying the methodology of calculating levels of the JPMCCI Ex-Front Month Indices prior to their launches for various reasons including data unavailability. See "Background on the JPMCCI Ex-Front Month Indices" in this underlying supplement for additional information. Past performance should not be considered indicative of future results.

The Index provides exposure only to futures contracts on commodities that are included in the Bloomberg Commodity IndexSM.

The Index rebalances once each year, and on each rebalancing date, each Index Constituent is assigned a weight that, as of the relevant determination date, is equal to the most recently published target weight of the Bloomberg commodity sub-index that references the commodity associated with that Index Constituent, *provided* that the weight of each Index Constituent for which no such target weight is published will be equal to zero. As of the date of this underlying supplement, the Index Constituents that track futures contracts on cocoa, feeder cattle, gas oil and lead have been assigned weights of zero. Futures contracts on commodities that are not represented in the Index at any given time could perform better, perhaps significantly, than the futures contracts that are represented in the Index at that time.

Correlation of performances among the Index Constituents may reduce the performance of the notes.

Performances of the Index Constituents may become highly correlated from time to time during the term of the notes, including, but not limited to, a period in which there is a substantial decline in the Index Constituents. High correlation during periods of negative returns among the Index Constituents could have an adverse effect on any payments on, and the value of, your notes.

Changes in the value of the Index Constituents may offset each other.

Price movements between the Index Constituents may not correlate with each other. At a time when the value of one Index Constituent increases, the value of other Index Constituents may not increase as much or may decline. Therefore, in calculating the level of the Index increases in the value of some of the Index Constituents may be moderated, or more than offset, by lesser increases or declines in the value of other Index Constituents.

The commodity futures contracts underlying an Index Constituent are subject to legal and regulatory regimes that may change in ways that could have a substantial adverse effect on the value of the notes, could lead to a commodity hedging disruption event and could affect the timing and amount of any payment on the notes.

Futures contracts and options on futures contracts markets, including the futures contracts underlying the Index Constituents are subject to extensive regulation and margin requirements. The Commodity Futures Trading Commission, commonly referred to as the "CFTC," and the exchanges on which those futures contracts trade are authorized to take extraordinary actions in the event of a market emergency, including, for example, the retroactive implementation of speculative position limits or higher margin requirements, the establishment of daily limits and the suspension of trading. Furthermore, certain exchanges have regulations that limit the amount of fluctuation in futures contract prices that may occur. These limits could adversely affect the market prices of relevant futures contracts and forward contracts. The regulation of commodity transactions in the United States is subject to ongoing modification by governmental and judicial action. In addition, various non-U.S. governments have expressed concern regarding the disruptive effects of speculative trading in the commodity markets and the need to regulate the derivative markets in general. The effect on the value of the notes of any future regulatory change is impossible to predict but could be substantial and adverse to the interests of noteholders.

Notably, with respect to agricultural and exempt commodities as defined in the Commodity Exchange Act (generally, physical commodities such as agricultural commodities, energy commodities and metals), the Dodd-Frank Wall Street Reform and Consumer Protection Act, which was enacted on July 21, 2010, amended the Commodity Exchange Act to provide the CFTC with additional authority to establish limits on the number of positions, other than bona fide hedge positions, that may be held by

any person in a commodity through futures contracts, options on futures contracts and other related derivatives, such as swaps, that are economically equivalent to those contracts. In addition, designated contract markets and swap execution facilities, as defined in the Commodity Exchange Act, are authorized to establish and enforce position limits or position accountability requirements on their own markets or facilities, which must be at least as stringent as the CFTC's where CFTC limits also apply.

On November 5, 2013, the CFTC proposed rules to establish position limits that will apply to 28 agricultural, metals and energy futures contracts and futures, options and swaps that are economically equivalent to those futures contracts. The limits would apply to a number of Commodity Futures Contracts and commodity futures contracts that may be included in an Index, such as CBOT Soybeans, Soybean Meal and Wheat futures; ICE Futures US Cotton No. 2, Sugar No. 11 and Sugar No. 16 futures; NYMEX Light Sweet Crude Oil, NY Harbor No. 2 Heating Oil, NY Harbor Gasoline Blendstock and Henry Hub Natural Gas futures; and COMEX Gold, Silver and Copper futures and NYMEX Palladium and Platinum futures. The limits will apply to a person's combined position in futures, options and swaps on the same underlying commodity. The rules also would set new aggregation standards for purposes of these position limits and would specify the requirements for designated contract markets and swap execution facilities to impose position limits on contracts traded on those markets. The rules, if enacted in their proposed form, may reduce liquidity in the exchange-traded market for those commodity-based futures contracts, which may, in turn, have an adverse effect on any payments on the notes.

Upon the occurrence of legal or regulatory changes that the calculation agent determines have interfered with our or our affiliates' ability to hedge our obligations under the notes, including the CFTC's adoption of the position limit rules mentioned above, or if for any other reason we or our affiliates are unable to enter into or maintain hedge positions the calculation agent deems necessary to hedge our obligations under the notes, we may adjust the timing and amount of any payment on the notes. See the accompanying product supplement for more information about commodity hedging disruption events and their consequences.

An investment in the notes carries the risks associated with the methodology used to calculate the Contag Beta Indices.

The Contag Beta Indices are constructed using a rules-based methodology that uses, along with other criteria, the slope of the commodity futures curve in order to select a particular futures contract for each eligible commodity in which to synthetically gain exposure (the "**Selection Methodology**"). The futures contract with the highest level of "backwardation" is selected for each eligible commodity (each, a "**Contag Contract**"), subject to certain limitations. If there is no futures contract for the eligible commodity with backwardation, the Selection Methodology will select the futures contract with the lowest level of contango for that commodity.

As the futures contracts approach expiration, they are replaced by futures contracts that have a later expiration in a process referred to as "rolling." Assuming the commodity futures market is in backwardation, the sale of contracts due for delivery in a nearer delivery month would take place at a price that is higher than the price of contracts that are due for delivery in a later delivery month, creating a yield referred to as a "roll yield." By capturing the synthetic return of a notional basket of futures contracts selected by the Selection Methodology, the Contag Beta Indices seek to capitalize on such "roll yield" and on the fact that contracts with backwardation tend to appreciate as those futures contracts draw nearer to expiration over time. The presence of "contango" in the commodity futures market (*i.e.*, where the prices for the relevant futures contracts included in a Contag Beta Index are higher in the distant delivery month than in the nearer delivery month) could result in negative "roll yields." Such contracts may also depreciate as they approach expiration. While the Selection Methodology is intended to select futures contracts with the highest level of backwardation (or in the

absence of backwardation, the least amount of contango), commodity futures contracts generally have historically been in contango and no assurance can be given that the Selection Methodology will be successful in mitigating or avoiding contango and negative roll yields. Contango could adversely affect the level of the Contag Beta Indices and thus the value of notes that provide exposure to a Contag Beta Index.

In addition, the Contag Beta Indices are synthetically exposed to the futures contracts selected as the Contag Contracts by the Selection Methodology and such futures contracts may, in general, be deferred futures contracts (*i.e.*, those contracts having a delivery month further dated than the futures contract with the nearest delivery month). It is generally expected that such deferred futures contracts may have less liquidity than the near-month futures contracts (those being the nearest-to-deliver) with respect to the same commodities. Deferred futures contracts may also be less well correlated with the spot market (physical) prices of the relevant commodities and exhibit different levels of volatility. Accordingly, the Contag Beta Indices may not perform as well as an index linked to the spot prices of the relevant commodities.

No assurance can be given that the investment strategy on which a Contag Beta Index is based will be successful or that such Contag Beta Index will outperform any alternative strategy that might be employed.

The Contag Beta Indices do not represent fully diversified portfolios, are not representative of a pure commodities allocation and are not designed to replicate or track commodities markets generally or any or all of the futures contracts underlying the Contag Beta Indices.

The Contag Beta Indices seek to reflect a notional basket containing a single futures contract that displays the highest degree of backwardation (or in the absence of backwardation, the least amount of contango). The Contag Beta Indices are not designed to replicate or track commodities markets generally or any or all of the futures contracts underlying the Contag Beta Indices. For any given period, the commodities markets or any or all of the futures contracts underlying the Contag Beta Indices may have positive or significantly positive performance, and the Contag Beta Indices may have negative or significantly negative performance, in absolute terms or relative to the commodities markets. An increase in the value of any commodity futures contract included in a Contag Beta Index or any related commodity will not necessarily result in an increase in the level of that Contag Beta Index. In addition, while diversification is generally considered to reduce the amount of risk associated with generating returns, there can be no assurance that any Contag Beta Index will be sufficiently diversified at any time to reduce or minimize such risks to any extent.

An investment in the notes carries the risks associated with the open interest investment strategy employed by each JPMCCI Ex-Front Month Index.

Each JPMCCI Ex-Front Month Index seeks to offer a diversified approach to passive commodity investing that excludes the front-month contract. Unlike other commodity indices that focus exposure at a single maturity (traditionally, the front month contract or a single deferred contract), each JPMCCI Ex-Front Month Index seeks to track exposure along the entire futures curve (*i.e.*, exposure to futures contracts with different maturities), other than the front month, in proportion to their "open interest." Open interest refers to the total number of outstanding futures contracts with respect to a particular commodity that are held by market participants. At any time, open interest refers to the total number of open futures contracts with respect to a particular physical commodity at any time and can be used to determine the approximate size of a particular commodity futures market, a segment of that market or the market for an individual commodity futures contract.

No assurance can be given that the investment strategy used to construct each JPMCCI Ex-Front Month Index will be successful or that any JPMCCI Ex-Front Month Index will outperform any alternative index that might be constructed from commodity indices that focus exposure at a single maturity.

There can be no assurance that the historical average open interest figures will resemble the actual open interest for any particular commodity futures contract.

Each JPMCCI Ex-Front Month Index is intended to be a benchmark weighted across the commodity futures curve by open interest so that it is representative of the investment opportunities in the relevant commodity futures market. However, it is impossible to weight by actual open interest because those figures cannot be determined at the time the weightings are calculated. Each JPMCCI Ex-Front Month Index is therefore weighted using historical average open interest figures, averaged over the previous three years. A three-year average was chosen by the index calculation agent to capture structural and cyclical shifts in liquidity and filter out any short-term anomalies. However, there can be no assurance that the historical average open interest figures will resemble the actual open interest for any particular commodity futures contract.

Commodities prices are volatile and the roll return generated by rolling commodity futures included in each JPMCCI Ex-Front Month Index will have an effect on the level of that JPMCCI Ex-Front Month Index.

Each JPMCCI Ex-Front Month Index comprises commodity futures with different maturities selected on the basis of historical open interest. Each month, contracts that are about to mature, whose weighting in that JPMCCI Ex-Front Month Index have been decreased or that cease to be available for trading before the end of the next roll period will be rolled into contracts with different maturities. In addition, because each JPMCCI Ex-Front Month Index is weighted by open interest, all contracts included in a JPMCCI Ex-Front Month Index will be re-weighted on a monthly basis, whether they are approaching maturity or not, to reflect the monthly change in their open interest. The act of replacing and re-weighting the commodity futures that compose each JPMCCI Ex-Front Month Index will generate a profit or loss known as the roll return. This return will be affected by a number of factors including, whether the prices of the relevant longer dated contracts are more or less than the prices of the shorter dated contracts. The roll return will generally be negative if the prices of the relevant longer dated contracts are greater than the prices of the shorter dated contracts. Conversely, if the prices of the longer dated contracts are less than the prices of the shorter dated contracts then the roll return will generally be positive. The prices of commodity futures can be volatile and the roll return generated by rolling commodity futures included in a JPMCCI Ex-Front Month Index will have an effect, be positive or negative, on that JPMCCI Ex-Front Month Index, and therefore the value of the notes.

An investment in the notes carries the risks associated with the seasonal investment strategy employed by each Seasonal Roll Index.

Unlike other commodity indices that maintain exposure to futures contracts at a specified maturity (traditionally, the front-month contract), each Seasonal Roll Index seeks to track exposure only to a single specified contract or two specified contracts, as applicable, over the course of each year. The contract or contracts referenced by each Seasonal Roll Index were determined based on the historical trading characteristics of exchange-traded futures contracts on the relevant Exchange Commodity, taking into account liquidity and market practice, with the intention of creating an index that would outperform a comparable index that maintains exposure to front-month contracts. No assurance can be given that the investment strategy on which any Seasonal Roll Index is based will be successful or that any Seasonal Roll Index will outperform any alternative strategy that might be employed with respect to the relevant exchange-traded futures contracts.

Prices for the commodity futures contracts referenced by an Index Constituent may change unpredictably and affect the value of the notes in unanticipated ways.

Market prices of commodities tend to be highly volatile and may fluctuate rapidly based on numerous factors, including: changes in supply and demand relationships, governmental programs and policies, national and international monetary, trade, political and economic events, wars and acts of terror, changes in interest and exchange rates, speculation and trading activities in commodities and related contracts, weather, and agricultural, trade, fiscal 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. 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. Many commodities are also highly cyclical. These factors, some of which are specific to the nature of each such commodity, may affect the value of an Index Constituent in varying ways, and different factors may cause the values of different commodities or commodity futures contracts referenced by one or more Index Constituents to move in inconsistent directions at inconsistent rates. This, in turn, will affect the value of the notes. It is not possible to predict the aggregate effect of all or any combination of these factors.

The Index provides one avenue for exposure to commodities. The high volatility and cyclical nature of commodity markets may render these investments inappropriate as the focus of an investment portfolio. See “— The prices of commodities are volatile and are affected by numerous factors, certain of which are specific to the commodity sector for each commodity” below for additional information about factors affecting the value of specific commodity sectors and commodities.

Changes in future prices of commodity future contracts included in an Index Constituent relative to their current prices may lead to a decrease in any payment on the notes.

An Index Constituent is composed of futures contracts on physical commodities. As the contracts that underlie an Index Constituent come to expiration, they are replaced by contracts that have a later expiration. For example, a contract purchased and held in August may specify an October expiration. As time passes, the contract expiring in October is replaced by a contract for delivery in November. This is accomplished by selling the October contract and purchasing the November contract. This process is referred to as “rolling.” Excluding other considerations, if the market for the underlying futures contracts is in “contango,” where the prices are higher in the distant delivery months than in the nearer delivery months, the purchase of the November contract would take place at a price that is higher than the price of the October contract, thereby creating a negative “roll yield.” In addition, excluding other considerations, if the market for the underlying futures contracts is in “backwardation,” where the prices are lower in the distant delivery months than in the nearer delivery months, the purchase of the November contract would take place at a price that is lower than the price of the October contract, thereby creating a positive “roll yield.” The presence of contango in the commodity markets could adversely affect the level of the Index and, accordingly, any payment on the notes.

The Index Constituents do not offer direct exposure to physical commodities.

The Index Constituents are each composed of futures contracts on a commodity. Accordingly, the levels of the Index Constituents will reflect the return on those commodity futures contracts, not the return on the physical commodities underlying those commodity futures contracts. The price of a futures contract reflects the expected value of the commodity upon delivery in the future, whereas the spot price of a commodity reflects the immediate delivery value of the commodity. A variety of factors can lead to a disparity between the expected future price of a commodity and the spot price at a given point in time, such as the cost of storing the commodity for the term of the futures contract, interest charges incurred to finance the purchase of the commodity and expectations concerning supply and demand for the commodity. The price movements of a futures contract are typically correlated with the movements of the spot price of the reference commodity, but the correlation is generally imperfect and price movements in the spot market may not be reflected in the futures market (and vice versa). Accordingly, an Index Constituent may underperform a similar investment that reflects the return on physical commodities.

The notes are not regulated by the Commodity Futures Trading Commission.

The net proceeds to be received by us from the sale of the notes will not be used to purchase or sell any futures contracts or options on futures contracts for your benefit. An investment in the notes thus does not constitute either an investment in futures contracts or options on futures contracts or an investment in a collective investment vehicle that trades in these futures contracts (*i.e.*, the notes will not constitute a direct or indirect investment by you in the futures contracts), and you will not benefit from the regulatory protections of the CFTC. Among other things, this means that we are not registered with the CFTC as a futures commission merchant and you will not benefit from the CFTC's or any other non-U.S. regulatory authority's regulatory protections afforded to persons who trade in futures contracts on a regulated futures exchange through a registered futures commission merchant. For example, the price you pay to purchase notes will be used by us for our own purposes and will not be subject to customer funds segregation requirements provided to customers that trade futures on an exchange regulated by the CFTC.

Unlike an investment in the notes, an investment in a collective investment vehicle that invests in futures contracts on behalf of its participants may be subject to regulation as a commodity pool, and its operator may be required to register with and be regulated by the CFTC as a commodity pool operator, or qualify for an exemption from the registration requirement. Because the notes will not be interests in a commodity pool, the notes will not be regulated by the CFTC as a commodity pool, we will not be registered with the CFTC as a commodity pool operator and you will not benefit from the CFTC's or any non-U.S. regulatory authority's protections afforded to persons who invest in regulated commodity pools.

Suspension or disruptions of market trading in relevant commodity and related futures markets may adversely affect the value of the notes.

The commodity 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. In addition, U.S. futures exchanges and some foreign exchanges have regulations that limit the amount of fluctuation in futures contract prices that may occur during a single day. These limits are generally referred to as "daily price fluctuation limits" and the maximum or minimum price of a contract on any given day as a result of these limits is referred to as a "limit price." Once the limit price has been reached for a particular contract, no trades may be made at a different price. Limit prices have the effect of precluding trading in a particular contract or forcing the liquidation of contracts at disadvantageous times or prices. These circumstances could adversely affect the level of any Index Constituent and, therefore, the value of your notes.

An increase in the margin requirements for any commodity futures contracts underlying an Index Constituent may adversely affect the value of the notes.

Futures exchanges require market participants to post collateral in order to open and keep open positions in futures contracts. If an exchange increases the amount of collateral required to be posted to hold positions in commodity futures contracts underlying any Index Constituent, market participants who are unwilling or unable to post additional collateral may liquidate their positions, which may cause the level of that Index Constituent to decline significantly. As a result, the value of the notes may be adversely affected.

An Index Constituent may be subject to pronounced risks of pricing volatility.

As a general matter, the risk of low liquidity or volatile 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 physical delivery of the underlying commodities. Many commodities, like those in the energy and industrial metals sectors, have liquid futures contracts that expire every month. Therefore, these contracts are rolled forward every month. Contracts based on certain other commodities, most notably agricultural and livestock products, tend to have only a few contract months each year that trade with substantial liquidity. Thus, these commodities, with related futures contracts that expire infrequently, roll forward less frequently than every month, and can have further pronounced pricing volatility during extended periods of low liquidity. The risk of irregular 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. In respect of an Index Constituent that represents energy, it should be noted that due to the significant level of continuous consumption, limited reserves and oil cartel controls, energy commodities 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 level of an Index Constituent and any payment on the notes.

Bloomberg Finance L.P. (“Bloomberg”) may alter the composition of the Bloomberg Commodity IndexSM, which could affect the calculation and composition of the Index.

A futures contract known as a “Designated Contract” has been selected as the reference contract for each of the underlying physical commodities included in the Bloomberg Commodity IndexSM. The termination or replacement of a futures contract on an established exchange occurs infrequently; however, if one or more Designated Contracts were to be terminated or replaced by an exchange, a comparable futures contract would be selected, if available, to replace each that Designated Contract. In the event that a Designated Contract is added to or removed from the calculation of the Bloomberg Commodity IndexSM or is replaced an existing Designated Contract is replaced by a new Designated Contract, the rules governing the Index and/or the Index Constituents may be amended to account for that change, and the composition of the Index and/or the Index Constituents may change. The addition of a new eligible commodity, or the deletion or replacement of an existing commodity, could adversely affect the level of the Index and therefore, the value of your notes.

Bloomberg has no obligation to consider your interests.

Bloomberg is responsible for calculating and maintaining the Bloomberg Commodity IndexSM, including the Commodity Index Percentages of the Bloomberg Commodity IndexSM. The weights assigned to the commodities referenced in the Index are based on those Commodity Index Percentages. Bloomberg can make methodological changes that could change the Commodity Index Percentages or their method of determination at any time and they have no obligation to consider your interests. Bloomberg may discontinue or suspend calculation or dissemination of the Bloomberg Commodity IndexSM, including the Commodity Index Percentages. Any of these actions could adversely affect market value and/or any payments under the notes. See “Background on the Bloomberg Commodity IndexSM” below for additional information. Bloomberg has no obligation to consider your interests in calculating or revising the methodology of the Bloomberg Commodity IndexSM.

The prices of commodities are volatile and are affected by numerous factors, certain of which are specific to the commodity sector for each commodity.

A decrease in the price of any of the commodities upon which the futures contracts underlying an Index Constituent are based may have a material adverse effect on the value of the notes and your return on your investment in the notes. Commodities and commodity futures contracts are subject to the effect of numerous factors, certain of which are specific to the commodity sector for each commodity or commodity futures contract to which your notes provide exposure, as discussed below.

Agricultural Sector

Global prices of agricultural commodities, including cocoa, coffee, corn, cotton, soybean meal, soybean oil, soybeans, sugar, wheat and Kansas wheat, are primarily affected by the global demand for and supply of those commodities but are also significantly influenced by speculative actions and by currency exchange rates. In addition, prices for agricultural commodities are affected by governmental programs and policies regarding agriculture, as well as general trade, fiscal and exchange control policies. Extrinsic factors, such as drought, floods, general weather conditions, disease and natural disasters may also affect agricultural commodity prices. Demand for agricultural commodities, such as wheat, corn and soybeans, both for human consumption and as cattle feed, has generally increased with worldwide growth and prosperity.

Energy Sector

Global prices of energy commodities, including WTI crude oil, Brent crude oil, RBOB gasoline, heating oil, gasoil and natural gas, are primarily affected by the global demand for and supply of these commodities, but they are also significantly influenced by speculative actions and by currency exchange rates. In addition, prices for energy commodities are affected by governmental programs and policies, national and international political and economic events, changes in interest and exchange rates, trading activities in commodities and related contracts, trade, fiscal, monetary and exchange control policies, and with respect to oil, drought, floods, weather, government intervention, environmental policies, embargoes and tariffs. Demand for refined petroleum products by consumers, as well as by the agricultural, manufacturing and transportation industries, affects the price of energy commodities. Sudden disruptions in the supplies of energy commodities, such as those caused by war, natural events, accidents or acts of terrorism, may cause prices of energy commodity futures contracts to become extremely volatile and unpredictable. Also, sudden and dramatic changes in the futures market may occur, for example, upon a cessation of hostilities that may exist in countries producing energy commodities, the introduction of new or previously withheld supplies into the market or the introduction of substitute products or commodities. In particular, supplies of crude oil may increase or decrease depending on, among other factors, production decisions by the Organization of the Oil and Petroleum Exporting Countries ("OPEC") and other crude oil producers. Crude oil prices are determined with significant influence by OPEC, which has the capacity to influence oil prices worldwide because its members possess a significant portion of the world's oil supply. Crude oil prices are generally more volatile and more subject to dislocation than are prices of other commodities. Demand for energy commodities such as oil and gasoline is generally linked to economic activity and will tend to reflect general economic conditions.

Industrial Metals Sector

Global prices of industrial metals commodities, including aluminum, copper, lead, nickel and zinc, are primarily affected by the global demand for and supply of these commodities, but they are also significantly influenced by speculative actions and by currency exchange rates. Demand for industrial metals is significantly influenced by the level of global industrial economic activity. Prices for industrial metals commodities are affected by governmental programs and policies, national and international political and economic events, changes in interest and exchange rates, trading activities in commodities and related contracts, trade, fiscal, monetary and exchange control policies, government intervention, embargoes and tariffs. An additional, but highly volatile, component of demand for industrial metals is adjustments to inventory in response to changes in economic activity and/or pricing levels, which will influence investment decisions in new mines and smelters. Sudden disruptions in the supplies of industrial metals, such as those caused by war, natural events, accidents, acts of terrorism, transportation problems, labor strikes and shortages of power, may cause prices of industrial metals futures contracts to become extremely volatile and unpredictable. The introduction of new or previously withheld supplies into the market or the introduction of substitute products or commodities will also affect the prices of industrial metals commodities.

Livestock Sector

Livestock commodities, including live cattle, feeder cattle and lean hogs, are “non-storable” commodities, and therefore may experience greater price volatility than traditional commodities. Global livestock commodity prices are primarily affected by the global demand for and supply of those commodities, but are also significantly influenced by speculative actions and by currency exchange rates. In addition, prices for livestock commodities are affected by governmental programs and policies regarding livestock, as well as general trade, fiscal and exchange control policies. Extrinsic factors, such as drought, floods, general weather conditions, disease (e.g., Bovine Spongiform Encephalopathy, or Mad Cow Disease), availability of and prices for livestock feed and natural disasters may also affect livestock commodity prices. Demand for livestock commodities has generally increased with worldwide growth and prosperity.

Precious Metals Sector

Global prices of precious metals commodities, including gold and silver, are primarily affected by the global demand for and supply of those commodities, but they are also significantly influenced by speculative actions and by currency exchange rates. Gold prices in particular are subject to volatile price movements over short periods of time and are affected by numerous factors, including macroeconomic factors, such as the structure of and confidence in the global monetary system, expectations regarding the future rate of inflation, the relative strength of, and confidence in, the U.S. dollar (the currency in which the price of gold is usually quoted), interest rates, gold borrowing and lending rates and global or regional economic, financial, political, regulatory, judicial or other events. Gold prices may be affected by industry factors, such as industrial and jewelry demand as well as lending, sales and purchases of gold by the official sector, including central banks and other governmental agencies and multilateral institutions that hold gold. Additionally, gold prices may be affected by levels of gold production, production costs and short-term changes in supply and demand due to trading activities in the gold market. From time to time, above-ground inventories of gold may also influence the market. It is not possible to predict the aggregate effect of all or any combination of these factors. The price of gold has recently been, and may continue to be, extremely volatile.

Silver prices are also subject to fluctuation and may be affected by numerous factors. These include general economic trends, technical developments, substitution issues and regulation, as well as specific factors including industrial and jewelry demand, expectations with respect to the rate of inflation, the relative strength of the U.S. dollar (the currency in which the price of silver is generally quoted) and other currencies, interest rates, central bank sales, forward sales by producers, global or regional political or economic events and production costs and disruptions in major silver-producing countries, such as Mexico, China and Peru. The demand for and supply of silver affect silver prices, but not necessarily in the same manner as supply and demand affect the prices of other commodities. The supply of silver consists of a combination of new mine production and existing stocks of bullion and fabricated silver held by governments, public and private financial institutions, industrial organizations and private individuals. In addition, the price of silver has on occasion been subject to very rapid short-term changes due to speculative activities. From time to time, above-ground inventories of silver may also influence the market. The major end uses for silver include industrial applications, jewelry and silverware. It is not possible to predict the aggregate effect of all or any combination of these factors.

THE J.P. MORGAN ENHANCED BETA SELECT ALTERNATIVE BENCHMARK TOTAL RETURN INDEX

General

The J.P. Morgan Enhanced Beta Select Alternative Benchmark Total Return Index (the “**Index**”) was developed and is maintained and calculated by J.P. Morgan Securities plc (which we refer to as “**JPMS plc**”). The description of the strategy and methodology underlying the Index included in this underlying supplement is based on rules formulated by JPMS plc (which we refer to as the “**Index Rules**”) and is qualified by the full text of the Index Rules. The Index Rules, and not this description, will govern the calculation and constitution of the Index and other decisions and actions related to its maintenance. The Index Rules in effect as of the date of this underlying supplement are attached as Annex A to this underlying supplement. The Index Rules are the intellectual property of JPMS plc, and JPMS plc reserves all rights with respect to its ownership of the Index. The Index was established on December 1, 2012.

The Index is reported by Bloomberg L.P. under the ticker symbol “JMEBDJST <Index>”.

The Index is a notional dynamic index that currently tracks the return of 22 weighted synthetic excess return sub-indices (out of a universe of 26 potential synthetic excess return sub-indices) (each, an “**Index Constituent**” and, collectively, the “**Index Constituents**”), plus the return on three-month U.S. Treasury bills.

Each of the Index Constituents is a single-commodity index (*i.e.*, an index that tracks futures contracts on a single commodity) that references futures contracts on one of the commodities specified in the table below. Each Index Constituent utilizes a contract selection framework that is intended to outperform a comparable index that maintains exposure to front-month contracts on the relevant commodity. No assurance can be given that the investment strategy on which any Index Constituent is based will be successful or that any Index Constituent will outperform any alternative strategy that might be employed with respect to the relevant futures contracts.

The Index rebalances once each year, and on each rebalancing date, each Index Constituent is assigned a weight that, as of the relevant determination date, is equal to the most recently published target weight of the Bloomberg commodity sub-index that references the commodity associated with that Index Constituent, *provided* that the weight of each Index Constituent for which no such target weight is published will be equal to zero. As of the date of this underlying supplement, the Index Constituents that track futures contracts on cocoa, feeder cattle, gas oil and lead have been assigned weights of zero. See “The Bloomberg Commodity IndexSM — Annual Reweightings and Rebalancings of The Bloomberg Commodity IndexSM” in this underlying supplement for a list of the target weights currently applicable to the Bloomberg commodity sub-indices.

The 26 Index Constituents consist of thirteen Contag Beta Indices (as defined under “Background on the J.P. Morgan Contag Beta Indices” below), three JPMCCI Ex-Front Month Indices (as defined under “Background on the JPMCCI Ex-Front Month Indices” below) and ten Seasonal Roll Indices (as defined under “Background on the JPMorgan Seasonal Roll Indices” below).

Contag Beta Indices. Each Contag Beta Index is a notional rules-based proprietary index that is intended to capture the return of the synthetic exposure to a single commodity (the “Contag Beta Relevant Commodity”), which is represented by a commodity futures contract selected by a methodology developed by JPMS plc, which we refer to as the “Selection Methodology.” The Selection Methodology uses, among other criteria, the slope of the futures curve for the Contag Beta Relevant Commodity underlying the applicable Contag Beta Index to select the futures contract for that Contag Beta Relevant Commodity with the highest level of backwardation (or in the absence of backwardation, the least amount of contango), subject to certain limitations (the “Contag Contract”).

If there is no futures contract for the Contag Beta Relevant Commodity with backwardation, the Selection Methodology will select the futures contract with the lowest level of contango.

"Backwardation" refers to the situation where the futures contracts for a commodity with a delivery month further in time have lower contract prices than futures contracts for the same commodity with a delivery month closer in time. "Contango" refers to the situation where the futures contracts for a commodity with a delivery month further in time have higher contract prices than futures contracts for the same commodity with a delivery month closer in time. For additional information about the Contag Beta Indices, see "Background on the J.P. Morgan Contag Beta Indices" in this underlying supplement.

JPMCCI Ex-Front Month Indices. The JPMCCI Ex-Front Month Indices are members of the JPMorgan Commodity Curve Index ("JPMCCI") family, which seeks to offer a diversified approach to passive commodity investing that excludes the front-month contract. Unlike other commodity indices that focus exposure at a single maturity (traditionally, the front month contract or a single deferred contract), each JPMCCI Ex-Front Month Index seeks to track exposure along the entire futures curve (i.e., exposure to futures contracts with different maturities), other than the front month, for the commodity included in that JPMCCI Ex-Front Month Index in proportion to their "open interest." Open interest refers to the total number of outstanding futures contracts with respect to a particular commodity that are held by market participants. At any time, open interest refers to the total number of open futures contracts with respect to a particular physical commodity at any time and can be used to determine the approximate size of a particular commodity futures market, a segment of that market or the market for an individual commodity futures contract. The JPMCCI Ex-Front Month Indices are ex-front month indices that exclude the first near month futures contract (as long as exposure is provided to at least one futures contract from a later month). For additional information about the JPMCCI Ex-Front Month Indices, see "Background on the JPMCCI Ex-Front Month Indices" in this underlying supplement.

Seasonal Roll Indices. Each Seasonal Roll Index is a notional rules-based proprietary strategy that aims to replicate the returns of a long position in exchange-traded futures contracts on a single commodity. Unlike other commodity indices that maintain exposure to futures contracts at a specified maturity (traditionally, the front-month contract), each Seasonal Roll Index seeks to track exposure only to a single specified contract or two specified contracts, as applicable, over the course of each year. The contract or contracts referenced by each Seasonal Roll Index were determined based on the historical trading characteristics of exchange-traded futures contracts on the relevant commodity, taking into account liquidity and market practice, with the intention of creating an index that would outperform a comparable index that maintains exposure to front-month contracts on the same commodity. For additional information about the Seasonal Roll Indices, see "Background on the JPMorgan Seasonal Roll Indices" in this underlying supplement.

No assurance can be given that the investment strategy used to construct the Index or any Index Constituent will be successful or that the Index will outperform any alternative strategy that might be constructed from the Index Constituents.

The Index is described as a "notional" or "synthetic" portfolio or basket because its reported value does not represent the value of any actual assets held by any person, and there is no actual portfolio of assets in which any person has any ownership interest. The level of the Index at any point reflects the return of the hypothetical uncollateralized portfolio composed of the Index Constituents.

The following table sets forth the Underlying Index for each of the 26 Index Constituents, as well as their respective Underlying Commodities and Bloomberg Tickers.

	Underlying Index	Underlying Commodity	Bloomberg Ticker
1	J.P. Morgan Contag Beta Natural Gas Excess Return Index	Natural Gas	JCTABNGE <Index>
2	J.P. Morgan Contag Beta WTI Crude Oil Excess Return Index	WTI Crude Oil	JCTABCLE <Index>
3	J.P. Morgan Contag Beta Gasoline Excess Return Index	Unleaded Gasoline/Gasoline (RBOB)	JCTABXBE <Index>
4	J.P. Morgan Contag Beta Heating Oil Excess Return Index	Heating Oil	JCTABHOE <Index>
5	JPMorgan Commodity Curve Ex-Front Month Live Cattle Excess Return Index	Live Cattle	JMCXXLCE <Index>
6	JPMorgan Commodity Curve Ex-Front Month Lean Hogs Excess Return Index	Lean Hogs	JMCXXLHE <Index>
7	JPMorgan Seasonal Custom Roll 2 Wheat Index—Excess Return	Wheat	JMC1SWP <Index>
8	JPMorgan Seasonal Custom Roll 2 Corn Index—Excess Return	Corn	JMC1SCP <Index>
9	JPMorgan Seasonal Custom Roll 2 Soybean Index—Excess Return	Soybeans	JMC1SSP <Index>
10	J.P. Morgan Contag Beta Aluminum Excess Return Index	Aluminum	JCTABLAE <Index>
11	J.P. Morgan Contag Beta Comex Copper Excess Return Index	Comex Copper	JCTABHGE <Index>
12	J.P. Morgan Contag Beta Zinc Excess Return Index	Zinc	JCTABLXE <Index>
13	J.P. Morgan Contag Beta Nickel Excess Return Index	Nickel	JCTABLNE <Index>
14	J.P. Morgan Contag Beta Gold Excess Return Index	Gold	JCTABGCE <Index>
15	J.P. Morgan Contag Beta Silver Excess Return Index	Silver	JCTABSIE <Index>
16	JPMorgan Seasonal Custom Roll 2 Sugar Index—Excess Return	Sugar	JMC1SSBP <Index>
17	JPMorgan Seasonal Custom Roll 2 Cotton Index—Excess Return	Cotton	JMC1SCTP <Index>
18	JPMorgan Seasonal Custom Roll 2 Coffee Index—Excess Return	Coffee	JMC1SKCP <Index>
19	JPMorgan Seasonal Custom Roll 2 Cocoa Index—Excess Return	Cocoa	JMC1SCCP <Index>
20	JPMorgan Seasonal Custom Roll 2 Soybean Oil Index—Excess Return	Soybean Oil	JMC1SBOP <Index>
21	J.P. Morgan Contag Beta Brent Crude Oil Excess Return Index	Brent Crude Oil	JCTABCOE <Index>
22	J.P. Morgan Contag Beta Gas Oil Excess Return Index	Gas Oil	JCTABQSE <Index>
23	JPMorgan Seasonal Custom Roll 2 Kansas Wheat Index—Excess Return	Kansas Wheat	JMC1SKWP <Index>

	Underlying Index	Underlying Commodity	Bloomberg Ticker
24	J.P. Morgan Contag Beta Lead Excess Return Index	Lead	JCTABLL <Index>
25	JPMorgan Commodity Curve Ex-Front Month Feeder Cattle Excess Return Index	Feeder Cattle	JMCXXFCE <Index>
26	JPMorgan Seasonal Custom Roll 2 Soybean Meal Index—Excess Return	Soybean Meal	JMC1SSMP <Index>

An “**Underlying Index**” means, with respect to each Index Constituent, the commodity index underlying that Index Constituent.

An “**Underlying Commodity**” means, with respect to each Index Constituent, a commodity referenced by the Underlying Index of that Index Constituent as determined in accordance with the index rules or methodology of that Underlying Index.

Index Rebalancing

The Index will be rebalanced on each annual Index Rebalancing Date to reset the synthetic exposure to the Index Constituents. The weights of the Index Constituents (the “**Index Constituent Weights**”) are determined on each annual Index Rebalancing Determination Date and are applied on the following Index Rebalancing Date.

The “**Index Rebalancing Determination Dates**” are the tenth Index Business Day of each calendar year.

The “**Index Rebalancing Date**,” with respect to an Index Rebalancing Determination Date, is the Index Calculation Day immediately following that Index Rebalancing Determination Date.

An “**Index Calculation Day**” is any day on which the New York Stock Exchange is scheduled to be open for trading for its regular trading session, without regard to after-hours trading or any other trading outside of the regular trading session hours.

An “**Index Business Day**” means any weekday that is not a U.S. federal holiday.

With respect to each Index Rebalancing Determination Date, the Index Constituent Weight of each Index Constituent will be the most recently published target weight for the commodity that is associated with the Bloomberg commodity sub-index referencing the Underlying Commodity with respect to that Index Constituent that is published prior to that Index Rebalancing Determination Date by Bloomberg Finance L.P. (or any of its successors or affiliates, each, a “**Bloomberg-related Entity**”) in connection with the Bloomberg Commodity IndexSM available on that Index Rebalancing Determination Date, *provided* that the Index Constituent Weight of each Index Constituent for which no such target weight is published will be zero.

Calculation of the Index Level

JPMS plc, or any affiliate or subsidiary designated by it, will act as calculation agent for the Index (the “**Index Calculation Agent**”). The Index Calculation Agent will calculate the level (the “**Index Level**”) of the Index on each Index Calculation Day.

Index Level

The Index Level is determined in respect of each Index Calculation Day. The Index Level is calculated by adjusting the Index Level as of the immediately preceding Index Calculation Day to reflect the weighted average performance of each Index Constituent since that Index Calculation Day and the return on three-month U.S. Treasury bills, as represented by the T-Bill Rate, since that Index Calculation Day.

The “**T-Bill Rate**” on any Index Calculation Day is the three month weekly Auction High Discount Rate for United States Treasury bills on that Index Calculation Day, as reported on the Bloomberg® index USB3MTA; *provided, however* if that rate is not available at the applicable Bloomberg page, the rate will be determined as described under “Index Market Disruptions — The T-Bill Rate” below.

The Index Level on January 8, 1999 (the “**Index Inception Date**”) was 100. With respect to each Index Calculation Day following the Index Inception Date, the Index Calculation Agent calculates the Index Level in accordance with the following formula:

$$\text{Index}(t) = \text{Index}(t-1) \times \left[\frac{\left[1 + \sum_{i=1}^{26} W_i \times \text{PTDCP}_i(t) \right]}{\left[1 + \sum_{i=1}^{26} W_i \times \delta(t-1) \times \text{PTDCP}_i(t-1) \right]} + \text{TBR}_t \right] \times (1 + \text{TBR}_t)^{A(t)}$$

where:

Index(t)	means the Index Level on Index Calculation Day t, rounded to 4 decimal places;
Index(t-1)	means, with respect to Index Calculation Day t, the Index Level on the Index Calculation Day immediately preceding Index Calculation Day t, rounded to 4 decimal places;
W_i	means the Index Constituent Weight of the i-th Constituent on Index Calculation Day t, determined as described above under “Index Rebalancing”;
$\text{PTDCP}_i(t)$	means the Period-To-Date Constituent Performance for the i-th Index Constituent on Index Calculation Day t, determined as described below under “— Period-To-Date Constituent Performance”;
$\text{PTDCP}_i(t-1)$	means the Period-To-Date Constituent Performance for the i-th Index Constituent on Index Calculation Day t-1, determined as described below under “— Period-To-Date Constituent Performance”;
$\delta(t-1)$	is equal to 0 if Index Calculation Day t-1 is an Index Rebalancing Date; otherwise, 1;
TBR_t	means, with respect to Index Calculation Day t, the return associated with the T-Bill Rate on Index Calculation Day t, calculated using the following formula:

$$\text{TBR}_t = \left(\left(1 - \frac{91}{360} \times \text{TBILL}_{t-1} \right)^{\frac{-1}{91}} \right) - 1$$

where $TBILL_{t-1}$ means the T-Bill Rate on Index Calculation Day t-1; and

$A(t)$ means the number of calendar days that are not Index Calculation Days from (and excluding) Index Calculation Day t-1 to (and including) Index Calculation Day t.

With respect to any Index Calculation Day, if an Index Market Disruption Event has occurred or is continuing with respect to any Index Constituent on any Index Calculation Day from and including the Index Rebalancing Date immediately preceding that Index Calculation Day to and including that Index Calculation Day, the Index Level for that Index Calculation Day will be determined as described above, subject to the modifications described under "Index Market Disruptions" below.

Period-To-Date Constituent Performance

For each Index Constituent, the "Period-To-Date Performance" on any Index Calculation Day represents the return of that Index Constituent from the Index Rebalancing Date immediately preceding that Index Calculation Day to that Index Calculation Day. Accordingly, the Index Calculation Agent calculates the Period-To-Date Performance for each Index Constituent with respect to each Index Calculation Day in accordance with the following formula:

$$PTDCP_i(t) = \left[\frac{\text{Constituent}_i(t)}{\text{Constituent}_i(RD_{n-1})} - 1 \right]$$

where:

$PTDCP_i(t)$ means the Period-To-Date Performance for the i-th Index Constituent on Index Calculation Day t;

$\text{Constituent}_i(t)$ means the U.S. Dollar Level of the i-th Index Constituent on Index Calculation Day t; and

$\text{Constituent}_i(RD_{n-1})$ means the U.S. Dollar Level of the i-th Index Constituent on the Index Rebalancing Date immediately preceding Index Calculation Day t.

With respect to an Index Constituent, the "**U.S. Dollar Level**" on any Index Calculation Day means (a) the official closing level of the Underlying Index of that Index Constituent as published by the relevant Constituent Sponsor; *provided, however* that if the Index Calculation Agent determines that such official closing level reflects manifest error on the part of the relevant Constituent Sponsor, the Index Calculation Agent will determine the U.S. Dollar Level of that Index Constituent in good faith and in a commercially reasonable manner or (b) in such circumstances as set out in the definition of Non-Publication Event (as defined below under "Index Market Disruptions — Index Market Disruption Events") relating to the calculation of a Proxy Calculated Level (as defined below under "Index Market Disruptions — Index Market Disruption Events"), the U.S. Dollar Level will be the Proxy Calculated Level.

"**Constituent Sponsor**" means, with respect to each Index 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 that Index Constituent and (b) announces (directly or through an agent) the level of the Index Constituent on a regular basis.

Publication of the Index Level

With respect to each Index Calculation Day, the Index Calculation Agent will endeavor to publish the Index Level for that Index Calculation Day before, at or around 12:00 p.m. London time on the following Index Calculation Day, rounded to 4 decimal places.

Although the Index Calculation Agent will endeavor to publish the Index Level even with respect to an Index Calculation Day that is an Index Disrupted Day, the Index Calculation Agent is not obligated to publish the Index Level with respect to any Index Calculation Day that is an Index Disrupted Day. The Index Level published with respect to any Index Calculation Day that is an Index Disrupted Day will be considered solely indicative and is not intended to provide information regarding “tradable levels.” The Index Calculation Agent generally will not revise a published Index Level once published. However, where the Index Level on subsequent Index Calculation Days depends on the Index Level on prior Index Calculation Days (e.g., the Index Level on the previous Index Rebalancing Date), the Index Calculation Agent will apply the Adjusted Index Level, which is different from the published level. See “Index Market Disruptions — Effect of an Index Disrupted Day on Later Calculations” below.

The Index Calculation Agent will calculate, but not publish, an Adjusted Index Level for any Index Calculation Day that is an Index Disrupted Day. Upon request, the Index Calculation Agent will provide that Adjusted Index Level, as calculated on any succeeding Index Calculation Day. For additional information about Adjusted Index Levels, see “Index Market Disruptions — Effect of an Index Disrupted Day on Later Calculations” below.

Index Market Disruptions

The following sections summarize the effects that an Index Market Disruption Event has on the calculation of the Index. For additional information about the manner in which the Index Calculation Agent will calculate the Index upon the occurrence of an Index Market Disruption Event, please refer to the Index Rules.

Calculation of the Index Level on an Index Disrupted Day

If, with respect to any Index Calculation Day, an Index Market Disruption Event has occurred or is continuing (such day, an “**Index Disrupted Day**”), the Index Calculation Agent will calculate the Index Level in the manner described in “Calculation of the Index Level” above (as modified by “— Effect of an Index Disrupted Day on Later Calculations” below, if applicable), unless a Non-Publication Event has occurred or is continuing with respect to any Index Constituent on that Index Disrupted Day (such day, a “**Non-Publication Day**”). If that Index Disrupted Day is a Non-Publication Day with respect to any Index Constituent, for purposes of calculating the Index Level on that Index Disrupted Day, the U.S. Dollar Level of that Index Constituent will be equal to the U.S. Dollar Level of that Index Constituent on the immediately preceding Index Calculation Day that was not a Non-Publication Day with respect to that Index Constituent.

Effect of an Index Disrupted Day on Later Calculations

As described under “Calculation of the Index Level” above, when calculating the Index Level on any Index Calculation Day, the Index Calculation Agent references the Index Level and the U.S. Dollar Levels of the Index Constituents on each Index Calculation Day from and including the immediately preceding Index Rebalancing Date, to and including the immediately preceding Index Calculation Day. In this underlying supplement, we refer to each of these prior Index Calculation Days as a “**Prior Date**.” If, with respect to any Index Calculation Day, any Prior Date was an Index Disrupted Day, the Index Calculation Agent will calculate the Index Level for that Index Calculation Day in the manner described in “Calculation of the Index Level” above (as modified by “— Calculation of the Index Level on an Index Disrupted Day” above, if applicable), with the following exceptions:

- the Index Calculation Agent will use the Adjusted Index Level with respect to that Prior Date, as calculated on that Index Calculation Day, instead of the Index Level calculated on that Prior Date, *provided* that the Index Calculation Agent will use the Index Level calculated on that Prior Date if that Prior Date is the immediately preceding Index Calculation Date; and
- with respect to any Index Constituent that was affected by an Index Market Disruption Event (each, a “**Disrupted Constituent**”) on that Prior Date, the Index Calculation Agent will use the Adjusted U.S. Dollar Level of that Index Constituent with respect to that Prior Date, as calculated on that Index Calculation Day, instead of the U.S. Dollar Level of that Index Constituent on that Prior Date.

The “**Adjusted Index Level**” with respect to any Index Disrupted Day, as calculated on a subsequent Index Calculation Day, is calculated in the same manner as the Index Level on that Index Disrupted Day, except that the Index Calculation Agent will use the Adjusted U.S. Dollar Level of any Disrupted Constituent with respect to that Index Disrupted Day, as calculated on that subsequent Index Calculation Day, instead of the U.S. Dollar Level of that Disrupted Constituent on that Index Disrupted Day.

With respect to any Disrupted Constituent, the “**Adjusted U.S. Dollar Level**” with respect to any Index Disrupted Day, as calculated on a subsequent Index Calculation Day, is the U.S. Dollar Level of that Disrupted Constituent on the first Index Calculation Day following that Index Disrupted Day that is not an Index Disrupted Day with respect to that Disrupted Constituent; *provided* that, if each of the five Index Calculation Days immediately succeeding that Index Disrupted Day are Index Disrupted Days with respect to that Disrupted Constituent, the Index Calculation Agent will determine the Adjusted U.S. Dollar Level in good faith and in a commercially reasonable manner. With respect to an Index Calculation Day that is fewer than five Index Calculation Days after that Index Disrupted Day, if each Index Calculation Day from that Index Disrupted Day to and including that Index Calculation Day is an Index Disrupted Day with respect to that Disrupted Constituent, the Adjusted U.S. Dollar Level of that Disrupted Constituent on that Index Disrupted Day, as calculated on that Index Calculation Day, will be equal to the U.S. Dollar Level of that Disrupted Constituent on that Index Calculation Day.

Index Market Disruption Events

With respect to the Index, an “**Index Market Disruption Event**” means, with respect to any Index Calculation Day, the occurrence or continuation of an Index Market Disruption Event on that Index Calculation Day with respect to any Index Constituent.

With respect to an Index Constituent, an “**Index Market Disruption Event**” means, with respect to any Index Calculation Day,

- a material limitation, suspension, discontinuation or disruption of trading in one or more options or futures contracts referenced by the Underlying Index of that Index Constituent on the relevant commodity that 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 that option(s) and/or futures contract(s) on the day on which that event occurs or any succeeding day on which it continues;
- a limitation, suspension or disruption of trading in one or more options or futures contracts referenced by the Underlying Index of that Index Constituent on the relevant commodity by reason of movements exceeding “limit up” or “limit down” levels permitted by the Relevant Exchange and that, 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 that Index Calculation Day;

- publication by the Relevant Exchange of a “limit price” as the official settlement price for any futures contract on the relevant commodity related to the Underlying Index of that Index Constituent (by reason of movements exceeding “limit up” or “limit down” levels permitted by the Relevant Exchange);
- the occurrence of a Non-Publication Event; or
- the Relevant Exchange for futures contracts on the relevant commodity or commodities related to the Underlying Index of that Index Constituent is not open for trading during its regular trading session, regardless of whether any such exchange closes prior to its scheduled closing time.

“Non-Publication Event” means the failure by the Relevant Exchange, Constituent 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 Constituent or (b) the U.S. Dollar Level of an Index Constituent, in either case by noon (London time) on the immediately following Index Calculation Day; *provided, however* that the occurrence of such an event will not constitute a Non-Publication Event in the case of clause (b) hereof if the Index Calculation Agent determines in its sole discretion by noon (London time) on that immediately following Index Calculation Day that the information necessary for determining the U.S. Dollar Level of an Index Constituent has been announced publicly or published by the Relevant Exchange, Constituent Sponsor or other price source in which case the Index Calculation Agent will determine the U.S. Dollar Level of that Index Constituent (the U.S. Dollar Level so determined being a **“Proxy Calculated Level”**) in good faith and in a commercially reasonable manner.

“Relevant Exchange” means, with respect to any Underlying Commodity of an Index Constituent, the applicable commodities futures exchange on which the future contracts for that Underlying Commodity trade as determined by the index rules or methodology of the Underlying Index related to the applicable Index Constituent.

Extraordinary Events Affecting the Index Constituents

Successor Index Constituent

If any Index Constituent is (a) not calculated and announced by the Constituent Sponsor but is calculated and announced by a successor sponsor acceptable to the Index Calculation Agent or (b) replaced by a successor index using, in the determination of the Index Calculation Agent, the same or substantially similar formula for and method of calculation as used in the calculation of that Index Constituent, then that index will be deemed to be the index so calculated and announced by that successor index sponsor or that successor index, as the case may be.

Material Change in the Method of or Formula for Calculating an Index Constituent

If on or prior to any Index Calculation Day on which the Index Calculation Agent is determining the Index Level, the relevant Constituent Sponsor makes a material change in the formula for or the method of calculating a relevant Index Constituent (other than a modification prescribed in that formula or method to maintain that index in the Index Constituent or prescribed routine events) that affects the ability of the Index Calculation Agent to calculate the Index Level, then the Index Calculation Agent will, in good faith, make such adjustment(s) that it determines to be appropriate to any variable, calculation, methodology or detail in the specified in the Index Rules or any other input in relation to the Index to account for that modification.

Non-Publication of an Index Constituent as a result of Cancellation of the Index Constituent

On or prior to any Index Calculation Day on which the Index Calculation Agent is determining the Index Level, if an Constituent Sponsor permanently cancels an Index Constituent, and no successor index exists, the Index Calculation Agent will, in good faith, either:

- continue to calculate the Index Level of the Index using the latest terms specified in the Index Rules at the time that Index Constituent was cancelled; or
- 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 Index to account for that cancellation, including but not limited to excluding or substituting a relevant Index Constituent.

Change in Law Event

Without prejudice to the ability of the Index Calculation Agent to amend the Index Rules, the Index Calculation Agent may, acting in good faith and in a commercially reasonable manner:

- exclude; or
- substitute,

any Index Constituent following the occurrence (and/or continuation) of a Change in Law or in circumstances where it considers it reasonably necessary to do so to reflect the intention of the Index, including (without prejudice to the generality of the foregoing) any perception among market participants generally that the published price of the relevant Index Constituent is inaccurate (and the Relevant Exchange fails to correct that level of the underlying futures contract or Constituent Sponsor fails to correct that level of the Underlying Index), and if it so excludes or substitutes any Index Constituent, then the Index Calculation Agent may adjust the Index Rules as it determines in good faith to be appropriate to account for that exclusion or substitution on such date(s) selected by the Index Calculation Agent. The Index Calculation Agent is under no obligation to continue the calculation and publication of the Index upon the occurrence or existence of a Change in Law; and the Index Calculation Agent may decide to cancel the Index if it determines, acting in good faith, that the objective of the Index can no longer be achieved.

“Change in Law” means:

- due to:
 - the adoption of, or any change in, any applicable law, regulation or rule (including, without limitation, any tax law); or
 - 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 (a) it is contrary to that 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 Index Constituent of the Index, any transaction referencing the Index Constituent or any component of the Index Constituent (including without limitation, commodities futures contracts) or, (b) holding a position in

any Index Constituent of the Index, any transaction referencing the Index Constituent or any component of the Index Constituent (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 that Index Constituent, transaction referencing the Index Constituent or component of the Index Constituent traded on any exchange(s) or other trading facility (including, without limitation, any relevant exchange); or

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

Cancellation of an Index License relating to an Index Constituent

With respect to the Index, if, at any time, the license granted to the Index Calculation Agent (or its affiliates) to use any Index Constituent for the purposes of the Index terminates, or the Index Calculation Agent's rights to use any Index Constituent for the purpose of the Index is otherwise disputed, impaired or ceases (for any reason), the Index Calculation Agent may (a) remove that Index Constituent from the Index or (b) replace that Index Constituent and may make such adjustments to the Index Rules as it determines in good faith to be appropriate to account for that event on such dates as selected by the Index Calculation Agent.

Additional Terms

Amendments

The Index Rules 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 thirty calendar days following that amendment. The Index Rules are intended to be comprehensive; however, ambiguities may arise. If an ambiguity does arise, the Index Calculation Agent will resolve those ambiguities and, if necessary, amend the Index Rules to reflect that resolution.

In addition, to the extent a Bloomberg-related Entity adds a commodity to or removes a commodity from the Bloomberg Commodity Index, the Index Calculation Agent may amend the Index Rules to add or remove one or more Index Constituents related to that commodity. The Index Calculation Agent will not be required to seek the consent, written or otherwise, of any person who may own an interest in a financial product that is linked to the Index.

No Investment Advice and No Fiduciary Duty

The Index Calculation Agent and its affiliates, officers, agents or employees (a) have not rendered legal, regulatory, investment, tax, accounting or other advice to an investor in relation to any product that is linked to or references the Index and (b) are not fiduciaries under applicable law governing that product or in the jurisdiction in which any investor purchases a product that is linked to or references the Index. Each investor should make its own investment decision based on its own judgment and on its own examination of the Index and the applicable product, and each investor should consult its own legal, regulatory, investment, tax, accounting and other professional advisers as it deems necessary in connection with the relevant transaction.

Index Calculation Agent; Index Calculation Standards and Index Calculation Determinations

JPMS plc or any affiliate or subsidiary designated by it will act as calculation agent in connection with the Index. The Index Calculation Agent will act in good faith and in a commercially reasonable manner with respect to determinations made by it pursuant to the Index Rules.

All determinations of the Index Calculation Agent pursuant to the Index Rules and interpretation of the Index Rules will be final, conclusive and binding and no person will 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 will:

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

“Relevant Persons” means JPMS plc, any of its affiliates or subsidiaries or their respective directors, officers, employees, representatives, delegates or agents.

Corrections

With respect to the Commodity Index,

- if the level of an Index Constituent, variable or other input that is used for any calculation relevant to the Index Level for any Index Calculation Day is subsequently corrected and the correction is published by the relevant Constituent Sponsor or relevant publication source; or
- if the Index Calculation Agent identifies an error or omission in any of its calculations or determinations with respect to the Index for any Index Calculation Day,

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

Index Cancellation

If the Index Calculation Agent determines that any adjustment that can be made with respect to any of the events discussed above in “Extraordinary Events Affecting the Index Constituents” cannot or would not produce a commercially reasonable result, then the Index Calculation Agent may cease calculating and publishing the Index from the date of that determination by the Index Calculation.

BACKGROUND ON THE J.P. MORGAN CONTAG BETA INDICES

General

The J.P. Morgan Contag Beta indices specified in the table below (each, a **"Contag Beta Index"** and collectively, the **"Contag Beta Indices"**) were developed and are maintained by J.P. Morgan Securities plc (which we refer to as **"JPMS plc"**) and are calculated by our Global Index Research Group (**"GIRG"**). GIRG is part of our Global Research division and resides within J.P. Morgan Securities LLC. The description of the strategy and methodology underlying the Contag Beta Indices (including the Selection Methodology described below) included in this underlying supplement is based on rules formulated by JPMS plc (which we refer to as the **"Contag Rules"**) and is qualified by the full text of the Contag Rules. The Contag Rules, and not this description, will govern the calculation and constitution of the Contag Beta Indices and other decisions and actions related to their maintenance. The Contag Rules in effect as of the date of this underlying supplement are attached as Annex B to this underlying supplement. The Contag Rules are the intellectual property of JPMS plc, and JPMS plc reserves all rights with respect to its ownership of the Contag Beta Indices. The first Contag Beta Index was established on May 29, 2009, and subsequent Contag Beta Indices have been introduced following that date. As a result, the Contag Beta Indices have limited historical performance.

Each Contag Beta Index is a notional rules-based proprietary index that is intended to capture the return of the synthetic exposure to a single commodity (the **"Relevant Commodity"**), which is represented by a commodity futures contract selected by a methodology developed by JPMS plc, which we refer to as the **"Selection Methodology."** The Selection Methodology uses, among other criteria, the slope of the futures curve for the Relevant Commodity underlying the applicable Contag Beta Index to select the futures contract for that Relevant Commodity with the highest level of backwardation (or in the absence of backwardation, the least amount of contango), subject to certain limitations (the **"Contag Contract"**). **"Backwardation"** refers to the situation where the futures contracts for a commodity with a delivery month further in time have lower contract prices than futures contracts for the same commodity with a delivery month closer in time. If there is no futures contract for the Relevant Commodity with backwardation, the Selection Methodology will select the futures contract with the lowest level of contango for any such commodities. **"Contango"** refers to the situation where the futures contracts for a commodity with a delivery month further in time have higher contract prices than futures contracts for the same commodity with a delivery month closer in time.

Each month, the Selection Methodology will determine the Contag Contract to which each Contag Beta Index should be synthetically exposed, based on the settlement price of the futures contracts as published by the relevant exchange (which we refer to as the **"Contract Price"**) for the last Dealing Day of the calendar month immediately preceding the relevant month (each of which we refer to as a **"Contract Selection Date"**). The Selection Methodology is described in further detail under **"— Selection Methodology"** below.

When a new Contag Contract is selected, each Contag Beta Index transfers its synthetic exposure from the previously selected Contag Contract to the new Contag Contract, such exposure being gradually transferred in equal percentages per Dealing Day over the first 10 Dealing Days of the relevant month (the **"Roll Period"**) in order to limit any adverse impact of such rolling process on the level of the relevant Contag Beta Index. A **"Dealing Day"** is a day on which the NYSE Euronext is scheduled to open for trading for its regular trading session.

Each Contag Beta Index is an excess return index that is intended to capture the return of synthetic long exposure to a Nominal Basket consisting of the Contag Contract for the Relevant Commodity underlying that Contag Beta Index during each relevant month selected by the Selection Methodology, including the effect of the monthly composition change of that Contag Beta Index due to the roll from the Contag Contract for the Relevant Commodity for a relevant month (the **“Outgoing Contract”**) to the Contag Contract for the Relevant Commodity for the next relevant month (the **“Incoming Contract”**).

Each Contag Beta Index is described as a **“notional”** or **“synthetic”** portfolio or basket because its reported level does not represent the value of any actual assets held by any person and there is no actual portfolio of assets in which any person has any ownership interest. The level of each Contag Beta Index at any point is the return of the hypothetical uncollateralized portfolio of the relevant Contag Contract(s).

The Contag Beta Indices

Table 1 below sets out the thirteen Contag Beta Indices and their respective Relevant Commodities, Bloomberg tickers and Initial Index Days. Each Contag Beta Index had an initial level of 100 as of the applicable Initial Index Day.

Table 1: The Contag Beta Indices

	Contag Beta Index	Relevant Commodity	Bloomberg Ticker	Initial Index Day
1	J.P. Morgan Contag Beta WTI Crude Oil Excess Return Index	WTI Crude Oil	JCTABCLE <Index>	January 3, 1991
2	J.P. Morgan Contag Beta Brent Crude Oil Excess Return Index	Brent Crude Oil	JCTABCOE <Index>	January 3, 1991
3	J.P. Morgan Contag Beta Heating Oil Excess Return Index	Heating Oil	JCTABHOE <Index>	January 3, 1991
4	J.P. Morgan Contag Beta Gas Oil Excess Return Index	Gas Oil	JCTABQSE <Index>	January 3, 1991
5	J.P. Morgan Contag Beta Gasoline Excess Return Index	RBOB Gasoline	JCTABXBE <Index>	January 3, 1991
6	J.P. Morgan Contag Beta Natural Gas Excess Return Index	Natural Gas	JCTABNGE <Index>	January 3, 1991
7	J.P. Morgan Contag Beta Gold Excess Return Index	Gold	JCTABGCE <Index>	January 3, 1991
8	J.P. Morgan Contag Beta Silver Excess Return Index	Silver	JCTABSIE <Index>	January 3, 1991
9	J.P. Morgan Contag Beta Aluminum Excess Return Index	Aluminium	JCTABLAE <Index>	January 3, 1997
10	J.P. Morgan Contag Beta Comex Copper Excess Return Index	Copper	JCTABHGE <Index>	December 30, 1994
11	J.P. Morgan Contag Beta Lead Excess Return Index	Lead	JCTABLLE <Index>	January 3, 1997
12	J.P. Morgan Contag Beta Nickel Excess Return Index	Nickel	JCTABLNE <Index>	January 3, 1997
13	J.P. Morgan Contag Beta Zinc Excess Return Index	Zinc	JCTABLXE <Index>	January 3, 1997

Calculation and Publication of the Contag Level

JPMS plc, the sponsor of the Contag Beta Indices (the **“Contag Sponsor”**), has designated GIRG to act as calculation agent for the Contag Beta Indices (the **“Contag Calculation Agent”**).

Subject to the occurrence of a Contag Market Disruption (as described below), the Contag Calculation Agent will calculate and publish the level of each Contag Beta Index on each Dealing Day (which we refer to as the **“Contag Level”**), reported to four decimal places, on the Bloomberg ticker page identified for the relevant Contag Beta Index in Table 1 above.

Contract Roll Weights

The exposure of each Contag Beta Index to the Contag Contract in respect of the Relevant Commodity is rolled from the Outgoing Contract to the Incoming Contract over the course of a Roll Period. The Outgoing Contracts and the Incoming Contracts for the Relevant Commodity are assigned a weighting (which we refer to as the “**Contract Roll Weight Outgoing**” and the “**Contract Roll Weight Incoming**,” respectively, and together, the “**Contract Roll Weights**”), determined as further described below.

In respect of the Relevant Commodity and a Dealing Day d , each of the Contract Roll Weight Incoming and Contract Roll Weight Outgoing is a number between 0.0 and 1.0, representing the fraction of the weight for the Relevant Commodity given to the Incoming Contract and the Outgoing Contract, respectively, and is calculated by the Contag Calculation Agent in accordance as described below. The sum of the Contract Roll Weight Outgoing and the Contract Roll Weight Incoming is always equal to 1.

The Contract Roll Weight on any Dealing Day in a Roll Period

The Contract Roll Weights on each i -th Dealing Day (d_i) of the Roll Period for a relevant month (where i is between 1 and 10, inclusive) are determined by the Contag Calculation Agent as follows:

$$CRWI_{d_i} = \frac{i}{10}$$

$$CRWO_{d_i} = 1 - \frac{i}{10}$$

where:

$CRWI_{d_i}$ means the Contract Roll Weight Incoming for the Relevant Commodity and Dealing Day d_i ;

$CRWO_{d_i}$ means the Contract Roll Weight Outgoing for the Relevant Commodity and Dealing Day d_i ; and

d_i means the i -th Dealing Day of the Roll Period.

The Contract Roll Weight on any Dealing Day which is not in the Roll Period

The Contract Roll Weights on each Dealing Day d which is not during the Roll Period for a relevant month are determined by the Contag Calculation Agent as follows:

- (a) In respect of any Dealing Day d of the relevant month prior to the start of the Roll Period for such relevant month, the Contract Roll Weight Incoming is 0.0 and the Contract Roll Weight Outgoing is 1.0.
- (b) In respect of any Dealing Day d of the relevant month following the last Dealing Day of the Roll Period for such relevant month, the Contract Roll Weight Incoming is 1.0 and the Contract Roll Weight Outgoing is 0.0.

For example, because the Roll Period for each Contag Beta Index begins on the first Dealing Day of a relevant month and ends on the tenth Dealing Day of that month, in the absence of Contag Market Disruptions, the Contract Roll Weights would be as shown as follows:

Dealing Day d of the Relevant Month	Contract Roll Weight Outgoing	Contract Roll Weight Incoming
1 (first Dealing Day of Roll Period)	0.90	0.10
2	0.80	0.20
3	0.70	0.30
4	0.60	0.40
5	0.50	0.50
6	0.40	0.60
7	0.30	0.70
8	0.20	0.80
9	0.10	0.90
10 (the tenth and last Dealing Day of Roll Period)	0.0	1.0
11	0.0	1.0
etcetera	etcetera	etcetera

Adjustment of the roll for Contag Disrupted Days

If any Dealing Day during the Roll Period is a Contag Disrupted Day (as described under “— Contag Market Disruptions to the Contag Beta Indices”) for either an Incoming Contract or an Outgoing Contract, then the portion of the roll which was scheduled to take place on that Dealing Day for the Relevant Commodity will be postponed until the next following Dealing Day which is not a Contag Disrupted Day for either of the Incoming Contract or Outgoing Contract in respect of the Relevant Commodity, irrespective of whether such day is already a day on which a portion of the roll is scheduled to take place.

For example, if the first and second Dealing Days of the relevant month are Contag Disrupted Days for the Relevant Commodity, then the Contract Roll Weights for the Relevant Commodity would be as follows:

Dealing Day d of the relevant month	$CRWO_d^c$	$CRWI_d^c$
1 (first Dealing Day of the Roll Period that is a Contag Disrupted Day)	1.0	0.0
2 (Contag Disrupted Day)	1.0	0.0

Dealing Day d of the relevant month	$CRWO_d^c$	$CRWI_d^c$
3	0.70	0.30
4	0.60	0.40
5	0.50	0.50
6	0.40	0.60
7	0.30	0.70
8	0.20	0.80
9	0.10	0.90
10 (the tenth and last Dealing Day of Roll Period)	0.0	1.0
11	0.0	1.0
etcetera	etcetera	etcetera

The Nominal Basket

The “**Nominal Basket**” for each Contag Beta Index is a nominal basket of Futures Contracts representing the synthetic exposure of that Contag Beta Index. A particular composition of the Nominal Basket is associated with each “**Composition Day**,” which is the Dealing Day in respect of which the Nominal Basket is composed. Furthermore, a level of the Nominal Basket composed in respect of that Composition Day is associated with each “**Valuation Day**,” which is the Dealing Day on which the Nominal Basket is valued, defined as follows:

$$NB_{cd}(vd) = CRWO_{cd} \times CPO_{cd}(vd) + CRWI_{cd} \times CPI_{cd}(vd)$$

where:

$NB_{cd}(vd)$ means the level of the Nominal Basket composed in respect of the Composition Day, valued as at the Valuation Day;

$CPO_{cd}(vd)$ means the Contract Price of the Outgoing Contract in respect of the Composition Day, valued as at the Valuation Day;

$CPI_{cd}(vd)$ means the Contract Price of the Incoming Contract in respect of the Composition Day, valued as at the Valuation Day;

cd means the Composition Day; and

vd means the Valuation Day.

Accordingly, the value of the Nominal Basket in respect of a Composition Day for a particular Valuation Day is based on the weighted Contract Price of the Outgoing Contract valued as of that Valuation Day and the weighted Contract Price of the Incoming Contract valued as of that Valuation Day.

The Contag Level

The Contag Level for each Contag Beta Index on the applicable Initial Index Day was 100 (the “Initial Contag Level”).

The Contag Level for each Contag Beta Index is determined in respect of each Dealing Day by reference to the Contag Level published in respect of the immediately preceding Dealing Day and the notional return on the exposure of such Contag Beta Index to the relevant Contag Contracts from the close of business on the Relevant Exchanges on the immediately preceding Dealing Day to the close of business on the Relevant Exchanges on such Dealing Day. This notional return is measured by reference to the Contract Prices of the relevant Contag Contracts on those Dealing Days. Where one or more Relevant Exchanges is closed on a Dealing Day, this will constitute a Contag Market Disruption and the Contract Prices of the Relevant Commodity will be determined in accordance with “— Contag Market Disruptions to the Contag Beta Indices.”

“**Relevant Exchange**” means, in respect of the Relevant Commodity, the exchange on which such futures contract is listed, or any successor to such exchange.

In respect of each Dealing Day following the Initial Index Day, the Contag Level for each Contag Beta Index will be determined by the Contag Calculation Agent. The Contag Level of a Contag Beta Index represents the cumulative effect of the Investment Return (as described below) since the Initial Index Day, calculated in accordance with the following formula:

$$Index_d = Index_{d-1} \times (1 + IR_d)$$

where:

IR_d means the Investment Return for Dealing Day d, which is determined by the Contag Calculation Agent in accordance with the following formula:

$$IR_d = \frac{NAR_d}{NAI_{d-1}} - 1$$

where:

NAI_{d-1} means the Nominal Amount Invested as at Dealing Day d-1, which is $NB_{d-1}(d-1)$, the level of the Nominal Basket composed in respect of Dealing Day d-1, valued as at Dealing Day d-1; and

NAR_d means the Nominal Amount Returned as at Dealing Day d, which is $NB_{d-1}(d)$, the level of the Nominal Basket composed in respect of Dealing Day d-1, valued as at Dealing Day d.

Selection Methodology

The Selection Methodology is an algorithmic methodology developed by JPMS plc, which uses the slope of the futures curve of the Relevant Commodity underlying a Contag Beta Index in order to select a particular futures contract in respect of that Relevant Commodity in which to synthetically gain exposure. The Selection Methodology determines, in respect of each relevant month and the applicable Relevant Commodity, the Contag Contract, based on the Contract Price on the Contract Selection Date. The Selection Methodology may be described as “backwardation-seeking” in that it aims to select a futures contract with the highest level of “backwardation,” based on the Contract Price for a futures contract on the Contract Selection Date compared to the Contract Price for the Closest Dated Preceding futures contract (as defined below), subject to certain constraints, as described in further detail below.

“Backwardation” is used to refer to the situation where commodity futures contracts with a Delivery Month further away in time have lower settlement prices than commodity futures contracts with a Delivery Month closer in time. If plotted on a graph, the curve of the settlement prices of commodity futures contracts would be downward sloping.

Information about each Relevant Commodity is listed below:

Table 3: Relevant Commodities

Relevant Commodity	Relevant Exchange	Deferring Commodity (D) or Non-Deferring Commodity (N)*	Liquid Contract Months
WTI Crude Oil	NYMEX	D	Z
RBOB Gasoline	NYMEX	D	None
Heating Oil	NYMEX	D	None**
Natural Gas	NYMEX	D	F, H, J, V
Brent Crude Oil	ICE	D	Z
Gold	COMEX	N	Not Applicable
Silver	COMEX	N	Not Applicable
Aluminium	LME	D	Z
Copper	COMEX	D	Z
Nickel	LME	D	Z
Zinc	LME	D	Z

* See “— Eligible Contracts” below.

** Prior to the Roll Period occurring in May 2012, the Eligible Set for Heating Oil included the June (M) and December (Z) as Liquid Contract Months. With respect to any Roll Period occurring on or after May 2012, the Eligible Set for Heating Oil does not include any Liquid Contract Months.

The Base Set

In respect of each relevant month and for the applicable Relevant Commodity, only certain Futures Contracts may be considered by the Selection Methodology. These Futures Contracts compose the “**Base Set**” and each of those Futures Contract in the Base Set is a “**Base Contract**.”

The Base Set for each relevant month is determined by reference to Table 4 (*Futures Contracts entering into the Base Set*) below.

Each row of Table 4 gives information about a Relevant Commodity. Under the heading “Contract at Month Start” are twelve columns, corresponding (from left to right) to each calendar month from, and including, January to, and including, December. The entries in the columns are single uppercase letters (each a “**Contract Letter**”). Each Contract Letter relates to a month which is detailed in Table 5 (*Mapping of Contract Letter to Delivery Months*) below and that month is the Delivery Month of a Futures Contract. Reading from left to right in Table 4, the Delivery Month is increasing through the year, so that where the Delivery Month in the columns towards the right of the table moves from a later month e.g., Z (December) to an earlier month e.g., F (January) the Delivery Month refers to that month in the year immediately following the year in which the relevant month falls.

Table 4: Futures Contracts entering into the Base Set

Relevant Commodity (Relevant Exchange)	Contract at Month Start											
	Ja n	F e b	M a r	A p r	M a y	Ju n	Ju l	A u g	S e p	O c t	N o v	D e c
WTI Crude Oil (NYMEX)	G	H	J	K	M	N	Q	U	V	X	Z	F
RBOB Gasoline (NYMEX)	G	H	J	K	M	N	Q	U	V	X	Z	F
Heating Oil (NYMEX)	G	H	J	K	M	N	Q	U	V	X	Z	F
Natural Gas (NYMEX)	G	H	J	K	M	N	Q	U	V	X	Z	F
Brent Crude Oil (ICE)	H	J	K	M	N	Q	U	V	X	Z	F	G
Gold (COMEX)	G	J	J	M	M	Q	Q	Z	Z	Z	Z	G
Silver (COMEX)	H	H	K	K	N	N	U	U	Z	Z	Z	H
Aluminium (LME)	G	H	J	K	M	N	Q	U	V	X	Z	F
Copper (COMEX)	H	H	K	K	N	N	U	U	Z	Z	Z	H
Nickel (LME)	G	H	J	K	M	N	Q	U	V	X	Z	F
Zinc (LME)	G	H	J	K	M	N	Q	U	V	X	Z	F

Table 5: Mapping of Contract Letter to Delivery Months

Contract Letter	F	G	H	J	K	M	N	Q	U	V	X	Z
Delivery Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

The Base Set in respect of the applicable Relevant Commodity comprises (i) the Futures Contract indicated as the “**Contract at Month Start**” in Table 4 above for the relevant month, which is the Futures Contract with the earliest Delivery Month in the Base Set, and (ii) each Futures Contract indicated for each subsequent month from, but excluding, the relevant month to, and including, the month falling twelve months after the relevant month.

For example, for the Relevant Commodity WTI Crude Oil (NYMEX) and the relevant month of January 2013, the Base Set consists of the 13 Futures Contracts with Delivery Months of February 2013 (the Contract at Month Start for the relevant month), March 2013, April 2013, May 2013, June 2013, July 2013, August 2013, September 2013, October 2013, November 2013, December 2013, January 2014 and February 2014.

Although the Base Set considers the Futures Contracts for the thirteen calendar months from and including the relevant month to and including the month falling twelve months after the relevant month, the number of Base Contracts in the Base Set may be less than thirteen (as in the example below). The number of Base Contracts in the Base Set can be determined by considering the number of different Contract Letters in the row relevant to the applicable Relevant Commodity in Table 4 (*Futures Contracts entering into the Base Set*) above.

For example, for the Relevant Commodity Gold (COMEX) and the relevant month of January 2013, the Base Set consists of the six Futures Contracts with Delivery Months of February 2013 (the Contract at Month Start for the relevant month), April 2013, June 2013, August 2013, December 2013 and February 2014.

The Base Contracts contained in the Base Set is enumerated from 1 (the nearest-dated Base Contract in the Base Set) to i (the farthest-dated Base Contract in the Base Set) where i is the size of the Base Set. In the first example above, the February 2013 Base Contract is numbered 1 and the February 2014 Base Contract is numbered 13. In the second example above, the February 2013 Base Contract is numbered 1 and the February 2014 Base Contract is numbered 6.

Eligible Contracts

Once the Base Set in respect of the applicable Relevant Commodity is determined, the Contag Calculation Agent will then determine a sub-set of the Base Set (the “**Eligible Set**”) based on whether the applicable Relevant Commodity is a “**Deferring Commodity**” or a “**Non-Deferring Commodity**,” as specified in Table 3 (*Relevant Commodities*) above. Each Futures Contract that is a member of the applicable Eligible Set is an “**Eligible Contract**.”

In respect of Deferring Commodities, the Eligible Contracts are the Base Contracts that are:

- (a) not earlier than the second Base Contract in the Base Set (F_2); and
- (b) either with a Delivery Month (1) not more than six months following the relevant month; or (2) more than six months following the relevant month and included in the list of Liquid Contract Months for the applicable Relevant Commodity as specified in Table 3 (*Relevant Commodities*) above.

In respect of Non-Deferring Commodities, the Contract at Month Start for the month immediately following the relevant month will be the only Eligible Contract in the Eligible Set.

Choice of Contag Contract: Selecting the Most Backwardated Contract for the applicable Relevant Commodity

In the Selection Methodology, the term “**Local Backwardation**” is used as a measure of the degree of backwardation for the i^{th} Base Contract (F_i) in the Base Set compared to the preceding Base Contract (F_{i-1}) in the Base Set (the “**Closest Dated Preceding Futures Contract**”). In respect of the applicable Relevant Commodity, the Local Backwardation is calculated for each Eligible Contract in the Eligible Set. When determining the Local Backwardation for an Eligible Contract, the Closest Dated Preceding Futures Contract in relation to that Eligible Contract is the Base Contract immediately preceding the Eligible Contract in the Base Set.

Subject to the occurrence of a Contag Market Disruption and in respect of a relevant month, the Contag Calculation Agent determines the Local Backwardation in respect of each Base Contract in the Base Set (F_i) in accordance with the following formula:

$$\text{Local Backwardation}(F_i) = \frac{1}{m} \left(\frac{\text{Level}(F_{i-1})}{\text{Level}(F_i)} - 1 \right)$$

where:

- $\text{Level}(F_i)$ means the Contract Price of the i^{th} Base Contract in the Base Set (F_i) on the Contract Selection Date in respect of the relevant month;
- $\text{Level}(F_{i-1})$ means the Contract Price of the $(i-1)^{\text{th}}$ Base Contract in the Base Set (F_{i-1}) on the Contract Selection Date in respect of the relevant month; and
- m means the number of calendar months from and including the Delivery Month of F_{i-1} to but excluding the Delivery Month of F_i . If the Delivery Months of F_{i-1} and F_i are consecutive, m will be 1.

Local Backwardation cannot be determined for the first Base Contract in a Base Set (F_1) since there is no Closest Dated Preceding Futures Contract in respect of Base Set (F_1).

The Eligible Contract with the highest Local Backwardation will be the “**Most Backwardated Contract**” for the applicable Relevant Commodity (subject to certain limitations). If there is no futures contract for the applicable Relevant Commodity with backwardation, the Selection Methodology will select the futures contract with the lowest level of contango for that Relevant Commodity.

Changing the Contag Contract: the “Significant Benefit Test”

In cases where the Contag Contract for the applicable Relevant Commodity for the month immediately preceding the relevant month (the “**Previously Selected Contract**”) is also an Eligible Contract in the Eligible Set for the relevant month, the Contag Calculation Agent will apply the Significant Benefit Test to determine if the Contag Contract should change from the prior month to the next relevant month. Under the Significant Benefit Test, the Contag Contract will change only where the increase in Local Backwardation with respect to the applicable Relevant Commodity by changing the exposure of the Contag Beta Index to the Most Backwardated Contract significantly increases the Local Backwardation with respect to the applicable Relevant Commodity.

The Significant Benefit Test is considered to be passed if either:

- (a) F_{PS} is not in the Eligible Set; or
- (b) the following inequality is true:

$$Local\ Backwardation(F_{MB}) > Local\ Backwardation(F_{PS}) + SBT$$

where:

F_{PS} means the Previously Selected Contract;

F_{MB} means the Most Backwardated Contract; and

SBT means the “**Significant Benefit Threshold**” and is equal to 0.005.

If the Significant Benefit Test is passed, the Contag Contract for the relevant month will be the Most Backwardated Contract; otherwise it will be the Previously Selected Contract. In addition, if the Previously Selected Contract and the Most Backwardated Contract are the same Futures Contract, the Significant Benefit Test will fail and the Contag Contract for the prior month will remain as the Contact Contract for the relevant month.

Contag Market Disruptions / Contag Disrupted Days

If, on any Contract Selection Date, any of the conditions (a) to (c) below apply to a Futures Contract that is to be included in the Base Set, then that day will be regarded as a “**Contag Disrupted Day**” in respect of that Futures Contract and this will constitute a Contag Market Disruption for that Futures Contract:

- (a) that Contract Selection Date is not a Contract Business Day with respect to that Futures Contract;
- (b) the Contract Price of that Futures Contract on that Contract Selection Date is a Limit Price;
- (c) no Contract Price is available for the Futures Contract on that Contract Selection Date.

If a Contag Market Disruption exists in respect of a Futures Contract, the Selection Methodology will be adjusted by the Contag Calculation Agent as follows:

- (i) in the case of (a) and (c) above, the Selection Methodology will treat the Contract Price for that Contract Selection Date as being equal to the Contract Price for the relevant Futures Contract which was available on the Dealing Day immediately preceding the Contract Selection Date and on which no Contag Market Disruption occurred. If no such Contract Price exists, then that particular Futures Contract will be excluded from the Base Set and the Selection Methodology will otherwise remain unaltered; or
- (ii) in the case of (b) above, the Selection Methodology will not be modified and the Contract Price for that Contract Selection Date will be the Limit Price.

“Contract Business Day” means, in relation to a Relevant Commodity and a Futures Contract, a day on which the Relevant Exchange for that Relevant Commodity is scheduled to be open for trading for its regular trading sessions and to publish a settlement price.

“Limit Price” means, in relation to a Dealing Day and a Contract Price, the maximum or minimum price allowed for that Futures Contract by the Relevant Exchange on such day.

Publication of the Contag Level

The Contag Calculation Agent may calculate the Contag Beta Index levels with greater frequency than daily on each Dealing Day and share this calculation with its affiliates for internal purposes.

The Contag Calculation Agent will be under no obligation to any person to provide the Contag Beta Index levels by any alternative method if publication of the relevant Bloomberg ticker identified in the table above is subject to any delay in or interruptions of publication or 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, labor 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 that may occur or any other event beyond the control of the Contag Calculation Agent.

The Contag Calculation Agent is under no obligation to continue the calculation, publication and dissemination of any of the Contag Beta Indices or any Contag Level.

Contag Market Disruptions to the Contag Beta Indices

If there is a Contag Market Disruption on any Dealing Day:

- (a) during a Roll Period, the portion of the roll which was scheduled to take place on such Dealing Day will be postponed as described above under “— Calculation and Publication of the Contag Level — Adjustment of the roll for Contag Disrupted Days”; or
- (b) on which the Nominal Basket is determined, the Contag Calculation Agent will calculate the Nominal Basket, as applicable by (i) taking all published Contract Prices in respect of the Dealing Day in question and (ii) using the most recently published Contract Prices for those Futures Contracts for which no Contract Price is published by the Relevant Exchange on such day.

Extraordinary Events

Successor Futures Contract

If any Futures Contract is:

- (a) not quoted by the Relevant Exchange but by a successor exchange acceptable to the Contag Sponsor; or
- (b) replaced by a successor futures contract referencing, in the determination of the Contag Sponsor, a substantially similar commodity as used in the relevant Futures Contract,

then, in each case, the successor futures contract (the "**Successor Futures Contract**") will replace the relevant Futures Contract and the Contag Sponsor will determine in good faith the adjustments to the Contag Rules, as it determines appropriate, to account for such change.

Change in Law/Inaccurate Contract Prices

Without prejudice to the ability of the Contag Sponsor to amend the Contag Rules, the Contag Sponsor may, acting in good faith and in a commercially reasonable manner:

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

any Futures Contract following the occurrence (and/or continuation) of a Change in Law or in circumstances where it considers it reasonably necessary to do so to reflect the intention of the Contag Beta Indices, including (without prejudice to the generality of the foregoing) any perception among market participants generally that the published price of the relevant Futures Contract is inaccurate (and the Relevant Exchange fails to correct such level), and if it so excludes or substitutes any Futures Contract, then the Contag Sponsor may adjust the Contag Rules as it determines in good faith to be appropriate to account for such exclusion or substitution on such date(s) selected by the Contag Sponsor. The Contag Calculation Agent is under no obligation to continue the calculation and publication of any Contag Beta Index upon the occurrence or existence of a Change in Law; and the Contag Calculation Agent or Contag Sponsor may decide to cancel any Contag Beta Index if they determine, acting in good faith, that the objective of the relevant Contag Beta Indices can no longer be achieved.

For purposes of the paragraph above, "**Change in Law**" means:

- (a) due to:
 - (i) the adoption of, or any change in, any applicable law, regulation, rule or order (including, without limitation, any tax law); or
 - (ii) the promulgation of, or any change in, the interpretation, application, exercise or operation by any court, tribunal, regulatory authority, exchange or trading facility or any other relevant entity with competent jurisdiction of any applicable law, rule, regulation, order, decision or determination (including, without limitation, as implemented by the CFTC or exchange or trading facility), in each case occurring on or after the Initial Index Day,

in each case, the Contag Sponsor determines in good faith that it is contrary (or, upon adoption, it will be contrary) to such law, rule, regulation, order, decision or determination for any market participants

that are brokers or financial intermediaries (individually or collectively) to purchase, sell, enter into, maintain, hold, acquire or dispose of any Futures Contracts or any transaction referencing any Futures Contract (in whole or in part) (in the aggregate on a portfolio basis or incrementally on a trade by trade basis) including (without limitation) if such Futures Contract (in whole or in part) are (or, but for the consequent disposal 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) in relation to any Futures Contract traded on any exchange(s) or other trading facility; or

(b) the occurrence or existence of any:

- (i) suspension or limitation imposed on trading commodity futures contracts (including, without limitation the Futures Contracts); or
- (ii) any other event that causes trading in commodity futures contracts (including, without limitation Futures Contracts) to cease.

Material change to Futures Contract, cancellation or non-publication

If, at any time, any Relevant Exchange:

- (a) announces that it will make a material change to any Futures Contract or in any other way materially modifies such contract (other than a modification prescribed in the definition of such contract); or
- (b) (i) permanently cancels any Futures Contract and no Successor Futures Contract exists or (ii) is otherwise unable or unwilling to publish levels of the Futures Contract,

then the Contag Sponsor may remove such futures contract from the Contag Beta Indices and may adjust the Contag Rules as it determines in good faith to be appropriate to account for such change(s) (including, without limitation, selecting a replacement underlying futures contract traded on an equivalent exchange and having similar characteristics to the affected Futures Contract) on such date(s) as selected by the Contag Sponsor.

Corrections

In the event that (a) the Contract Price of any Futures Contract used to calculate the Contag Level in respect of any Dealing Day is subsequently corrected and the correction is published by the Relevant Exchange before the next following Roll Period or (b) the Contag Calculation Agent identifies an error or omission in any of its calculations or determinations in respect of the Contag Beta Indices, then the Contag Calculation Agent may, if practicable and the correction is deemed material by the Contag Sponsor, adjust or correct the Contag Level published in respect of the relevant Dealing Day and each subsequent Dealing Day and publish such corrected Contag Level(s) as soon as reasonably practicable.

Contag Sponsor; Contag Calculation Agent; Amendment of Contag Rules; Limitation of Liability

The Contag Calculation Agent is appointed by the Contag Sponsor to calculate and maintain the Contag Beta Indices from and until such time that the Contag Sponsor terminates its relationship with the current Contag Calculation Agent and appoints a successor index calculation agent.

The Contag Sponsor will maintain all ownership rights, expressed or otherwise, with respect to the Contag Beta Indices, including the ability to license, sell or transfer any or all of its ownership rights with respect to any Contag Beta Index, including but not limited to terminating and appointing any successor index calculation agent.

The Contag Rules provide that the Contag Sponsor must act in good faith and in a commercially reasonable manner. In the event that ambiguities arise in interpreting or applying the Contag Rules, the Contag Calculation Agent and the Contag Sponsor will resolve ambiguities in a reasonable manner and, if necessary, the Contag Sponsor will amend the Contag Rules to reflect such resolution.

None of the Contag Sponsor, the Contag Calculation Agent and their respective affiliates and subsidiaries and none of their respective directors, officers, employees, delegates and agents (each, a “**Relevant Person**”) will 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 the Contag Beta Indices or in respect of the publication of the Contag Level (or failure to publish such Contag Level) and any use to which any person may put the Contag Beta Indices or the Contag Levels.

None of the Contag Sponsor, the Contag Calculation Agent and any Relevant Person will have any liability, contingent or otherwise, to any person or entity for the quality, accuracy, timeliness or completeness of the information or data contained in the Contag Rules or the Contag Beta Indices, or for delays, omissions or interruptions in the delivery of the Contag Beta Indices or related data. None of the Contag Sponsor, the Contag Calculation Agent and any Relevant Person makes any warranty, express or implied, as to the results to be obtained by any person or entity in connection with any use of the Contag Beta Indices, including but not limited to the trading of or investments in products based on or indexed or otherwise related to the Contag Beta Indices, any data related thereto or any components thereof.

None of the Contag Sponsor, the Contag Calculation Agent and any Relevant Person makes any express or implied warranties, and hereby expressly disclaims, to the fullest extent permitted by law, all warranties of merchantability or fitness for a particular purpose or use with respect to the Contag Rules, the Contag Beta Indices or any data related thereto. Without limiting any of the foregoing, in no event will any of the Contag Sponsor, the Contag Calculation Agent and any Relevant Person have any liability for any special, punitive, indirect or consequential damages (including lost profits), in connection with any use by any person of the Contag Beta Indices or any products based on or indexed or otherwise related thereto, even if notified of the possibility of such damages.

All determinations of the Contag Sponsor and the Contag Calculation Agent in respect of the Contag Beta Indices will be final, conclusive and binding, and no person will 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 Contag Calculation Agent, the Contag Sponsor or any other Relevant Person in respect of the Contag Beta Indices, none of the Contag Sponsor, the Contag Calculation Agent and any Relevant Person will be under any obligation to revise any determination or calculation made or action taken for any reason.

BACKGROUND ON THE JPMCCI EX-FRONT MONTH INDICES

General

The JPMorgan Commodity Curve Ex-Front Month Feeder Cattle Excess Return Index, the JPMorgan Commodity Curve Ex-Front Month Live Cattle Excess Return Index and the JPMorgan Commodity Curve Ex-Front Month Lean Hogs Excess Return Index (the “**JPMCCI Ex-Front Month Indices**”), were developed and are maintained by J.P. Morgan Securities plc (which we refer to as “**JPMS plc**”) and are calculated by the JPMorgan Global Index Research Group (“**GIRG**”). The description of the strategy and methodology underlying the JPMCCI Ex-Front Month Indices included in this underlying supplement is based on rules formulated by JPMS plc (which we refer to as the “**JPMCCI Rules**”) and is qualified by the full text of the JPMCCI Rules. The JPMCCI Rules, and not this description, will govern the calculation and constitution of the JPMCCI Ex-Front Month Indices and other decisions and actions related to their maintenance. The JPMCCI Rules in effect as of the date of this underlying supplement are attached as Annex C to this underlying supplement. The JPMCCI Rules are the intellectual property of JPMS plc, and JPMS plc reserves all rights with respect to its ownership of the JPMCCI Ex-Front Month Indices.

The JPMCCI Ex-Front Month Indices are members of the JPMorgan Commodity Curve Index (“**JPMCCI**”) family, which seeks to offer a diversified approach to passive commodity investing that excludes the front-month contract. Unlike other commodity indices that focus exposure at a single maturity (traditionally, the front month contract or a single deferred contract), each JPMCCI Ex-Front Month Index seeks to track exposure along the entire futures curve (*i.e.*, exposure to futures contracts with different maturities), other than the front month, for the commodity included in that JPMCCI Ex-Front Month Index in proportion to their “open interest.” The JPMCCI Ex-Front Month Indices are ex-front month indices that exclude the first near month futures contract (as long as exposure is provided to at least one futures contract from a later month).

“Open interest” refers to the total number of outstanding futures contracts with respect to a particular commodity that are held by market participants. At any time, open interest refers to the total number of open futures contracts with respect to a particular physical commodity at any time and can be used to determine the approximate size of a particular commodity futures market, a segment of that market or the market for an individual commodity futures contract. Commodity futures are different from other investments, such as equities. Whereas an equity security represents an ownership interest in a particular company and theoretically may exist in perpetuity, a commodity futures contract is a financial contract that obligates a buyer to purchase a specific quantity of a commodity on a future date. On that future date, the contract is settled and terminated. Buyers and sellers enter into or “open” these contracts at different monthly maturities on different exchanges, and open interest is a measure of the size of the market in these existing contracts.

As used in this underlying supplement, the “futures curve,” is the hypothetical curve created by plotting contract prices for futures contracts of a particular commodity or a group of commodities along a vertical axis at different contract maturities along a horizontal axis. This “curve” is representative of commodity prices at different contract maturities and is typically upward sloping (*i.e.*, in contango) or downward sloping (*i.e.*, in backwardation).

As of the date of this underlying supplement, the JPMCCI Ex-Front Month Indices use open interest in the futures curve for certain commodities (live cattle or lean hogs, as applicable) traded on the Chicago Mercantile Exchange (the “**CME**”) to determine the inclusion and relative weights of the individual commodity futures contracts included in each JPMCCI Ex-Front Month Index. Each commodity’s monthly contract compositions are determined by reference to the historical distribution of the open interest of contracts across the futures curve for the relevant calendar month in each of

the preceding three years. Although positions will be evaluated for potential adjustments on a monthly basis, many contracts are deemed held by a JPMCCI Ex-Front Month Index for multiple months, and upon a rebalancing, deferred months move forward and positions are added (or subtracted) to reflect the historical monthly open interest in the futures curve.

Prior to the end of each calendar year, the JPMCCI Calculation Agent (as defined below) reviews the then-current Potential JPMCCI Exchange Commodities (as defined below), and, subject to the review of the JPMCCI Supervisory Committee (as defined below), determines the JPMCCI Exchange Commodities (as defined below) for the following calendar year on the JPMCCI Exchange Commodity Determination Date and publishes those commodities within thirty calendar days of that JPMCCI Exchange Commodity Determination Date.

“JPMCCI Exchange Commodity Determination Date” means, for each calendar year, a date determined by the JPMCCI Calculation Agent that occurs on or before the last Scheduled Index Valuation Date (as defined below) of each calendar year.

Each of the JPMCCI Ex-Front Month Indices is an excess return index that reflects synthetic exposure to uncollateralized positions in the futures contracts underlying that JPMCCI Ex-Front Month Index, including any profit or loss realized when rolling such contracts.

The JPMCCI Ex-Front Month Indices are described as “notional” or “synthetic” portfolios or baskets because there is no actual portfolio of assets to which any person is entitled nor in which any person has any ownership interest. Instead, the JPMCCI Ex-Front Month Indices identify certain assets in the market, the performance of which will be used as a reference point for the purposes of calculating the value of the JPMCCI Ex-Front Month Indices.

The JPMCCI Ex-Front Month Indices

JPMS plc, an affiliate of JPMorgan Chase Bank, National Association, launched JPMCCI in November 2007 and is solely responsible for the development, calculation and publication of the JPMCCI Ex-Front Month Indices. Each JPMCCI Ex-Front Month Index measures the return from a hypothetical investment in the relevant commodity futures contract(s) of that JPMCCI Ex-Front Month Index, taking into account the effect of any monthly composition changes with respect to the relevant commodity(ies) in each roll period.

The table below presents the JPMCCI Ex-Front Month Indices and the Bloomberg ticker symbol for each JPMCCI Ex-Front Month Index.

JPMCCI Ex-Front Month Index	Bloomberg Ticker
JPMorgan Commodity Curve Ex-Front Month Feeder Cattle Excess Return Index	JMCXXFCE <Index>
JPMorgan Commodity Curve Ex-Front Month Live Cattle Excess Return Index	JMCXXLCE <Index>
JPMorgan Commodity Curve Ex-Front Month Lean Hogs Excess Return Index	JMCXXLHE <Index>

Historical Percentage Composition and Contract Allocations Example

The following table sets forth the percentage composition and contract allocations from July 2013 to December 2013 for the JPMorgan Commodity Curve Ex-Front Month Live Cattle Excess Return Index, which is based on the historical open interest of the CME live cattle futures contract. The information set forth in the following table was based on the historical information available to JPMS plc and was produced based on the JPMCCI Rules. The values of the specific contracts and percentage compositions deemed held by the JPMorgan Commodity Curve Ex-Front Month Live Cattle Excess Return Index in various months should not be taken as indication of the future percentage composition of this sub-index. No assurances can be given as to the future percentage composition of a JPMCCI Ex-Front Month Index. The following table is solely for informational purposes and should only be used to illustrate the manner in which futures contracts are deemed held at deferred points of the futures curve and how positions are increased (or decreased) monthly based on distribution of open interest on the futures curve.

Month	Contracts/Percentage Composition				
July 2013	October 2013 0.00%	December 2013 61.70%	February 2014 25.16%	April 2014 13.14%	
August 2013	October 2013 0.00%	December 2013 52.14%	February 2014 24.78%	April 2014 16.38%	June 2014 6.70%
September 2013	December 2013 0.00%	February 2014 49.27%	April 2014 35.75%	June 2014 14.98%	
October 2013	December 2013 0.00%	February 2014 47.32%	April 2014 35.72%	June 2014 16.96%	
November 2013	February 2014 0.00%	April 2014 59.56%	June 2014 30.00%	August 2014 10.45%	
December 2013	February 2014 0.00%	April 2014 55.10%	June 2014 32.43%	August 2014 12.47%	

As illustrated above, the JPMorgan Commodity Curve Ex-Front Month Live Cattle Excess Return Index synthetically owns contracts at deferred points on the futures curve, excluding the front month futures contract, and each month as those positions move forward in time, positions are added to (or subtracted from) to obtain the desired weighting. For example, in July 2013, the JPMorgan Commodity Curve Ex-Front Month Live Cattle Excess Return Index had a 61.70% exposure to the December 2013 CME live cattle contract, and in August 2013, that allocation was decreased to 52.14%. In that example, a portion of the contracts were sold while the remaining contracts were held to account for a 9.56% decrease in exposure to the December 2013 contract for August 2013. As compared to other commodity indices, in July 2013, second front month commodity indices would have 100% of their exposure in the October 2013 contract, and upon rolling its positions to August 2013, other second front month commodity indices have retained their entire exposure to the October 2013 contract.

JPMCCI Methodology

Selection of JPMCCI Exchange Commodities

JPMS plc acts as the calculation agent for the JPMCCI Ex-Front Month Indices. When discussing JPMS plc's role as the calculation agent, we refer to JPMS plc as the "JPMCCI Calculation Agent." The JPMCCI Calculation Agent selects the commodities futures contracts that will be considered for inclusion in each JPMCCI Ex-Front Month Index each year (the "JPMCCI Exchange Commodities").

A two-stage process is followed by the JPMCCI Calculation Agent under the supervision of the JPMCCI Supervisory Committee to select futures contracts to be included in each JPMCCI Ex-Front Month Index in any given year. First, the JPMCCI Calculation Agent identifies Potential JPMCCI Exchange Commodities for each JPMCCI Ex-Front Month Index and, second, the JPMCCI Calculation Agent selects JPMCCI Exchange Commodities for inclusion in that JPMCCI Ex-Front Month Index.

“Potential JPMCCI Exchange Commodity” means each physical commodity futures contract (but in respect of which physical delivery is not a requirement for inclusion in this definition) which:

- is listed on an exchange that meets the geographical or other criteria published by JPMCCI Calculation Agent from time to time;
- is denominated in U.S. dollars;
- has an Estimated Market Size of at least \$250 million and no less than 0.10% of the aggregate sum of all the Estimated Market Sizes for all of the Potential JPMCCI Exchange Commodities. If a Potential JPMCCI Exchange Commodity is already included in the relevant JPMCCI Ex-Front Month Index, its Estimated Market Size must not have fallen below \$150 million as of the relevant JPMCCI Exchange Commodity Determination Date or less than 0.06% of the aggregate sum of all of the Estimated Market Sizes for all Potential JPMCCI Exchange Commodities. The **“Estimated Market Size”** means, in respect of a Potential JPMCCI Exchange Commodity on any day, a notional amount expressed in U.S. dollars equal to the most recent complete thirty-six monthly average historical open interest on such day calculated using data published by the Futures Industry Association for such exchange commodity *multiplied by* the settlement price for the monthly contract on such exchange commodity with the nearest expiration date on the last Scheduled Index Valuation Day in October of the applicable year; *provided* that the JPMCCI Calculation Agent may, in its good faith and commercially reasonable judgment, use a shorter historical period in respect of Potential JPMCCI Exchange Commodities that have a shorter trading history or as other data limitations necessitate;
- has a sufficiently liquid market for general trading, as determined by the JPMCCI Calculation Agent in a good faith and commercially reasonable manner and subject to the review of the JPMCCI Supervisory Committee;
- is not a “mini-contract” (as defined by the Relevant Exchange) or a swap contract, basis contract, spread contract or weather contract, as determined by the JPMCCI Calculation Agent;
- has traded for at least one year prior to its inclusion in the relevant JPMCCI Ex-Front Month Index, unless the JPMCCI Calculation Agent waives this requirement. The JPMCCI Calculation Agent may waive this requirement if it determines, in its good faith and commercially reasonable judgment, and subject to the review of the JPMCCI Supervisory Committee, that the JPMCCI Exchange Commodity’s significance in terms of investor interest is so great that its omission would significantly undermine the representativeness of the relevant JPMCCI Ex-Front Month Index; and
- has sufficient data available to allow the JPMCCI Calculation Agent to appropriately determine its historical performance and analyze its performance on an ongoing basis, determined based on the existence of adequate independent historical data. The JPMCCI Calculation Agent may determine that the historical performance of a Potential JPMCCI Exchange Commodity may be reasonably calculated in the absence of what would normally be considered adequate independent historical data.

“JPMCCI Exchange Commodity” means, with respect to each JPMCCI Ex-Front Month Index established in a particular calendar year (e.g., the 2013 version of a JPMCCI Ex-Front Month Index established prior to the end of 2012), each Potential JPMCCI Exchange Commodity chosen for inclusion in that JPMCCI Ex-Front Month Index in that calendar year.

On each JPMCCI Exchange Commodity Determination Date, the JPMCCI Calculation Agent will determine the JPMCCI Exchange Commodities for the following calendar year and publish those commodities within thirty calendar days of that Exchange Commodity Determination Date.

Calculation of Monthly Contract Weights

Each JPMCCI Ex-Front Month Index includes one or more Monthly Contracts related to such JPMCCI Exchange Commodity (except in circumstances of substitution of contracts, where the Monthly Contracts may be related to different JPMCCI Exchange Commodities). Each JPMCCI Exchange Commodity included in a JPMCCI Ex-Front Month Index is thus represented by futures contracts from across its respective futures curve, as described under “— General” above, with a range of maturities (and which are weighted according to their respective open interests).

The Composition with respect to each JPMCCI Exchange Commodity is determined monthly by averaging the historical open interests of relevant futures contracts across the futures curve for such JPMCCI Exchange Commodity in the relevant calendar month in each of the preceding three years, which is intended to capture shifts of open interest in each relevant futures contract along the futures curve. For example, to determine the weightings of the Monthly Contracts for a JPMCCI Exchange Commodity in July 2008, the JPMCCI Calculation Agent determined the numerical unweighted average of the open interests for each Monthly Contract available on such JPMCCI Exchange Commodity in July 2005, July 2006 and July 2007.

“Monthly Contract” means, with respect to each JPMCCI Exchange Commodity and each month, the contract considered most associated to that month as determined by the JPMCCI Calculation Agent based on, with respect to all JPMCCI Exchange Commodities other than JPMCCI Exchange Commodities that are traded on the London Metals Exchange, the contract designated by the Relevant Exchange (typically being the contract that will expire in such month, or the contract in which delivery or settlement will occur immediately following such month). With respect to a JPMCCI Exchange Commodity whose Relevant Exchange is the London Metals Exchange, the Monthly Contract will be the relevant contract expiring on the third Wednesday of that month.

“Composition” means, with respect to each JPMCCI Exchange Commodity and each month, the hypothetical index of Monthly Contracts and associated Monthly Contract Weights.

“Monthly Contract Weight” means, with respect to any JPMCCI Exchange Commodity, the weighting allocated in the relevant Composition to a given Monthly Contract with respect to a JPMCCI Exchange Commodity as discussed in more detail in “—Monthly Calculation of Monthly Contract Weights” below.

First, the JPMCCI Calculation Agent will calculate the **“Monthly Contract Open Interest”** in month m , denominated in physical units, for the JPMCCI Exchange Commodity c Monthly Contract expiring n months after month m , through the following formula:

$$MCOI_{m,n}^c = F^c \times \sum_{d \in D_m^c} DCOI_{d,m,n}^c$$

where:

$DCOI_{d,m,n}^c$ is the Daily Contract Open Interest on day d of month m , denominated in number of contracts, for JPMCCI Exchange Commodity c Monthly Contract expiring n months after month m ;

D_m^c is the set of all days in month m for which open interest data for one or more Monthly Contracts of JPMCCI Exchange Commodity c is obtainable by the JPMCCI Calculation Agent from the relevant information source;

F^c is the number of physical units of JPMCCI Exchange Commodity c represented by one contract, given the contract specification (e.g. the number of barrels underlying one crude oil futures contract).

For example, if m corresponds to March 2001 and $n=15$, the Monthly Contract being referred to would be the June 2002 contract. In this example, the Monthly Contract Open Interest in March 2001 for a JPMCCI Exchange Commodity would represent the sum of the total number of June 2002 contracts for such JPMCCI Exchange Commodity outstanding on each Scheduled Valuation Day in March 2001 multiplied by the number of physical units represented by one contract for that JPMCCI Exchange Commodity.

Next, the JPMCCI Calculation Agent will calculate the monthly contract open interest percentage ("MCOIP") in month m , for JPMCCI Exchange Commodity c Monthly Contract expiring n months after month m , through the following formula:

$$MCOIP_{m,n}^c = \frac{MCOI_{m,n}^c}{\sum_i MCOI_{m,i}^c}$$

The MCOIP for a JPMCCI Exchange Commodity represents the percentage of total market open interest for that JPMCCI Exchange Commodity represented by a futures contract in a given month. Continuing with the example from the previous paragraph, if the MCOIP for a June 2002 contract in March 2001 was 500 and the sum of the Monthly Contract Open Interests for all monthly contracts in March 2001 was 10,000, then the MCOIP for June 2002 contracts would be 5%.

Then, the JPMCCI Calculation Agent will calculate the historical monthly contract open interest percentage ("HMCOP") in month m , for the JPMCCI Exchange Commodity c Monthly Contract expiring n months after month m , through the following formula:

$$HMCOP_{m,n}^c = \text{average}_{i=12,24,36} (MCOIP_{m-i,n}^c)$$

Continuing with the example from the previous two paragraphs, the HMCOP for a JPMCCI Exchange Commodity for a June 2003 contract in March 2002 is the arithmetic average of:

- (a) the MCOIP for that JPMCCI Exchange Commodity's June 2002 contract in March 2001 (as calculated in the last paragraph);
- (b) the MCOIP for that JPMCCI Exchange Commodity's June 2001 contract in March 2000;
- (c) the MCOIP for that JPMCCI Exchange Commodity's June 2000 contract in March 1999

Next, the Preliminary Monthly Contract Weight for each JPMCCI Exchange Commodity is determined. The following Monthly Contracts are excluded:

- (a) Monthly Contracts with a HMCOIP of less than 3%; and
- (b) Monthly Contracts due to expire, in which there will be a Last Trading Day (as defined below) or First Notice Day (as defined below) prior to the last anticipated Roll Date (as defined below in “— Rolling Process”) or if the Monthly Contract is traded on the London Metals Exchange, Monthly Contracts in which there will be a Last Trading Day in a month in which the last anticipated Roll Date falls.

The “**Preliminary Monthly Contract Weight**” for month m for JPMCCI Exchange Commodity c Monthly Contract expiring n months after month m is:

$$CW_{m,n}^c = \frac{HMCOIP_{m,n}^c}{\sum_{i \in N_m^c} HMCOIP_{m,i}^c}$$

where:

N_m^c is the set of all Monthly Contracts for JPMCCI Exchange Commodity c in month m that are not excluded by the exclusion rules set forth above

For Monthly Contracts that are excluded by the exclusion rules set forth in the formula above, the Preliminary Monthly Contract Weight will be deemed to equal zero. The Preliminary Monthly Contract Weight represents the HMCOIP for a Monthly Contract of the relevant JPMCCI Exchange Commodity in a given month that is not excluded, *divided* by the total sum of the HMCOIP for all Monthly Contracts for such JPMCCI Exchange Commodity in a given month that are not excluded.

“**Last Trading Day**” means the final day on which a given Monthly Contract may trade or be closed out before delivery of the relevant JPMCCI Exchange Commodity must occur.

“**First Notice Day**” means the first day a notice of intent to deliver a JPMCCI Exchange Commodity can be made by a clearinghouse to a buyer in fulfillment of a given month’s futures contract.

Finally, the Monthly Contract Weight for each JPMCCI Exchange Commodity is determined as follows:

- if two or more Monthly Contracts have positive Preliminary Monthly Contract Weights, the Monthly Contract Weight of the earliest to expire Monthly Contract with a positive Preliminary Monthly Contract Weight will be deemed to equal zero. The Monthly Contract Weight of each other Monthly Contract will be equal to the Preliminary Monthly Contract Weight of that Monthly Contract *divided* by the difference between one and the Preliminary Monthly Contract Weight of the earliest to expire Monthly Contract with a positive Preliminary Monthly Contract Weight; or
- if only one Monthly Contract has a positive Preliminary Monthly Contract Weight, the Monthly Contract Weight of each Monthly Contract will be equal to the Preliminary Monthly Contract Weight of that monthly Contract.

Rolling Process

All JPMCCI Exchange Commodities included in a JPMCCI Ex-Front Month Index will be deemed to be rolled before their respective maturities into futures contracts with maturities in the more-distant future. JPMCCI Exchange Commodities nominally included in a JPMCCI Ex-Front Month Index that are approaching maturity will generally be rolled in the calendar month immediately preceding the month in which they are due to mature. In addition, each JPMCCI Ex-Front Month Index is weighted by open interest, and, thus, all Monthly Contracts included in that JPMCCI Ex-Front Month Index are re-weighted on a monthly basis whether they are approaching maturity or not to reflect the monthly change in their respective open interests. The re-weighting is achieved by rolling the Monthly Contracts included in the relevant JPMCCI Ex-Front Month Index into contracts with a different maturity.

Monthly Contracts included in a JPMCCI Ex-Front Month Index are deemed to be rolled over each of the first ten Scheduled Index Valuation Days (each day, a “**Roll Date**”) of the relevant month, subject to postponement if any Roll Date is a JPMCCI Disrupted Day (as defined below in “— Calculation and Publication of JPMCCI Values”). Over this period, the Monthly Contract Weight of any Monthly Contract about to mature will be progressively reduced in equal increments of 10% until its weight equals zero and the weight of the replacement Monthly Contract will be progressively increased in equal increments of 10% until it equals its allocated Monthly Contract Weight. Similarly, Monthly Contracts whose Monthly Contract Weights are scheduled to be reduced or increased to reflect a change in their respective open interests will have their respective Monthly Contract Weights progressively reduced or increased, as applicable, in equal increments of 10% until their respective new Monthly Contract Weights are achieved.

If a scheduled Roll Date is a JPMCCI Disrupted Day, then (i) the Monthly Contract Weight will not be amended on that day and (ii) the portion of the Monthly Contract Weight that would have been amended on that day will be amended on the next following Scheduled Index Valuation Day (as defined below in “— Calculation and Publication of JPMCCI Values”) that is not a JPMCCI Disrupted Day. This delayed portion of the deemed roll will be executed on the next following Scheduled Index Valuation Day that is not a JPMCCI Disrupted Day, along with the portion of the deemed roll for all of those contracts originally scheduled to occur on that Scheduled Index Valuation Day. Therefore, the incremental change in Monthly Contract Weight for these contracts on the relevant next following Scheduled Index Valuation Day that is not a JPMCCI Disrupted Day will be larger than 10% of the Monthly Contract Weight.

Calculation and Publication of JPMCCI Values

The level of each JPMCCI Ex-Front Month Index will be published on each Scheduled Index Valuation Day (as defined below), even if such day is a Limit Day (as defined below); *provided, however,* that the JPMCCI Calculation Agent will not be obliged to publish any level of any JPMCCI Ex-Front Month Index upon the occurrence or continuation of a Force Majeure Event (as defined below). If for any reason a settlement price for a given Monthly Contract cannot be obtained, then the JPMCCI Calculation Agent will use the most recently available settlement price to determine the level of the relevant JPMCCI Ex-Front Month Index. In these circumstances, the level of the relevant JPMCCI Ex-Front Month Index will only approximate the actual performance of the commodity futures contracts that compose that JPMCCI Ex-Front Month Index. All JPMCCI levels calculated are rounded to the fifth decimal.

The JPMCCI Ex-Front Month Index Level $JPMCCIER_d^c$ for JPMCCI Exchange Commodity c on Scheduled Index Valuation Day d is:

$$JPMCCIER_d^c = JPMCCIER_{d-1}^c \times (1 + CDER_d^c)$$

Where:

$CDER_d^c$ for JPMCCI Exchange Commodity c on Scheduled Index Valuation Day d means the following:

$$CDER_d^c = \frac{RW_{d-1}^c \times \sum_n CW_{m_{d-1}-1,n}^c \times CP_{d,m_{d-1}-1,n}^c + (1 - RW_{d-1}^c) \times \sum_n CW_{m_{d-1},n}^c \times CP_{d,m_{d-1},n}^c}{RW_{d-1}^c \times \sum_n CW_{m_{d-1}-1,n}^c \times CP_{d-1,m_{d-1}-1,n}^c + (1 - RW_{d-1}^c) \times \sum_n CW_{m_{d-1},n}^c \times CP_{d-1,m_{d-1},n}^c} - 1$$

On December 29, 1989 (the “**Inception Date**”), each JPMCCI Ex-Front Month Index Level or $JPMCCIER_{inception}^c = 100$.

“**Limit Day**” means, with respect to a JPMCCI Exchange Commodity and its Relevant Exchange, any day on which there is a limitation on, or suspension of, the trading of options or futures contracts on any physical commodity that underlies a relevant JPMCCI Exchange Commodity imposed by the Relevant Exchange for that JPMCCI Exchange Commodity by reason of movements exceeding “limit up” or “limit down” levels permitted by the Relevant Exchange and that has a material adverse effect on trading volumes and liquidity as compared to other JPMCCI Scheduled Trading Days as determined by the JPMCCI Calculation Agent in its commercially reasonable discretion.

“**Scheduled Index Valuation Day**” means, for any JPMCCI Ex-Front Month Index, each JPMCCI Scheduled Trading Day with respect to at least 50% of the JPMCCI Exchange Commodities constituting that JPMCCI Ex-Front Month Index.

“**JPMCCI Scheduled Trading Day**” means, with respect to a JPMCCI Exchange Commodity, a day on which the Relevant Exchange for that JPMCCI Exchange Commodity is scheduled to be open for trading for its regular trading sessions and to publish a settlement price for that JPMCCI Exchange Commodity.

“**JPMCCI Disrupted Day**” means, with respect to a JPMCCI Exchange Commodity, a JPMCCI Scheduled Trading Day on which either (a) the settlement price for any Monthly Contract for that JPMCCI Exchange Commodity is not obtainable or (b) is a Limit Day with respect to that JPMCCI Exchange Commodity.

“**Relevant Exchange**” means, with respect to each Potential JPMCCI Exchange Commodity, the primary futures exchange on which futures contracts related to the physical commodity underlying that Potential JPMCCI Exchange Commodity are traded.

“**Force Majeure Event**” means any event beyond the control of the JPMCCI Calculation Agent, including any act of God, act of governmental authority, act of public enemy, or due to war, the outbreak or escalation of hostilities, fire, flood, civil commotion, insurrection, labor 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.

Publication of Corrected Index Levels

In the event that a settlement price used in the calculation of any JPMCCI Ex-Front Month Index Level is corrected subsequent to the publication of that JPMCCI Ex-Front Month Index Level that employed that corrected settlement price and the correction is published by the Relevant Exchange for a JPMCCI Exchange Commodity included in that JPMCCI Ex-Front Month Index before the next following Rebalancing Date, or any other element used in the calculation of any JPMCCI Ex-Front Month Index Level is determined by the JPMCCI Calculation Agent, in its sole discretion, to have been incorrect prior to the next following Rebalancing Date, then the JPMCCI Calculation Agent may, if practicable and if the correction is deemed material by the JPMCCI Calculation Agent, in its sole discretion, adjust or correct the relevant JPMCCI Ex-Front Month Index Level published on any relevant Scheduled Index Valuation Day and publish that corrected JPMCCI Ex-Front Month Index Level as soon as it is reasonably practicable.

Historical Limitations

There are limitations in the methodology used to calculate historical index levels of the JPMCCI Ex-Front Month Indices prior to the launch of a JPMCCI Ex-Front Month Index. The JPMCCI Calculation Agent, under the supervision of the JPMCCI Supervisory Committee, has exercised its discretion in varying the methodology of calculating such historical JPMCCI Ex-Front Month Index Levels for various reasons including data availability.

Data Unavailability with regard to HMCOIP

In determining levels of a JPMCCI Ex-Front Month Index prior to its actual launch, in any year during which any HMCOIP could not be calculated due to missing MCOIP data, all the HMCOIPs of that year were set to the HMCOIPs of the following year for which complete MCOIP data were available. For example, if reliable open interest data were not available prior to 1997 (inclusive), then all the HMCOIPs for 1998 to 2000, all of which rely on MCOIPs of 1997, would have been set to the HMCOIPs of 2001, assuming that MCOIPs for 1998, 1999 and 2000 were intact.

JPMCCI Extraordinary Events

If the JPMCCI Calculation Agent determines, in good faith and a commercially reasonable manner, that the occurrence or existence of a JPMCCI Extraordinary Event (as defined below) affects a JPMCCI Ex-Front Month Index (an “**Affected JPMCCI Ex-Front Month Index**”), then the JPMCCI Calculation Agent may take the following action with the aim of maintaining the objective of the Affected JPMCCI Ex-Front Month Index: (i) the JPMCCI Calculation Agent may replace one or more JPMCCI Exchange Commodities in the Affected JPMCCI Ex-Front Month Index with other Potential JPMCCI Exchange Commodities that it determines, in good faith and a commercially reasonable manner, are natural substitutes for the JPMCCI Exchange Commodities being replaced, or (ii) the JPMCCI Calculation Agent may exclude one or more JPMCCI Exchange Commodities from the Affected JPMCCI Ex-Front Month Index and recalculate the weight of the JPMCCI Exchange Commodities remaining in the Affected JPMCCI Ex-Front Month Index so that the aggregate weight of all such JPMCCI Exchange Commodities sum to 100%.

With respect to the replacement of one or more JPMCCI Exchange Commodities, the weight assigned to each Potential JPMCCI Exchange Commodity will generally be equal to the weight of the JPMCCI Exchange Commodity that it is replacing. However, the JPMCCI Calculation Agent may assign a different weight to a Potential JPMCCI Exchange Commodity if it determines, in good faith and a commercially reasonable manner, that this is appropriate to maintain the objective of the Affected JPMCCI Ex-Front Month Index. With respect to the exclusion of one or more JPMCCI Exchange Commodities, the weight of the Affected JPMCCI Ex-Front Month Index’s remaining JPMCCI Exchange

Commodities will be adjusted accordingly so that the aggregate weight of all components sum to 100%. The JPMCCI Calculation Agent will endeavour to effect any replacement and re-weighting (if any) or exclusion and re-weighting (if any) as soon as practicable in light of the prevailing circumstances and if possible during the immediately following set of Roll Dates. In making the calculation of Monthly Contract Weights (as defined below) upon any such replacement and re-weighting (if any) or exclusion and re-weighting (if any), the JPMCCI Calculation Agent relies on a combination of data based on such affected JPMCCI Exchange Commodity(ies) and the Potential JPMCCI Exchange Commodity(ies) that will be introduced as a result of the JPMCCI Calculation Agent's determination. The methodology by which any such substitution will be effected will be announced by the JPMCCI Calculation Agent as soon as reasonably practicable. The JPMCCI Calculation Agent will obtain the approval of the JPMCCI Supervisory Committee prior to making any replacement and re-weighting or exclusion and re-weighting or any other changes described in this paragraph and the immediately preceding paragraph.

"JPMCCI Extraordinary Event" means:

(a) (i) the adoption of, or any change in, any applicable law, regulation, rule or order (including, without limitation, any tax law) or (ii) the promulgation of, or any change in, the interpretation by any court, tribunal, regulatory authority, exchange or trading facility or any other relevant entity with competent jurisdiction of any applicable law, rule, regulation, order, decision or determination (including, without limitation, as implemented by the U.S. Commodity Futures Trading Commission or any exchange or trading facility), in each case after the Inception Date, the JPMCCI Calculation Agent determines in good faith that it is contrary (or upon adoption, it will be contrary) to such law, rule, regulation, order, decision or determination for any market participant that is a broker or financial intermediary (individually or collectively) to (x) purchase, sell, enter into, maintain, hold, acquire or dispose of (in whole or in part) any Potential JPMCCI Exchange Commodity, any JPMCCI Exchange Commodity or any transaction referencing any Potential JPMCCI Exchange Commodity and/or any JPMCCI Exchange Commodity or, (y) hold a position in any Potential JPMCCI Exchange Commodity, any JPMCCI Exchange Commodity or any transaction referencing any Potential JPMCCI Exchange Commodity and/or any JPMCCI Exchange Commodity is (or, but for the consequent disposal or termination thereof) because the holding of such position would place any market participant that is a broker or financial intermediary (individually or collectively) under any such law, rule, regulation or order over the allowable position limit(s) in relation to such Potential JPMCCI Exchange Commodity or JPMCCI Exchange Commodity; or

(b) the occurrence or existence of any (i) suspension or limitation imposed on trading commodity futures contracts (including, without limitation, any Potential JPMCCI Exchange Commodity or any JPMCCI Exchange Commodity) or (ii) any other event that causes trading in any commodity futures contracts (including, without limitation, any Potential JPMCCI Exchange Commodity or any JPMCCI Exchange Commodity) to cease.

Exclusion and/or Substitution of a JPMCCI Exchange Commodity and Cancellation of a JPMCCI Ex-Front Month Index

With respect to any JPMCCI Ex-Front Month Index, upon the announcement of a Contract Discontinuation by a Relevant Exchange and the occurrence of a Threshold Event, the JPMCCI Calculation Agent will modify the relevant JPMCCI Ex-Front Month Index so that such JPMCCI Ex-Front Month Index references only the Front Month Contract for that JPMCCI Exchange Commodity and that synthetic exposure will be applied on each of the Roll Dates following the Threshold Determination Date.

If a Contract Disappearance Event has occurred, the JPMCCI Calculation Agent will cease to calculate the relevant JPMCCI Ex-Front Month Index, unless the JPMCCI Supervisory Committee determines there is a natural, liquid replacement for the commodity, in which case, from the following Roll Date, the JPMCCI Calculation Agent may begin calculating a JPMCCI Ex-Front Month Index for that successor commodity in accordance with the JPMCCI methodology using that natural liquid replacement, as determined by the JPMCCI Supervisory Committee.

“Contract Discontinuation” means, with respect to any JPMCCI Exchange Commodity, the declaration, pronouncement or notice that the Relevant Exchange of that JPMCCI Exchange Commodity will discontinue the listing of, any or all, futures contracts related to that JPMCCI Exchange Commodity.

A **“Discontinuation Event”** is either (a) a Contract Disappearance Event or (b) a Threshold Event.

“Contract Disappearance Event” means, with respect to any Threshold Determination Date and any applicable Monthly Contract, the applicable Monthly Contract does not exist or will not exist on each Roll Date during the immediately following two calendar months.

“Threshold Event” means, with respect to any Threshold Determination Date, the Average Daily Contract Open Interest is less than or equal to the Exclusion Threshold for any such Monthly Contract.

“Average Daily Contract Open Interest” means, with respect to each Threshold Determination Date, in relation to a JPMCCI Exchange Commodity, and each Monthly Contract, the arithmetic average of the Daily Contract Open Interest over the first ten JPMCCI Scheduled Trading Days, as determined by the JPMCCI Calculation Agent in good faith and a commercially reasonable manner.

“Exclusion Threshold” means, with respect to any date of determination and its respective month, 80% of the Historical Average Daily Contract Open Interest, as determined by the Index Calculation Agent in good faith and a commercially reasonable manner.

“Historical Average Daily Contract Open Interest” means the average of the Average Daily Contract Open Interest calculated in the same as the HMCOIP, except using the relevant Average Daily Contract Open Interests as inputs instead of the relevant monthly contract open interest percentages.

“Threshold Determination Date” means, with respect to a Discontinuation Event, the eleventh JPMCCI Scheduled Trading Day of any calendar month.

“Front Month Contract” means, with respect to each JPMCCI Exchange Commodity, the first Monthly Contract with a strictly positive Monthly Contract Weight.

The JPMCCI Calculation Agent, the JPMCCI Sponsor and the JPMCCI Rules

The methodology employed in determining the composition and calculation of the JPMCCI Ex-Front Month Indices is set out in the calculations and procedures described in the JPMCCI Rules. GIRG currently acts as JPMCCI Calculation Agent with respect to the JPMCCI Ex-Front Month Indices but may be replaced by a substitute index calculation agent at some future date (who, in the event of such replacement, shall be regarded for all purposes of the JPMCCI Ex-Front Month Indices as the JPMCCI Calculation Agent). For the avoidance of doubt, the substitution of any JPMCCI Calculation Agent will not be deemed a termination of any JPMCCI Ex-Front Month Index or any instrument referencing any JPMCCI Ex-Front Month Index.

The JPMCCI Calculation Agent may from time to time revise, amend and/or supplement the JPMCCI Rules and in such event will publish the amended JPMCCI Rules no later than one calendar month following such revision, amendment or supplement.

JPMS plc is the sponsor of the JPMCCI Ex-Front Month Indices (the “**JPMCCI Sponsor**”). Notwithstanding anything to the contrary, the JPMCCI Sponsor will maintain all ownership rights, expressed or otherwise, with respect to the JPMCCI Ex-Front Month Indices, including the ability to license, sell or transfer any or all of its ownership rights with respect to the JPMCCI Ex-Front Month Indices, including but not limited to terminating and appointing any successor JPMCCI Calculation Agent. The JPMCCI Calculation Agent is appointed by the JPMCCI Sponsor to calculate and maintain the JPMCCI Ex-Front Month Indices from and until such time that the JPMCCI Sponsor terminates its relationship with the current JPMCCI Calculation Agent and appoints a successor index calculation agent.

The JPMCCI Supervisory Committee

In order to maintain objectivity in the administration and execution of the JPMCCI Ex-Front Month Indices, the JPMCCI Calculation Agent has, pursuant to the rules described below, formed the “**JPMCCI Supervisory Committee**.” The JPMCCI Calculation Agent will from time to time (and in any event within one month of any change in the composition of its membership) make available upon written request the names, titles and company affiliation of the individuals forming the JPMCCI Supervisory Committee.

The JPMCCI Supervisory Committee will meet annually prior to the end of each calendar year to review and approve the composition of the JPMCCI Ex-Front Month Indices for the following calendar year and any proposed modifications to the methodology of determining the composition and calculation of the JPMCCI Ex-Front Month Indices.

The JPMCCI Supervisory Committee is composed of at least three voting members, each of whom is appointed by the JPMCCI Calculation Agent. Each voting member serving on the JPMCCI Supervisory Committee will be independent. For the purposes of determining whether a particular member of the JPMCCI Supervisory Committee is independent, “independent” means that the individual in question is either (a) an employee of GIRG (such person, a “**GIRG Member**”), a “walled off,” non-broker dealer entity within JPMorgan Chase Bank, National Association or (b) not an employee, director, officer, agent or affiliate of JPMorgan Chase & Co. or any of its affiliates (such person, a “**Third Party Unaffiliated Member**”) and does not have a personal direct financial interest in a JPMCCI Ex-Front Month Index or any financial product linked directly to a JPMCCI Ex-Front Month Index while serving as a voting member of the JPMCCI Supervisory Committee. The JPMCCI Supervisory Committee will have at all times at least two Third Party Unaffiliated Members and at least one GIRG Member. Each decision made by the JPMCCI Supervisory Committee must be approved by at least one Third Party Unaffiliated Member to be effective. All voting members of the JPMCCI Supervisory Committee are sufficiently knowledgeable about commodity futures contracts and the commodities markets in general, as determined by the JPMCCI Calculation Agent in a good faith and commercially reasonable manner. The JPMCCI Calculation Agent may from time to time add or remove voting members of the JPMCCI Supervisory Committee; *provided* that such addition or removal is not a result of a particular vote of a specific committee member. For the avoidance of doubt, to the extent an employee of GIRG is a member of the JPMCCI Supervisory Committee, such person will not be an employee of a broker dealer affiliated with the JPMCCI Sponsor.

Additionally, upon the occurrence of a JPMCCI Disrupted Day, or any other extraordinary or unanticipated market events, the JPMCCI Calculation Agent may seek the advice of the JPMCCI Supervisory Committee on the necessary adjustments, methodological amendments or data corrections that may need to be implemented to the JPMCCI Ex-Front Month Index.

In the event that GIRG ceases to act as JPMCCI Calculation Agent, the composition and role of the JPMCCI Supervisory Committee may be reviewed and amended by the successor JPMCCI Calculation Agent.

BACKGROUND ON THE JPMORGAN SEASONAL ROLL INDICES

General

The JPMorgan Seasonal Custom Roll 2 Indices specified in Table 1 below (each, a **"Seasonal Roll Index"** and collectively, the **"Seasonal Roll Indices"**) were developed and are calculated and maintained by J.P. Morgan Securities plc (which we refer to as **"JPMS plc"**). The description of the strategy and methodology underlying the Seasonal Roll Indices included in this underlying supplement is based on rules formulated by JPMS plc (which we refer to as the **"Seasonal Roll Rules"**) and is qualified by the full text of the Seasonal Roll Rules. The Seasonal Roll Rules, and not this description, will govern the calculation and constitution of the Seasonal Roll Indices and other decisions and actions related to their maintenance. The Seasonal Roll Rules in effect as of the date of this underlying supplement are attached as Annex D to this underlying supplement. The Seasonal Roll Rules are the intellectual property of JPMS plc, and JPMS plc reserves all rights with respect to its ownership of the Seasonal Roll Indices. The Seasonal Roll Indices were established on November 20, 2012. As a result, the Seasonal Roll Indices have limited historical performance.

Each Seasonal Roll Index is a notional rules-based proprietary strategy that aims to replicate the returns of a long position in exchange-traded futures contracts on a single commodity (the **"Exchange Commodity"**) traded on the relevant exchange set forth in Table 1 below (the **"Relevant Exchange"**). Unlike other commodity indices that maintain exposure to futures contracts at a specified maturity (traditionally, the front-month contract), each Seasonal Roll Index seeks to track exposure only to a single specified contract or two specified contracts, as applicable, over the course of each year. The roll schedule applicable to each Seasonal Roll Index is set forth in Table 2 below. The contract or contracts referenced by each Seasonal Roll Index were determined based on the historical trading characteristics of exchange-traded futures contracts on the relevant Exchange Commodity, taking into account liquidity and market practice, with the intention of creating an index that would outperform a comparable index that maintains exposure to front-month contracts on the same Exchange Commodity. No assurance can be given that the investment strategy on which any Seasonal Roll Index is based will be successful or that any Seasonal Roll Index will outperform any alternative strategy that might be employed with respect to the relevant exchange-traded futures contracts.

To maintain notional exposure to exchange-traded futures contracts on the relevant Exchange Commodity, each Seasonal Roll Index periodically transfers its synthetic exposure from one exchange-traded futures contracts on the relevant Exchange Commodity to a futures contract with a later maturity on that Exchange Commodity as set forth in the applicable roll schedule, such exposure being gradually transferred in equal percentages per Seasonal Roll Publication Day over the first ten Seasonal Roll Publication Days of the relevant month (the **"Roll Period"**) in order to limit any adverse impact of the rolling process on the level of the relevant Seasonal Roll Index. A **"Seasonal Roll Publication Day"** is a day on which the NYSE Euronext is scheduled to open for trading for its regular trading session.

Each of the Seasonal Roll Indices is an excess return index that reflects synthetic exposure to uncollateralized positions in the futures contracts underlying that Seasonal Roll Index, including any profit or loss realized when rolling such contracts.

Each Seasonal Roll Index is described as a **"notional"** or **"synthetic"** portfolio because its reported level does not represent the value of any actual assets held by any person and there is no actual portfolio of assets in which any person has any ownership interest. The level of each Seasonal Roll Index at any point is the return of the hypothetical uncollateralized portfolio of the relevant exchange-traded futures contract(s).

The Seasonal Roll Indices

Table 1 below sets out the five Seasonal Roll Indices and their respective Exchange Commodities, Bloomberg tickers and Relevant Exchanges.

Table 1: The Seasonal Roll Indices

	Seasonal Roll Index	Exchange Commodity	Bloomberg Ticker	Relevant Exchange
1	JPMorgan Seasonal Custom Roll 2 Wheat Index—Excess Return	Wheat	JMC1SWP <Index>	CBOT (1)
2	JPMorgan Seasonal Custom Roll 2 Corn Index—Excess Return	Corn	JMC1SCP <Index>	CBOT
3	JPMorgan Seasonal Custom Roll 2 Soybean Index—Excess Return	Soybean	JMC1SSP <Index>	CBOT
4	JPMorgan Seasonal Custom Roll 2 Sugar Index—Excess Return	Sugar	JMC1SSBP <Index>	ICE (2)
5	JPMorgan Seasonal Custom Roll 2 Kansas Wheat Index—Excess Return	Kansas Wheat	JMC1SKWP <Index>	KCBOT (3)
6	JPMorgan Seasonal Custom Roll 2 Cotton Index—Excess Return	Cotton	JMC1SCTP <Index>	ICE
7	JPMorgan Seasonal Custom Roll 2 Coffee Index—Excess Return	Coffee	JMC1SKCP <Index>	ICE
8	JPMorgan Seasonal Custom Roll 2 Cocoa Index—Excess Return	Cocoa	JMC1SCCP <Index>	ICE
9	JPMorgan Seasonal Custom Roll 2 Soybean Oil Index—Excess Return	Soybean Oil	JMC1SBOP <Index>	CBOT
10	JPMorgan Seasonal Custom Roll 2 Soybean Meal Index—Excess Return	Soybean Meal	JMC1SSMP <Index>	CBOT

(1) The Chicago Board of Trade (the “**CBOT**”)

(2) ICE Futures Europe (“**ICE**”)

(3) The Kansas City Board of Trade (the “**KCBOT**”)

Roll Schedule

To maintain notional exposure to exchange-traded futures contracts on the relevant Exchange Commodity, each Seasonal Roll Index periodically transfers its synthetic exposure from one exchange-traded futures contracts on the relevant Exchange Commodity to one exchange-traded futures contract with a later maturity on that Exchange Commodity. We refer to this process as a “roll.” While each month begins with a Roll Period during which the exposure is rolled from the Outgoing Contract to the Incoming Contract, unless that month is a Roll Month, as set forth in Table 2 below, the Outgoing Contract and the Incoming Contract will be the same exchange-traded futures contract on the relevant Exchange Commodity, and the roll will have no effect.

With respect to a Seasonal Roll Index, the “**Outgoing Contract**” means, with respect to a calendar month, the Incoming Contract for that Seasonal Index from the immediately preceding calendar month.

With respect to a Seasonal Roll Index, the “**Incoming Contract**” means (a) with respect to a calendar month that is not a Roll Month, the Incoming Contract for that Seasonal Index from the immediately preceding calendar month and (b) with respect to a calendar month that is a Roll Month, the next to expire Monthly Contract tracked by that Seasonal Index as set forth in Table 2 below.

“Monthly Contract” means, with respect to an Exchange Commodity and a given month, the exchange-traded futures contract considered most associated to that given month as determined by the Seasonal Roll Calculation Agent based on the exchange-traded futures contract so designated by the Relevant Exchange (typically the contract that will have its delivery date in that given calendar month). For example, the exchange-traded futures contract on an Exchange Commodity that has its delivery date during the month of December would be referred to as the December Monthly Contract for that Exchange Commodity.

Table 2 below sets forth the Monthly Contract(s) tracked by each Seasonal Roll Index and the Roll Month(s) for each Seasonal Roll Index.

Table 2: Roll Schedules

	Seasonal Roll Index	Monthly Contract(s) Tracked	Roll Month(s)
1	JPMorgan Seasonal Custom Roll 2 Wheat Index—Excess Return	December	October
2	JPMorgan Seasonal Custom Roll 2 Corn Index—Excess Return	July	April
3	JPMorgan Seasonal Custom Roll 2 Soybean Index—Excess Return	July	May
4	JPMorgan Seasonal Custom Roll 2 Sugar Index—Excess Return	March	January
5	JPMorgan Seasonal Custom Roll 2 Kansas Wheat Index—Excess Return	December	October
6	JPMorgan Seasonal Custom Roll 2 Cotton Index—Excess Return	March	January
7	JPMorgan Seasonal Custom Roll 2 Coffee Index—Excess Return	May	March
8	JPMorgan Seasonal Custom Roll 2 Cocoa Index—Excess Return	March	January
9	JPMorgan Seasonal Custom Roll 2 Soybean Oil Index—Excess Return	July, December	April, September
10	JPMorgan Seasonal Custom Roll 2 Soybean Meal Index—Excess Return	July, December	April, September

Table 3 provides as illustrative example of the Incoming Contract and the Outgoing Contract with respect to each of the JPMorgan Seasonal Custom Roll 2 Wheat Index—Excess Return and the JPMorgan Seasonal Custom Roll 2 Live Cattle Index—Excess Return for each month during 2012.

Accordingly, as shown in Table 3 below, the JPMorgan Seasonal Custom Roll 2 Wheat Index—Excess Return tracks only the December Monthly Contract, and each October, it rolls from the December Monthly Contract for the current year into the December Monthly Contract for the following year.

In addition, as shown in Table 3 below, the JPMorgan Seasonal Custom Roll 2 Live Cattle Index—Excess Return alternatively tracks the April Monthly Contract and the October Monthly Contract. Each February, the JPMorgan Seasonal Custom Roll 2 Live Cattle Index—Excess Return rolls from the April Monthly Contract for the current year into the October Monthly Contract for the current year and each August, it rolls from that October Monthly Contract into the April Monthly Contract for the following year.

Table 3: Example

	JPMorgan Seasonal Custom Roll 2 Wheat Index—Excess Return		JPMorgan Seasonal Custom Roll 2 Live Cattle Index—Excess Return	
	Outgoing Contract	Incoming Contract	Outgoing Contract	Incoming Contract
January	December 2012	December 2012	April 2012	April 2012
February	December 2012	December 2012	April 2012*	October 2012*
March	December 2012	December 2012	October 2012	October 2012
April	December 2012	December 2012	October 2012	October 2012
May	December 2012	December 2012	October 2012	October 2012
June	December 2012	December 2012	October 2012	October 2012
July	December 2012	December 2012	October 2012	October 2012
August	December 2012	December 2012	October 2012*	April 2013*
September	December 2012	December 2012	April 2013	April 2013
October	December 2012*	December 2013*	April 2013	April 2013
November	December 2013	December 2013	April 2013	April 2013
December	December 2013	December 2013	April 2013	April 2013

*Roll Month

Calculation of the Seasonal Roll Level

JPMS plc has designated itself to act as calculation agent for the Seasonal Roll Indices (the “**Seasonal Roll Calculation Agent**”).

The Seasonal Roll Level

The level of each Seasonal Roll Index (the “**Seasonal Roll Level**”) is determined in respect of each Seasonal Roll Publication Day by reference to the Seasonal Roll Level published in respect of the immediately preceding Seasonal Roll Publication Day and the notional return on the exposure of that Seasonal Roll Index to the relevant Monthly Contract(s) from the close of business on the Relevant Exchange on the immediately preceding Seasonal Roll Publication Day to the close of business on the Relevant Exchange on that Seasonal Roll Publication Day.

The Seasonal Roll Level on December 31, 1997 (the “**Seasonal Roll Inception Date**”) was 100 (the “**Seasonal Roll Inception Level**”). For each Seasonal Roll Publication Day following the Seasonal Roll Inception Level, the Seasonal Roll Level for each Seasonal Roll Index will be determined in accordance with the following formula:

$$Index_d = Index_{d-1} \times (1 + IR_d)$$

where:

IR_d means the Investment Return for Seasonal Roll Publication Day d, which is determined by the Seasonal Roll Calculation Agent in accordance with the following formula:

$$IR_d = \frac{RWO_{d-1} \times CPO_{d,m_{d-1}} + RWI_{d-1} \times CPI_{d,m_{d-1}}}{RWO_{d-1} \times CPO_{d-1,m_{d-1}} + RWI_{d-1} \times CPI_{d-1,m_{d-1}}} - 1$$

where:

RWO_{d-1} is the Roll Weight Outgoing (as defined below) of the applicable Seasonal Roll Index in respect of Seasonal Roll Publication Day_{d-1}, which is the Seasonable Roll Publication Day immediately preceding Seasonal Roll Publication Day_d;

RWI_{d-1} is the Roll Weight Incoming (as defined below) of the applicable Seasonal Roll Index in respect of Seasonal Roll Publication Day_{d-1};

$CPO_{d,m_{d-1}}$ is the Contract Price of the Outgoing Contract for month m_{d-1} in respect of Seasonal Roll Publication Day d ;

$CPI_{d,m_{d-1}}$ is the Contract Price of the Incoming Contract for month m_{d-1} in respect of Seasonal Roll Publication Day d ; and

m_{d-1} is calendar month in which Seasonal Roll Publication Day_{d-1} falls.

“Contract Price” means, with respect to any Monthly Contract on a Seasonal Roll Publication Day, the Settlement Price in U.S. dollars of that exchange-traded futures contract as published by the Relevant Exchange for that exchange-traded futures contract in respect of that Seasonal Roll Publication Day.

“Settlement Price” means, with respect to each Exchange Commodity, the settlement price in respect of a Monthly Contract as published by the Relevant Exchange for that Exchange Commodity on any Seasonal Roll Publication Day.

If for any reason a Settlement Price is not obtainable in respect of a given Exchange Commodity and Monthly Contract, then the Settlement Price last previously obtainable (which will usually be the Settlement Price in respect of the previous Seasonal Roll Publication Day) will be used for calculation of the relevant Seasonal Roll Level. If the Settlement Price is a Limit Price (as defined below), the Limit Price will be used in the calculation of the relevant Seasonal Roll Level.

Roll Weights

In order to minimize market impact of rolling from the Outgoing Contract to the Incoming Contract, the applicable Seasonal Roll Index will roll the exposure to the exchange-traded futures contract on the relevant Exchange Commodity in equal portions over the Roll Period. For any month where the Outgoing Contract and the Incoming Contract are the same, the roll will have no effect.

The **“Roll Weight Outgoing”** on a given Seasonal Roll Publication Day represents the portion of exposure the applicable Seasonal Roll Index has to the Outgoing Contract. Similarly the **“Roll Weight Incoming”** on a given Seasonal Roll Publication Day represents the portion of exposure the applicable Seasonal Roll Index has to the Incoming Contract.

During the Roll Period, the “**Roll Weights**” in respect of the i-th Seasonal Roll Publication Day of the Roll Period are calculated as follows:

$$RWI_{d_i} = \frac{i}{10}$$

$$RWO_{d_i} = 1 - \frac{i}{10}$$

where:

RWI_{d_i} means the Roll Weight Incoming in respect of Seasonal Roll Publication Day d;

RWO_{d_i} means the Roll Weight Outgoing in respect of Seasonal Roll Publication Day d; and

d_i means the i-th Seasonal Roll Publication Day of the Roll Period.

The Roll Weight on any Seasonal Roll Publication Day that is not in the Roll Period

The Roll Weights on each Seasonal Roll Publication Day d that is not during the Roll Period for a relevant month are determined as follows:

- (a) for any Seasonal Roll Publication Day d of the relevant month prior to the start of the Roll Period for that relevant month, the Roll Weight Incoming is 0.0 and the Roll Weight Outgoing is 1.0; and
- (b) for any Seasonal Roll Publication Day d of the relevant month following the last Seasonal Roll Publication Day of the Roll Period for that relevant month, the Roll Weight Incoming is 1.0 and the Roll Weight Outgoing is 0.0.

For example, because the Roll Period for each Seasonal Roll Index begins on the first Seasonal Roll Publication Day of a relevant month and ends on the tenth Seasonal Roll Publication Day of that month, in the absence of the occurrence of any Seasonal Roll Disrupted Days, the Roll Weights would be as shown as follows:

Seasonal Roll Publication Day d of the Relevant Month	Roll Weight Outgoing	Roll Weight Incoming
1 (first Seasonal Roll Publication Day of Roll Period)	0.90	0.10
2	0.80	0.20
3	0.70	0.30
4	0.60	0.40
5	0.50	0.50
6	0.40	0.60

Seasonal Roll Publication Day d of the Relevant Month	Roll Weight Outgoing	Roll Weight Incoming
7	0.30	0.70
8	0.20	0.80
9	0.10	0.90
10 (the tenth and last Seasonal Roll Publication Day of Roll Period)	0.0	1.0
11	0.0	1.0
etcetera	etcetera	etcetera

The effect of this calculation is that, on each Seasonal Roll Publication Day during the Roll Period (each such day, a “**Scheduled Roll Day**”), the Composition will be amended by the phased removal from the Composition of 10% of the exposure to the Outgoing Contract and the replacement of it by 10% of the Incoming Contract, subject to the adjustment as described below under “— Adjustment of the roll for Seasonal Roll Disrupted Days.”

“**Composition**” means, with respect to any Seasonal Roll Index, the portfolio of Monthly Contracts associated with that Seasonal Roll Index.

Adjustment of the roll for Seasonal Roll Disrupted Days

If a Scheduled Roll Day is a Seasonal Roll Disrupted Day with respect to the relevant Exchange Commodity, then (a) the Composition will not be amended on that day and (b) the portion of the Composition that would have been amended on that day will be amended on the next following Seasonal Roll Publication Day that is not a Seasonal Roll Disrupted Day. For example, if the first and second Seasonal Roll Publication Days of the relevant month are Seasonal Roll Disrupted Days for the relevant Exchange Commodity, then the Roll Weights would be as follows:

Seasonal Roll Publication Day d of the Relevant Month	Roll Weight Outgoing	Roll Weight Incoming
1 (first Seasonal Roll Publication Day of the Roll Period that is a Seasonal Roll Disrupted Day)	1.0	0.0
2 (Seasonal Roll Disrupted Day)	1.0	0.0
3	0.70	0.30
4	0.60	0.40
5	0.50	0.50
6	0.40	0.60
7	0.30	0.70
8	0.20	0.80

Seasonal Roll Publication Day d of the Relevant Month	Roll Weight Outgoing	Roll Weight Incoming
9	0.10	0.90
10 (the tenth and last Seasonal Roll Publication Day of Roll Period)	0.0	1.0
11	0.0	1.0
etcetera	etcetera	etcetera

"Seasonal Roll Disrupted Day" means, with respect to a Monthly Contract, a Seasonal Roll Publication Day on which:

- (a) the Settlement Price for that Monthly Contract is not published by the Relevant Exchange in respect of that Seasonal Roll Publication Day; or
- (b) the Settlement Price for that Monthly Contract in respect of that Seasonal Roll Publication Day is a Limit Price.

"Limit Price" means a Settlement Price in respect of any scheduled Seasonal Roll Publication Day that is a Limit Day.

"Limit Day" means, with respect to an Exchange Commodity and its Relevant Exchange, any day on which there is a limitation on, or suspension of, the trading of options or futures contracts imposed by the Relevant Exchange by reason of movements exceeding "limit up" or "limit down" levels permitted by that Relevant Exchange.

Publication of the Seasonal Roll Level

The Seasonal Roll Level will be reported to four (4) decimal places (although the Seasonal Roll Calculation Agent may maintain a record of the Seasonal Roll Level with greater precision for internal purposes) on every Seasonal Roll Publication Day. The Seasonal Roll Calculation Agent is not obliged to provide the Seasonal Roll Level by any alternative method if the Bloomberg ticker applicable to a Seasonal Roll Index is subject to any delay in or interruptions of publication or as a result of the occurrence or continuation of a Force Majeure Event.

"Force Majeure Event" means any event beyond the control of the Seasonal Roll 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, labor 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.

Extraordinary Events

Successor Exchange Commodity

If:

- (a) the Settlement Price relating to a Monthly Contract of any Exchange Commodity is not calculated and announced by the Relevant Exchange but is calculated and announced by a successor exchange (the **"Successor Exchange"**) acceptable to the Seasonal Roll Calculation Agent; or

- (b) a futures exchange announces futures contracts on the Exchange Commodity of a Seasonal Roll Index and, in the determination of the Seasonal Roll Calculation Agent, the contract specifications of such futures contracts on that Exchange Commodity are the same or substantially similar to the Monthly Contracts of any Monthly Contract,

then in each case, the Seasonal Roll Calculation Agent may elect to replace the Exchange Commodity with a successor exchange commodity relating to the same underlying commodity (the **"Successor Exchange Commodity"**) by making such adjustment to the Seasonal Roll Rules as the Seasonal Roll Calculation Agent determines in good faith is appropriate to account for that change. Notwithstanding anything to the contrary, the Seasonal Roll Calculation Agent may declare a Substitute Exchange Commodity.

Change in Law

The Seasonal Roll Calculation Agent is under no obligation to continue the calculation and publication of any Seasonal Roll Index upon the occurrence or existence of a Change in Law; and the Seasonal Roll Calculation Agent may decide to cancel any Seasonal Roll Index if it determines, acting in good faith, that the objective of the relevant Seasonal Roll Index can no longer be achieved. For the avoidance of doubt, a stated objective of any Seasonal Roll Index includes the objective of having an index that is liquid and representative of the commodities markets that exist as of the date of the Seasonal Roll Rules.

"Change in Law" means:

(a) due to:

- (i) the adoption of, or any change in, any applicable law, regulation, rule or order (including, without limitation, any tax law); or
- (ii) the promulgation of, or any change in, the interpretation, application, exercise or operation by any court, tribunal, regulatory authority, exchange or trading facility or any other relevant entity with competent jurisdiction of any applicable law, rule, regulation, order, decision or determination (including, without limitation, as implemented by the Commodity Futures Trading Commission or exchange or trading facility), in each case occurring on or after the Seasonal Roll Inception Date,

in each case, the Seasonal Roll Calculation Agent determines in good faith that it is contrary (or, upon adoption, it will be contrary) to that law, rule, regulation, order, decision or determination for any market participants that are brokers or financial intermediaries (individually or collectively) to purchase, sell, enter into, maintain, hold, acquire or dispose of any Monthly Contracts or any transaction referencing any Monthly Contract (in whole or in part) (in the aggregate on a portfolio basis or incrementally on a trade by trade basis) including (without limitation) if such Monthly Contract (in whole or in part) are (or, but for the consequent disposal 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) in relation to any Monthly Contract traded on any exchange(s) or other trading facility; or

(b) the occurrence or existence of any:

- (i) suspension or limitation imposed on trading commodities futures contracts (including, without limitation the Monthly Contracts); or
- (ii) any other event that causes trading in commodity futures contracts (including, without limitation Monthly Contracts) to cease.

Corrections

If (a) the Settlement Price of any Monthly Contract used to calculate the Seasonal Roll Level on any Seasonal Roll Publication Day is subsequently corrected and the correction is published by the Relevant Exchange; or (b) the Seasonal Roll Calculation Agent identifies an error or omission in any of its calculations or determinations in respect of Seasonal Roll Level, then, the Seasonal Roll Calculation Agent may adjust or correct the published Seasonal Roll Level for that day and each subsequent Seasonal Roll Publication Day and publish such corrected Seasonal Roll Level(s) as soon as reasonably practicable.

Seasonal Roll Calculation Agent; Amendment of Seasonal Roll Rules; Limitation of Liability

The Seasonal Roll Calculation Agent will act in good faith and in a commercially reasonable manner.

The Seasonal Roll Calculation Agent may amend the Seasonal Roll Rules from time to time at its sole and absolute discretion. While the Seasonal Roll Rules are intended to be comprehensive, ambiguities may arise. If so, the Seasonal Roll Calculation Agent will resolve such ambiguities and, if necessary, amend the Seasonal roll Rules to reflect that resolution.

All determinations of the Seasonal Roll Calculation Agent and interpretation of the Seasonal Roll Rules will 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 Seasonal Roll Calculation Agent or any other Relevant Person with respect to any aspect of the applicable Seasonal Roll Index, neither the Seasonal Roll Calculation Agent nor any other Relevant Person will be under any obligation to revise any determination or calculation made or action taken for any reason.

No Relevant Person will 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 any Seasonal Roll Index or in respect of the publication of the Seasonal Roll Level (or failure to publish that level) or any use to which any person may put any Seasonal Roll Index or the Seasonal Roll Levels.

"Relevant Person" means the Seasonal Roll Calculation Agent or any of its affiliates or subsidiaries or their respective directors, officers, employees, representatives, delegates or agents (as the case may be).

BACKGROUND ON THE BLOOMBERG COMMODITY INDEXSM

General

We have derived all information contained in this underlying supplement regarding the Bloomberg Commodity IndexSM, including, without limitation, their make-up, methods of calculation and changes in their components, from publicly available information. UBS and Bloomberg are not involved in the offer of the notes in any way and have no obligation to consider your interests as a holder of the notes. UBS and Bloomberg have no obligation to continue to publish the Bloomberg Commodity Indices, and may discontinue publication of the Bloomberg Commodity Indices at any time in their sole discretion.

On July 1, 2014, Bloomberg Finance L.P. ("Bloomberg") became responsible for the governance, calculation, distribution and licensing of the Bloomberg Commodity Indices. The Dow Jones-UBS Commodity IndexSM was renamed to the Bloomberg Commodity IndexSM and the ticker changed from "DJUBS" to "BCOM." UBS has maintained its ownership, but will have no role in any aspect of index governance or calculation. Currently, Bloomberg does not expect to make any material alteration to the calculation methodology of the Bloomberg Commodity Indices.

Overview

The Bloomberg Commodity IndexSM was introduced in July of 1998 to provide a unique, diversified, economically rational and liquid benchmark for commodities as an asset class. The Bloomberg Commodity IndexSM currently is composed of the prices of twenty-two exchange-traded futures contracts on physical commodities. A futures contract is a bilateral agreement providing for the purchase and sale of a specified type and quantity of a commodity or financial instrument during a stated delivery month for a fixed price. For a general description of the commodity futures markets, please see "Background on the Commodity Futures Markets" below. The commodities included in the Bloomberg Commodity IndexSM for 2015 and 2014 are as follows: aluminum, coffee, copper, corn, cotton, crude oil (WTI and Brent), gold, heating oil, lean hogs, live cattle, natural gas, nickel, silver, soybeans, soybean meal, soybean oil, sugar, unleaded gasoline, wheat (Soft and Hard Red Winter) and zinc. The Bloomberg Commodity IndexSM tracks futures contracts that trade on the Chicago Board of Trade ("CBOT"), New York Board of Trade ("NYBOT"), Commodities Exchange division of the New York Mercantile Exchange ("COMEX"), New York Mercantile Exchange ("NYMEX"), the Kansas City Board of Trade ("KCBOT"), the London Metals Exchange ("LME") and ICE Futures Europe.

The Bloomberg Commodity IndexSM is a proprietary index that AIG International, Inc. developed and that Bloomberg calculates. The methodology for determining the composition and weighting of the Bloomberg Commodity IndexSM and for calculating its value is subject to modification by Bloomberg at any time.

The Bloomberg Commodity IndexSM is composed of exchange-traded futures contracts on physical commodities and is designed to be a highly liquid and diversified benchmark for commodities as an asset class. Its component weightings are determined primarily based on liquidity data, which is the relative amount of trading activity of a particular commodity. The Bloomberg Commodity IndexSM is published by Bloomberg L.P. under the ticker symbols "BCOM" for the excess return version and "BCOMTR" for the total return version.

The Bloomberg Commodity Index Oversight Committee and Index Advisory Committee

Bloomberg will establish a two-tier oversight structure composed of the Bloomberg Commodity Index Oversight Committee (the “Oversight Committee”) and the Bloomberg Commodity Index Advisory Committee (the “Advisory Committee”). The Oversight Committee will consist of senior representatives from various Bloomberg business units, and will discuss, review and challenge all aspects of the benchmark process, given any advice and recommendations of the Advisory Committee. The Advisory Committee will convene to provide Bloomberg with guidance and feedback from the investment community on index products and processes. Both the Oversight and Advisory Committees meet annually to consider any changes to be made to the Bloomberg Commodity IndexSM for the coming year. These committees may also meet at such other times as may be necessary for purposes of their respective responsibilities in connection with the oversight of the Bloomberg Commodity IndexSM.

Four Main Principles Guiding the Creation of the Bloomberg Commodity IndexSM

The Bloomberg Commodity IndexSM was created using the following four main principles:

- **ECONOMIC SIGNIFICANCE.** A commodity index should fairly represent the importance of a diversified group of commodities to the world economy. To achieve a fair representation, the Bloomberg Commodity IndexSM uses both liquidity data and dollar-weighted production data in determining the relative quantities of included commodities. The Bloomberg Commodity IndexSM primarily relies on liquidity data, or the relative amount of trading activity of a particular commodity, as an important indicator of the value placed on that commodity by financial and physical market participants. The Bloomberg Commodity IndexSM also relies on production data as a useful measure of the importance of a commodity to the world economy. Production data alone, however, may underestimate the economic significance of storable commodities (e.g., gold) relative to non-storable commodities (e.g., live cattle). Production data alone also may underestimate the investment value that financial market participants place on certain commodities, and/or the amount of commercial activity that is centered around various commodities. Accordingly, production statistics alone do not necessarily provide as accurate a blueprint of economic importance as the markets themselves. The Bloomberg Commodity IndexSM thus relies on data that is both endogenous to the futures market (liquidity) and exogenous to the futures market (production) in determining relative weightings.
- **DIVERSIFICATION.** A second major goal of the Bloomberg Commodity IndexSM is to provide diversified exposure to commodities as an asset class. Disproportionate weighting of any particular commodity or sector increases volatility and negates the concept of a broad-based commodity index. Instead of diversified commodities exposure, the investor is unduly subjected to micro-economic shocks in one commodity or sector. As described further below, diversification rules have been established and are applied annually. Additionally, the Bloomberg Commodity IndexSM is re-balanced annually on a price-percentage basis in order to maintain diversified commodities exposure over time.
- **CONTINUITY.** The third goal of the Bloomberg Commodity IndexSM is to be responsive to the changing nature of commodity markets in a manner that does not completely reshape the character of the Bloomberg Commodity IndexSM from year to year. The Bloomberg Commodity IndexSM is intended to provide a stable benchmark so that end-users may be reasonably confident that historical performance data (including such diverse measures as correlation, spot yield, roll yield and volatility) is based on a structure that bears some resemblance to both the current and future composition of the Bloomberg Commodity IndexSM.

- **LIQUIDITY.** Another goal of the Bloomberg Commodity IndexSM is to provide a highly liquid index. The explicit inclusion of liquidity as a weighting factor helps to ensure that the Bloomberg Commodity IndexSM can accommodate substantial investment flows. The liquidity of an index affects transaction costs associated with current investments. It also may affect the reliability of historical price performance data.

These four principles represent goals of the Bloomberg Commodity IndexSM and its creators, and there can be no assurance that these goals will be reached by Bloomberg.

Composition of the Bloomberg Commodity IndexSM — Commodities Available for Inclusion

Commodities have been selected that are believed to be both sufficiently significant to the world economy to merit consideration for inclusion in the Bloomberg Commodity IndexSM and tradable through a qualifying related futures contract. With the exception of several metals contracts (aluminum, lead, tin, nickel and zinc) that trade on the LME and contracts for Brent crude, which trade on ICE Futures Europe, each of the potential commodities is currently the subject of at least one futures contract that trades on a U.S. exchange.

As of the date of this underlying supplement, the 24 commodities available for inclusion in the Bloomberg Commodity IndexSM were aluminum, cocoa, coffee, copper, corn, cotton, crude oil (WTI and Brent), gold, heating oil, lead, lean hogs, live cattle, natural gas, nickel, platinum, silver, soybean meal, soybean oil, soybeans, sugar, tin, unleaded gasoline, wheat (soft (Chicago) and hard red winter (Kansas City)) and zinc.

The 20 Index Commodities for 2015 and 2014 are as follows: aluminum, coffee, copper, corn, cotton, crude oil (WTI and Brent), gold, heating oil, lean hogs, live cattle, natural gas, nickel, silver, soybean meal, soybean oil, soybeans, sugar, unleaded gasoline, wheat (soft and hard red winter) and zinc.

Designated Contracts for Each Commodity

One or more futures contracts known as a “Designated Contract” is selected by Bloomberg for each commodity available for inclusion in the Bloomberg Commodity IndexSM. Historically, through and including the composition of the Bloomberg Commodity IndexSM for 2015 and 2014, Bloomberg has chosen for each Commodity one Designated Contract that is traded in North America and denominated in U.S. dollars (with the exception of several LME contracts, which are traded in London, and with the exception of crude oil, for which two Designated Contracts have been selected starting in 2012, and wheat, for which two Designated Contracts that are traded in North America have been selected starting in 2013).

Bloomberg may in the future select more than one Designated Contract for additional commodities or may select Designated Contracts that are traded outside of the United States or in currencies other than the U.S. dollar. For example, in the event that changes in regulations concerning position limits materially affect the ability of market participants to replicate the Bloomberg Commodity IndexSM in the underlying futures markets, it may become appropriate to include multiple Designated Contracts for more commodities (in addition to crude oil and wheat) in order to enhance liquidity.

The termination or replacement of a futures contract on an established exchange occurs infrequently; if a Designated Contract were to be terminated or replaced, a comparable futures contract, if available, would be selected to replace that Designated Contract. Please see “Risk Factors — Bloomberg Finance L.P. (“Bloomberg”) may alter the composition of the Bloomberg Commodity IndexSM, which could affect the calculation and composition of the Index.”

As of the date of this underlying supplement, the 2015 and 2014 Designated Contracts for the commodities underlying the Bloomberg Commodity IndexSM are set forth in the table below:

Commodity	Designated Contract	Exchange	Units	Price quote
Aluminum	High Grade Primary Aluminum	LME	25 metric tons	USD/metric ton
Coffee	Coffee "C"	NYBOT	37,500 lbs	U.S. cents/pound
Copper*	Copper	COMEX	25,000 lbs	U.S. cents/pound
Corn	Corn	CBOT	5,000 bushels	U.S. cents/bushel
Cotton	Cotton	NYBOT	50,000 lbs	U.S. cents/pound
Crude (WTI)	Light, Sweet Crude Oil	NYMEX	1,000 barrels	USD/barrel
Crude (Brent)	Brent Crude Oil	ICE Futures Europe	1,000 barrels	USD/barrel
Gold	Gold	COMEX	100 troy oz.	USD/troy oz.
Heating Oil	Heating Oil	NYMEX	42,000 gallons	U.S. cents/gallon
Lean Hogs	Lean Hogs	CME	40,000 lbs	U.S. cents/pound
Live Cattle	Live Cattle	CME	40,000 lbs	U.S. cents/pound
Natural Gas	Henry Hub Natural Gas	NYMEX	10,000 mmbtu	USD/mmbtu
Nickel	Primary Nickel	LME	6 metric tons	USD/metric ton
Silver	Silver	COMEX	5,000 troy oz.	U.S. cents/troy oz.
Soybeans	Soybeans	CBOT	5,000 bushels	U.S. cents/bushel
Soybean Meal	Soybean Meal	CBOT	100 short tons	USD/short ton
Soybean Oil	Soybean Oil	CBOT	60,000 lbs	U.S. cents/pound
Sugar	World Sugar No. 11	NYBOT	112,000 lbs	U.S. cents/pound
Unleaded Gasoline (RBOB)	Reformulated Gasoline Blendstock for Oxygen Blending	NYMEX	42,000 gal	U.S. cents/gallon
Wheat (Chicago)	Soft Wheat	CBOT	5,000 bushels	U.S. cents/bushel
Wheat (Kansas)	Hard Red Winter Wheat	KCBOT	5,000 bushels	U.S. cents/ bushel
Zinc	Special High Grade Zinc	LME	25 metric tons	USD/metric ton

* The Bloomberg Commodity IndexSM uses the High Grade Copper contract traded on the COMEX division of the New York Mercantile Exchange for copper contract prices and LME volume data in determining the weighting for the Bloomberg Commodity IndexSM.

In addition to the commodities set forth in the above table, cocoa, lead, platinum, tin, gas oil, orange juice and feeder cattle also are considered annually for inclusion in the Bloomberg Commodity IndexSM.

Commodity Groups

For purposes of applying the diversification rules discussed above and below, the commodities available for inclusion in the Bloomberg Commodity IndexSM are assigned to Commodity Groups. The Commodity Groups, and the commodities currently included in each Commodity Group, are as follows:

Commodity Group:	Commodities:	Commodity Group:	Commodities:
Energy	Crude Oil (WTI and Brent) Heating Oil Natural Gas Unleaded Gasoline (RBOB)	Livestock	Lean Hogs Live Cattle
Precious Metals	Gold Silver Platinum	Grains	Corn Soybeans Soybean Meal Soybean Oil Wheat (Chicago and Kansas)
Industrial Metals	Aluminum Copper Lead Nickel Tin Zinc	Softs	Cocoa Coffee Cotton Sugar

Bloomberg Commodity IndexSM Breakdown by Commodity Group

The Commodity Group Breakdown set forth below is based on the weightings and composition of the Bloomberg Commodity IndexSM set forth under "The Bloomberg Commodity IndexSM 2015 Commodity Index Target Weights" below.

Energy	31.193523%
Precious Metals	16.180197%
Industrial Metals	16.654266%
Livestock	5.267154%
Grains	22.984033%
Softs	7.720828%

In addition, the Commodity Group Breakdown set forth below is based on the weightings and composition of the Bloomberg Commodity IndexSM set forth under "The Bloomberg Commodity IndexSM 2014 Commodity Index Target Weights" below.

Energy	31.781080%
Precious Metals	15.674419%

Industrial Metals	16.597299%
Livestock	5.144504%
Grains	22.948536%
Softs	7.854167%

Annual Reweightings and Rebalancings of the Bloomberg Commodity IndexSM

The Bloomberg Commodity IndexSM is reweighted and rebalanced each year in January on a price-percentage basis. The annual weightings for the Bloomberg Commodity IndexSM are determined each year in the third or fourth quarter by Bloomberg under the supervision of the Oversight Committee following advice from the Advisory Committee and are published as promptly as practicable following the calculation. The annual weightings for the next calendar year are implemented the following January.

For example, the target composition of the Bloomberg Commodity IndexSM for 2015 was published on October 29, 2014. The January 2015 reweighting and rebalancing will be based on the following percentages:

The Bloomberg Commodity IndexSM 2015 Commodity Index Target Weights

Commodity		Weighting
Crude Oil		15.000000%
WTI Crude Oil:	7.8434950%	
Brent Crude Oil:	7.1565050%	
Gold		11.9041430%
Natural Gas		8.7397550%
Copper		7.5375780%
Corn		7.2463450%
Soybeans		5.6812590%
Aluminum		4.5931580%
Wheat		4.4981500%
Chicago:	3.3276410%	
Kansas:	1.1705090%	
Silver		4.2760540%
Sugar		3.9956530%
ULS Diesel*		3.7609190%
Unleaded Gasoline		3.6928490%
Live Cattle		3.3273920%
Soybean Oil		2.8129680%
Soybean Meal		2.7453110%

Commodity	Weighting
Zinc	2.4041340%
Coffee	2.2121760%
Nickel	2.1193960%
Lean Hogs	1.9397640%
Cotton	1.5129990%

* CME's heating oil contract on NYMEX was renamed ultra-low-sulfur-diesel ("ULS diesel") futures after the April 2013 contract.

In addition, the target composition of the Bloomberg Commodity IndexSM for 2014 was published on October 31, 2013. The January 2014 reweighting and rebalancing was based on the following percentages:

The Bloomberg Commodity IndexSM 2014 Commodity Index Target Weights

Commodity	Weighting
Crude Oil	15.000000%
WTI Crude Oil:	8.488847%
Brent Crude Oil:	6.511153%
Gold	11.533058%
Natural Gas	9.445978%
Copper	7.508304%
Corn	7.195820%
Soybeans	5.683943%
Aluminum	4.721660%
Wheat	4.555966%
Chicago:	3.341175%
Kansas:	1.214791%
Silver	4.141361%
Sugar	3.955940%
Heating Oil	3.718383%
Unleaded Gasoline	3.616719%
Live Cattle	3.272063%
Soybean Oil	2.830403%
Soybean Meal	2.682404%
Zinc	2.313815%
Coffee	2.319804%

Commodity	Weighting
Nickel	2.053520%
Lean Hogs	1.872441%
Cotton	1.578423%

Information concerning the Bloomberg Commodity IndexSM, including weightings and composition, may be obtained at the Bloomberg website at www.bloombergindexes.com/bloomberg-commodity-index-family. Information contained in the Bloomberg website is not incorporated by reference in, and should not be considered part of, this underlying supplement or the relevant terms supplement.

Determination of Relative Weightings

The relative weightings of the Index Commodities are determined annually according to both liquidity and dollar-adjusted production data in 2/3 and 1/3 shares, respectively. Each year, for each Designated Contract selected as a reference contract for a commodity designated for potential inclusion in the Bloomberg Commodity IndexSM, liquidity is measured by the Commodity Liquidity Percentage ("CLP") and production by the Commodity Production Percentage ("CPP"). The CLP for each Designated Contract is determined by taking a five-year average of the product of trading volume and the historical dollar value of that Designated Contract, and dividing the result by the sum of such products for all Designated Contracts. The CPP is determined for each commodity by taking a five-year average of annual world production figures, adjusted by the historical U.S. dollar value of the applicable Designated Contract, and dividing the result by the sum of such production figures for all the commodities that were designated for potential inclusion in the Bloomberg Commodity IndexSM. The CLP and the CPP are then combined (using a ratio of 2:1) to establish the Commodity Index Percentage ("CIP") for each commodity. This CIP is then adjusted in accordance with certain diversification rules in order to determine the commodities that will be included in the Bloomberg Commodity IndexSM (each an "Index Commodity," and collectively, the "Index Commodities") and their respective percentage weights.

Diversification Rules

The Bloomberg Commodity IndexSM is designed to provide diversified exposure to commodities as an asset class. To ensure that no single commodity or commodity sector dominates the Bloomberg Commodity IndexSM, the following diversification rules are applied to the annual reweighting and rebalancing of the Bloomberg Commodity IndexSM as of January of each year:

- No single commodity (e.g., natural gas or silver) may constitute more than 15% of the Bloomberg Commodity IndexSM.
- No single commodity, together with its derivatives (e.g., crude oil, together with heating oil and unleaded gasoline), may constitute more than 25% of the Bloomberg Commodity IndexSM.
- No related group of commodities designated as a "Commodity Group" (e.g., energy, precious metals, livestock or grains) may constitute more than 33% of the Bloomberg Commodity IndexSM.
- No single commodity included in the Bloomberg Commodity IndexSM may constitute less than 2% of the Bloomberg Commodity IndexSM, as liquidity allows.

Following the annual reweighting and rebalancing of the Bloomberg Commodity IndexSM in January, the percentage of any Index Commodity or Commodity Group at any time prior to the next reweighting or rebalancing will fluctuate and may exceed or be less than the percentages established in January.

Commodity Index Multipliers

Following application of the diversification rules discussed above, CIPs are incorporated into the Bloomberg Commodity IndexSM by calculating the new unit weights for each Index Commodity. Near the beginning of each new calendar year, the CIPs, along with the settlement prices determined on that date for Designated Contracts included in the Bloomberg Commodity IndexSM, are used to determine a Commodity Index Multiplier ("CIM") for each Designated Contract. This CIM is used to achieve the percentage weightings of the Designated Contracts, in dollar terms, indicated by their respective CIPs. After the CIMs are calculated, they remain fixed throughout the year. As a result, the observed price percentage of each Designated Contract will float throughout the year, until the CIMs are reset the following year based on new CIPs.

License Agreement

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This underlying supplement and the relevant terms supplement relate only to the notes and does not relate to the exchange-traded physical commodities underlying any of the Bloomberg Commodity IndexSM components. Purchasers of the notes should not conclude that the inclusion of a futures contract in the Bloomberg Commodity IndexSM is any form of investment recommendation of the futures contract or the underlying exchange-traded physical commodity by UBS, Bloomberg or any of their subsidiaries or affiliates. The information in this underlying supplement regarding the Bloomberg Commodity IndexSM components has been derived solely from publicly available documents. None of UBS, Bloomberg or any of their subsidiaries or affiliates has made any due diligence inquiries with respect to the Bloomberg Commodity IndexSM components in connection with the notes. None of UBS, Bloomberg or any of their subsidiaries or affiliates makes any representation that these publicly available documents or any other publicly available information regarding the Bloomberg Commodity IndexSM components, including without limitation a description of factors that affect the prices of such components, are accurate or complete.

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BACKGROUND ON THE COMMODITY FUTURES MARKETS

Futures contracts on physical commodities are traded on regulated futures exchanges, in the over-the-counter market and on various types of physical and electronic trading facilities and markets. As of the date of this underlying supplement, all of the contracts included in the indices described in this underlying supplement are exchange-traded futures contracts. An exchange-traded futures contract provides for the purchase and sale of a specified type and quantity of a commodity or financial instrument during a stated delivery month for a fixed price. A futures contract provides for a specified settlement month in which cash settlement is made or in which the commodity or financial instrument is to be delivered by the seller (whose position is therefore described as "short") and acquired by the purchaser (whose position is therefore described as "long").

No purchase price is paid or received on the purchase or sale of a futures contract. Instead, an amount of cash or cash equivalents must be deposited with the broker as "initial margin." This amount varies based on the requirements imposed by the exchange clearing houses, but it may be lower than 5% of the notional value of the contract. This margin deposit provides collateral for the obligations of the parties to the futures contract.

By depositing margin, which may vary in form depending on the exchange, with the clearing house or broker involved, a market participant may be able to earn interest on its margin funds, thereby increasing the total return that it may realize from an investment in futures contracts.

Futures contracts are traded on organized exchanges, known as "contract markets" in the United States. At any time prior to the expiration of a futures contract, a trader may elect to close out its position by taking an opposite position on the exchange on which the trader obtained the position, subject to the availability of a liquid secondary market. This operates to terminate the position and fix the trader's profit or loss. Futures contracts are cleared through the facilities of a centralized clearing house and a brokerage firm, referred to as a "futures commission merchant," which is a member of the clearing house.

Unlike equity securities, futures contracts, by their terms, have stated expirations at a specified point in time prior to expiration. At a specific point in time prior to expiration, trading in a futures contract for the current delivery month will cease. As a result, a market participant wishing to maintain its exposure to a futures contract on a particular commodity or financial instrument with the nearest expiration must close out its position in the expiring contract and establish a new position in the contract for the next delivery month, a process referred to as "rolling." For example, a market participant with a long position in a futures contract expiring in November who wishes to maintain a position in the nearest delivery month will, as the November contract nears expiration, sell the November contract, which serves to close out the existing long position, and buy a futures contract expiring in December. This will "roll" the November position into a December position, and, when the November contract expires, the market participant will still have a long position in the nearest delivery month.

Futures exchanges and clearing houses in the United States are subject to regulation by the Commodity Futures Trading Commission. Exchanges may adopt rules and take other actions that affect trading, including imposing speculative position limits, maximum price fluctuations and trading halts and suspensions and requiring liquidation of contracts in certain circumstances.

Futures markets outside the United States are generally subject to regulation by comparable regulatory authorities. The structure and nature of trading on non-U.S. exchanges may differ from this description.

ANNEX A

J.P. Morgan Bespoke Commodity Index Standard Terms

J.P.Morgan

February 2011

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1. An Introduction to the J.P. Morgan Bespoke Commodity Index Standard Terms

The J.P. Morgan Bespoke Commodity Index Standard Terms is a methodology developed by J.P. Morgan that applies a long, short or long-short strategy to various Constituents (each such strategy, an “**Index**” or “**Bespoke Index**” and collectively, the “**Indices**” or “**Bespoke Indices**”). Indices that incorporate the J.P. Morgan Bespoke Commodity Index Standard Terms may seek to track exposure to (a) an index or basket of indices, (b) the difference between two indices, which we refer to as Components, or a basket of Components with either static or dynamic weights for such Components or (c) some other strategy that will be set forth in the relevant Index Supplement. Each Index will either be an Excess Return or Total Return Index, and the Index Type will be specified in the Index Supplement. Please see “Disclaimers and Conflicts of Interest” as set forth in these Standard Terms.

2. This Document

This document, the J.P. Morgan Bespoke Commodity Index Standard Terms (the “**Standard Terms**”), sets forth the framework for each J.P. Morgan Bespoke Commodity Index (the “**Indices**” or “**Bespoke Indices**”).

This document should be read in conjunction with the specific Index Supplement for any Bespoke Index. This document explains index construction in a general form, with certain concepts or particulars left unspecified (for example, the Index Supplement will specify the Constituents of the relevant Bespoke Index and the applicable Component Weights). The Index Supplement will be used to specify these index specific terms, and when read together with the Standard Terms, the Index Supplement and the Standard Terms will constitute the “**Index Rules**.” Each Bespoke Index shall have an Index Supplement, which incorporates these Standard Terms, and sets out the Index Name and any additional terms or details required by the Index Calculation Agent to determine the Index Level.

For the avoidance of doubt, the Index Supplement may include a provision, formula or definition, and such provision, formula or definition will supersede and replace any provision, formula or definition set forth herein for the purpose of calculating the Index or Indices described in that specific Index Supplement.

This document may be amended or supplemented from time to time at the discretion of the Index Calculation Agent and will be re-published no later than thirty (30) calendar days following such amendment or supplement.

This document is published by J.P. Morgan Securities, Ltd. (“**JPMSL**”) of 125 London Wall, London EC2Y 5AJ, United Kingdom, in its capacity as the Index Sponsor. A copy of this document is available from the Index Calculation Agent (as defined in the Index Supplement) or the Index Sponsor.

ALL PERSONS READING THIS DOCUMENT SHOULD REFER TO THE DISCLAIMERS AND CONFLICTS SECTIONS SET OUT AT THE END OF THIS DOCUMENT AND CONSIDER THE INFORMATION CONTAINED IN THIS DOCUMENT IN LIGHT OF SUCH DISCLAIMERS AND CONFLICTS OF INTEREST.

NOTHING HEREIN CONSTITUTES AN OFFER TO BUY OR SELL ANY FINANCIAL PRODUCT, PARTICIPATE IN ANY TRANSACTION OR ADOPT ANY INVESTMENT STRATEGY OR LEGAL, TAX, REGULATORY OR ACCOUNTING ADVICE. SEE SECTION 8.2 HEREIN.

Each of JPMSL and its affiliates may have positions or engage in transactions in securities or other financial instruments based on or indexed or otherwise related to the Bespoke Indices.

3. Definitions

Capitalised terms used in this document should be interpreted according to the definitions given below. In many cases there is a further explanation of the term or concept in the body of this document. All capitalised terms in the Index Supplement shall be deemed to have the same meaning in this document unless otherwise specified in the Index Supplement. In the event of a conflict between definitions used in the Index Supplement and this document, the term set forth in the Index Supplement will prevail.

Unless otherwise specified, references to “Sections” in this document shall mean sections in this document.

The following terms are defined as follows:

Bloomberg Page: With respect to any Index, the Index Supplement will identify a ticker symbol that will reference an electronic page published by Bloomberg L.P. or one of its affiliates.

The Bloomberg Page will be specified in the relevant Index Supplement.

Calculation Day: Any day on which the New York Stock Exchange is scheduled to be open for trading for its regular trading session, without regard to after hours trading or any other trading outside of the regular trading session hours.

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 Constituent of the relevant Index, any transaction referencing the Constituent or any component of the Constituent (including without limitation, commodities futures contracts) or, (y) holding a position in any Constituent of the relevant Index, any transaction referencing the Constituent or any component of the Constituent (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 Constituent, transaction referencing the Constituent or component of the Constituent 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 Constituent, any transaction referencing the Constituent or any component of the Constituent) including without limitation, commodities futures contracts; or
 - (ii) any other event that causes trading in futures contracts (relating to any Constituent, any transaction referencing the Constituent or any component of the Constituent) to cease including without limitation, commodities futures contracts.

Component(s): The Index will be comprised of one or more Components set forth in the relevant Index Supplement. Each Component will be composed of either one (1) Constituent (which may have a Market Position of Long or Short) or two (2) Constituents (one of which will have a Market Position of Long and the other of which will have a Market Position of Short). Each Component will have a Component Weight. Components will be enumerated 1 to n in the relevant Index Supplement where “n” is the number of Components in the Index, and the ith Component will be referred to as Component i.

Each of the Components will be specified in the relevant Index Supplement.

Component Weight(s): With respect to each Component, the applicable Component Weight for that Component will be specified as a percentage in the relevant Index Supplement. Component Weight_i refers to the Component Weight for Component i. For the avoidance of doubt, the sum of the Component Weights for all Components in the Index need not be 100%.

The Component Weight for each Component i, including any formula for calculating such Component Weight, will be specified in the relevant Index Supplement. For the avoidance of doubt, the Component Weight(s) may be negative, which indicates that the Index is short the value of such Component (regardless of whether a Constituent in that Component is a Long Constituent). For example, a Component that has a negative Component Weight will essentially be short a Long Constituent.

Constituent(s): Each Constituent will be a commodity index (known as the “Underlying Index” of the Constituent). Each Constituent, as specified in the relevant Index Supplement, will be associated with one or more Components. Each Constituent in a particular Component will have an associated Market Position of either Long or Short.

Each of the Constituents of a Component i will be specified in the relevant Index Supplement.

For the avoidance of doubt, an Underlying Index may appear as a Constituent associated with more than one Component in the same Index (e.g., the S&P GSCI™ Corn Excess Return Index could appear as the Short Constituent in one Component paired with the JPMCCI Corn Excess Return Index, and the S&P GSCI™ Corn Excess Return

Index could also be paired in another Component with the J.P. Morgan Seasonal Corn Index-Excess Return). In such a case, Constituents associated with different Components remain distinct Constituents, even though they relate to the same Underlying Index. In particular, Market Disruption Events may affect such Constituents differently because they are associated with distinct Components.

Disrupted Commodity:	Disrupted Commodity will have the meaning set forth in Section 6.5 (<i>Disruption of Constituents with more than one Underlying Commodity</i>).
Disrupted Day:	will have the meaning set forth in the definition of “Market Disruption Event.”
Extraordinary Event:	Extraordinary Events means each of the events set forth in Section 7 (<i>Extraordinary Events</i>) of these Standard Terms.
Final Adjusted Level:	The Final Adjusted Level will have the meaning set forth in Section 6.3 (<i>Time Frame of Various Calculation Agent Determinations</i>).
Index:	means an Index composed of the Components specified in the relevant Index Supplement. The name of the Index will be specified in the relevant Index Supplement.
Index Calculation Agent:	Unless otherwise specified in the Index Supplement, J.P. Morgan Securities Ltd. or any of its successors or assigns.
Index Inception Date:	With respect to any Index, the date specified in the relevant Index Supplement. For any Index for which the Initial Index Level is not 100.0000, the Index Supplement will specify the Initial Index Level.
Index Leverage(RD _n):	The overall leverage applied to the Index on Rebalancing Date <i>n</i> as determined in accordance with the provisions and/or formula set forth in the relevant Index Supplement.
Index Level (t):	means, with respect to the Index and a Calculation Day <i>t</i> , the nominal level of the Index, which the Index Calculation Agent will calculate in respect of each such Calculation Day <i>t</i> in accordance with the provisions set forth in Section 4 (<i>Calculation and Determination of the Index Level</i>) of these Standard Terms and publish such Index Level (<i>t</i>) on the immediately following Calculation Day <i>t</i> +1 in accordance with the provisions set forth in Section 5 (<i>Publication of the Index Level</i>) of these Standard Terms. For the avoidance of doubt, the Index Supplement may provide alternative provisions for calculating and determining the Index Level and such provisions as set forth in the Index Supplement will govern the calculation, determination and publication of the Index Level. Notwithstanding anything to the contrary, if a Market Disruption Event has occurred or is continuing on such Calculation Day <i>t</i> or occurred on the immediately prior Rebalancing Date <i>n</i> -1, the Index Calculation Agent may adjust the Index Level with respect to Calculation Day <i>t</i> , for the purposes of calculating amounts set forth herein in accordance with

the Disruption Fallbacks set forth in Section 6 (*Market Disruption Events and the Calculation and Determination of the Index Level upon the Occurrence or Continuation of a Market Disruption Event*) to these Standard Terms.

For the avoidance of doubt, the Index Calculation Agent will publish the Index Level (t) (subject to the provisions set forth in Section 5 (Publication) in accordance with the formulas set forth in Section 4 (*Calculation and Determination of the Index Level*) to these Standard Terms, rounding the Index Level (t) published on such Calculation Day t to the fourth decimal place; *provided, however* that if a Market Disruption Event has occurred or is continuing on such Calculation Day t or occurred on the immediately prior Rebalancing Date n-1, the Index Calculation Agent will calculate the Index Level (t) in accordance with the Disruption Fallbacks set forth in Section 6 (*Market Disruption Events and the Calculation and Determination of the Index Level upon the Occurrence or Continuation of a Market Disruption Event*) to these Standard Terms. **The Index Level, as published, may not be tradable.** Furthermore, such published Index Level will only be subsequently revised in certain limited circumstances (such as manifest error) and will not be subsequently revised solely because such Calculation Day t was a Disrupted Day. The Index Calculation Agent may calculate the Index Level (t) with respect to any Calculation Day to greater specificity for internal purposes and any rounding in publication will be based on the internally calculated price with respect to such Calculation Day, which is determined without regard to any rounding, except such rounding as described in Section 4 (*Calculation and Determination of the Index Level*) to these Standard Terms.

Index Rebalancing:

The Index will be rebalanced on each Rebalancing Date. If a Market Disruption Event has occurred or is continuing on a Rebalancing Date with respect to any Constituent within the Index, the Rebalancing Date will not be postponed, and the Rebalancing Date will be the originally scheduled Rebalancing Date; the Index Level, however, will be determined in accordance with Section 6 (*Market Disruption Events and the Calculation and Determination of the Index Level upon the Occurrence or Continuation of a Market Disruption Event*) to these Standard Terms.

On each Rebalancing Date, the Index Calculation Agent will rebalance the Index based on its Components and Component Weights, apply Volatility Matching, if applicable, to any Short Constituents within a Component and apply Volatility Targeting, if applicable, to the Index.

Index Sponsor:

With respect to each 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 the Constituent and (b) announces (directly or through an agent) the level of the Constituent on a regular basis; and with respect to any Bespoke Index, JPMSL or its successors or assigns.

Index Type:

With respect to each Index, the relevant Index Supplement will specify whether the Index is an excess return index or a total return index. If a Market Disruption Event has not occurred or is not continuing, the Index Level will be calculated in accordance with Section 4.6 (*Calculations for an Excess Return Index on each Calculation Day t*)

for any Index that is an excess return index and the Index Level will be calculated in accordance with Section 4.7 (*Calculations for a Total Return Index on each Calculation Day t*) for any Index that is a total return index.

IndexVol(RDn):	With respect to Volatility Targeting, a measurement of the hypothetical realized volatility that the Index would have had, over period(s) preceding the nth Rebalancing Date.
Initial Adjusted Level:	The Initial Adjusted Level will have the meaning set forth in Section 6.3 (<i>Time Frame of Various Calculation Agent Determinations</i>).
Initial Index Level:	Unless otherwise specified in the relevant Index Supplement, 100.0000.
Interim Adjusted Level:	The Interim Adjusted Level will have the meaning set forth in Section 6.3 (<i>Time Frame of Various Calculation Agent Determinations</i>).
Long Constituent(s):	<p>means any Constituent specified in the relevant Index Supplement with a Long Market Position.</p> <p>The delineation of whether a Constituent is a Long Constituent will be specified in the relevant Index Supplement.</p>
Market Disruption Events:	<p>means, with respect to any Calculation Day:</p> <ul style="list-style-type: none">(i) 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 of a Constituent, 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 the day on which such event occurs or any succeeding day on which it continues;(ii) 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 of a Constituent, 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 Calculation Day;(iii) 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 of a Constituent (by reason of movements exceeding “limit up” or “limit down” levels permitted by the relevant exchange);(iv) the occurrence of a Non-Publication Event; or(v) the Relevant Exchange for futures contracts on the relevant commodity or commodities related to the Underlying Index of a Constituent is not open for trading during its regular trading

session, regardless of whether any such exchange closes prior to its scheduled closing time (a “Non-Commodity Business Day”).

A Market Disruption Event for a Constituent shall also constitute (a) a Market Disruption Event for any Component of which that Constituent is a part and (b) a Market Disruption Event for any Index that includes any Component of which that Constituent is a part.

Any Calculation Day on which a Market Disruption Event occurs or is continuing (such day, a “Disrupted Day”) for a Constituent shall be a Disrupted Day for that Constituent and a Disrupted Day for any Component of which that Constituent is a part and a Disrupted Day for any Index that includes any Component of which that Constituent is a part.

Market Position:

The Market Position refers to the direction of exposure to each Constituent (either “Long” or “Short”). For a Long Constituent, the Market Position of that Constituent is “Long”. For a Short Constituent, the Market Position of that Constituent is “Short”.

If the Index is “Long” a specific Constituent, then the Index will benefit from a positive return in the Constituent, and if the Index is “Short” a specific Constituent, then the Index will benefit from a negative return in the Constituent.

For the avoidance of doubt, the Market Position is determined with respect to the Constituent and irrespective of the Component Weight.

Maximum Index Leverage:

A positive percentage as specified in the relevant Index Supplement.

Maximum Short
Constituent Leverage;

With respect to Component i, a positive percentage as specified in the relevant Index Supplement.

Period-To-Date Component
Performance

will have the meaning set forth under Section 4 (*Calculation and Determination of the Index Level*) to these Standard Terms.

Minimum Index Leverage:

A non-negative percentage, less than or equal to the Maximum Index Leverage, as specified in the relevant Index Supplement.

Minimum Short
Constituent Leverage;

With respect to Component i, a percentage that is less than the Maximum Short Constituent Leverage; and greater than or equal to zero, as specified in the relevant Index Supplement.

Non-Disrupted Commodity:

Non-Disrupted Commodity will have the meaning set forth in Section 6.5 (*Disruption of Constituents with more than one Underlying Commodity*).

Non-Publication Day:

means, with respect to any Calculation Day, a Calculation Day on which a Non-Publication Event has occurred or is continuing.

Non-Publication Event:	<p>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 a Constituent or (b) the closing level of the Underlying Index of a Constituent, in either case by noon (London time) on the immediately following Calculation Day, <i>provided, however</i> that the occurrence of such an event shall not constitute a “Non-Publication Event” in the case of clause (b) hereof if the Index Calculation Agent determines in its sole discretion by noon (London time) on such immediately following Calculation Day that the information necessary for determining the closing level of the relevant Underlying Index of a Constituent has been announced publicly or published by the Relevant Exchange, Index Sponsor or other price source in which case the Index Calculation Agent shall determine the U.S. Dollar Level of such Constituent (the U.S. Dollar Level so determined being a “<u>Proxy Calculated Level</u>”) in good faith and in a commercially reasonable manner.</p>
Non-Volatility Targeted Index:	<p>The Non-Volatility Targeted Index is a hypothetical Index calculated similarly to the actual Index but without applying Volatility Targeting and Disruption Fallbacks, except that if such Calculation Day is a Non-Publication Day, the U.S. Dollar Level of the Constituent affected by such Non-Publication Day will be equal to the U.S. Dollar Level of such Constituent on the latest Calculation Day preceding Calculation Day t for which a U.S. Dollar Level of such Constituent is available. The hypothetical levels of the Non-Volatility Targeted Index (“<u>Non-Volatility Targeted Index Levels</u>”) in respect of each relevant day a Volatility Targeting Period are the basis of the Volatility Targeting calculation.</p>
Proxy Calculated Level:	<p>will have the meaning set forth under the definition of “Non-Publication Event”.</p>
Rebalancing Date:	<p>With respect to the Index and the determination of the Index Level (t), the Rebalancing Date will be Calculation Day d of each Rebalancing Period, where “d” is equal to the “<u>Rebalancing Date Integer</u>”, which is greater than or equal to 1 as indicated in the relevant Index Supplement.</p> <p>The Rebalancing Date will be the specific Calculation Day in the Rebalancing Period corresponding to d (<i>e.g.</i>, if Rebalancing Date Integer is equal to 1, each Rebalancing Date will be the 1st Calculation Day of the relevant Rebalancing Period and if Rebalancing Date Integer is equal to 2, each Rebalancing Date will be the 2nd Calculation Day in the relevant Rebalancing Period).</p> <p>Additionally, for the purposes of Section 4 (<i>Calculation and Determination of the Index Level</i>) of these Standard Terms, the Rebalancing Dates will be enumerated with the zero-th Rebalancing Date being a hypothetical Rebalancing Date that would have immediately preceded the Index Inception Date (such zero-th Rebalancing Date being necessary in some situations for calculation of Volatility Matching or Volatility Targeting). The nth Rebalancing Date shall be referred to as Rebalancing Date_n (abbreviated as RD_n).</p>

Rebalancing Date Integer:	<p>With respect to the Rebalancing Date, the Rebalancing Date Integer is a whole number specified in the Index Supplement. See “Rebalancing Date” herein.</p> <p>The Rebalancing Date Integer will be specified in the relevant Index Supplement.</p>
Rebalancing Period:	With respect to the initial Rebalancing Period, the period from but excluding the Index Inception Date to and including the following Rebalancing Determination Date, and with respect to any subsequent Rebalancing Period, the period from but excluding the Rebalancing Determination Date to and including the following Rebalancing Determination Date.
Rebalancing Determination Date:	The date determined in accordance with the description set forth in the relevant Index Supplement. For the avoidance of doubt, the Rebalancing Determination Date may be with respect to a certain defined date that occurs periodically (<i>e.g.</i> , the first of the month), upon the occurrence of an event (<i>e.g.</i> , two moving averages crossing) or any other external or definable event, as set forth in the relevant Index Supplement.
Replication Adjustment Factor:	The Replication Adjustment Factor will have the effect of reducing the Index Level by the Replication Adjustment Rate per annum, on an actual/360 basis.
Replication Adjustment Rate:	A percentage specified in the relevant Index Supplement for the relevant Index. If no Replication Adjustment Rate is specified or if the Replication Adjustment Rate specified is zero (0), there is no Replication Adjustment Factor.
Relevant Exchange:	means, with respect to any Underlying Commodity of a Constituent, the applicable commodities futures exchange on which the future contracts for that Underlying Commodity trade as determined by the index rules or methodology of the Underlying Index related to the applicable Constituent.
Short Constituent(s):	<p>means any Constituent specified in the relevant Index Supplement with a Short Market Position.</p> <p>The delineation of whether a Constituent is a Short Constituent will be specified in the relevant Index Supplement.</p>
Short Constituent Leverage	Short Constituent Leverage has the meaning set forth under Section 4 (<i>Calculation and Determination of the Index Level</i>) to these Standard Terms.
T-Bill Rate:	means, with respect to each Calculation Day, the three month weekly Auction High Discount Rate for United States Treasury bills on the relevant Calculation Day, as reported on the Bloomberg® index USB3MTA; <i>provided, however</i> if such rate is not available at the applicable Bloomberg page, the rate will be determined in accordance with Section 6.10 (<i>T-Bill Rate</i>) below.
Target Index Volatility:	A positive percentage specified in the relevant Index Supplement.

Volatility Matching:	<p>With respect to each Component i, Volatility Matching will be specified as either “Applicable” or “Not Applicable” in the relevant Index Supplement to indicate whether Volatility Matching applies to that Component.</p> <p>If Volatility Matching applies to a Component, the Volatility Matching Lookback, the Maximum Short Constituent Leverage and the Minimum Short Constituent Leverage for the Short Constituent of that Component will be as specified in the relevant Index Supplement.</p> <p>Volatility Matching is a mechanism to adjust the weight given to the Short Constituent within a Component, with the intention of accounting for a difference in volatility between the Short Constituent and the Long Constituent in that Component.</p> <p>Volatility Matching cannot be used for Components that do not have both a Long Constituent and a Short Constituent.</p> <p>As set forth in Section 4 (<i>Calculation and Determination of the Index Level</i>) of these Standard Terms, the Index Calculation Agent will calculate the VolRatio(RD$_n$) (as defined in Section 4.3 herein), which is the ratio of the realized volatility of the Long Constituent to the realized volatility of the Short Constituent of Component i over a period preceding the nth Rebalancing Date. Subject to the Maximum Short Constituent Leverage i and Minimum Short Constituent Leverage i, the VolRatio(RD$_n$) will determine the Short Constituent Leverage i(RD$_n$) applied to the Short Constituent of Component i on the nth Rebalancing Date. Therefore, unless otherwise constrained by the Maximum Short Constituent Leverage i or Minimum Short Constituent Leverage i, if the Short Constituent exhibits greater volatility than the Long Constituent, the Short Constituent Leverage will be less than 100%, and if the Short Constituent exhibits lesser volatility than the Long Constituent, the Short Constituent Leverage will be greater than 100%.</p>
Volatility Matching Lookback $_i$:	<p>With respect to Component i, the relevant Index Supplement will specify an integer greater than or equal to 2 that will indicate the number of Calculation Days’ returns that will be used for Volatility Matching for that Component, if applicable.</p> <p>If Volatility Matching is “Not Applicable,” Volatility Matching Lookback$_i$ with respect to Component i will also be “Not Applicable.”</p>
Volatility Matching Period $_i$ (RD $_n$)	<p>With respect to Component i and Rebalancing Date$_n$, the chronologically ordered set of Volatility Matching Lookback i plus one consecutive Calculation Days ending with the Calculation Day immediately preceding Rebalancing Date$_n$. The number of days is one greater than Volatility Matching Lookback i because, in order to measure k consecutive returns, one needs $k + 1$ levels.</p> <p>The earliest day of the Volatility Matching Period$_i$(RD$_n$) shall be regarded as the zero-th day of such period and the latest day of the Volatility Matching Period$_i$(RD$_n$) shall be the Volatility Matching Lookback i-th day.</p>

Volatility Targeting: With respect to an Index, the relevant Index Supplement will specify whether Volatility Targeting is “Applicable” or “Not Applicable” to the Index and the calculation of the Index Level.

If Volatility Targeting applies to an Index, the Target Index Volatility, Volatility Targeting Lookback 1, Volatility Targeting Lookback 2, Maximum Index Leverage and Minimum Index Leverage for the Index will be as specified in the relevant Index Supplement.

Volatility Targeting is a mechanism to adjust the overall leverage of the Index (called the Index Leverage(RDn)), with the intention of targeting a certain level of realized volatility of the Index.

As set forth in Section 4 (*Calculation and Determination of the Index Level*) to these Standard Terms, the Index Calculation Agent will calculate the IndexVol(RDn) were the Index Leverage(RDn) to have been 100% for all previous Rebalancing Dates and the Replication Adjustment Rate was set equal to zero. The volatility is measured over two periods (or, optionally, effectively just one period, by setting the two periods to be identical) with the maximum of the two measurements used in the foregoing calculation.

Given the Target Index Volatility and subject to the Maximum Index Leverage and Minimum Index Leverage, the IndexVol(RDn) will determine the Index Leverage(RDn) applied to the Index on the nth Rebalancing Date.

Volatility Targeting Lookback 1
and

Volatility Targeting Lookback 2: The relevant Index Supplement will specify two integers that are each greater than or equal to 2, to indicate the number of Calculation Days’ returns which will be used in the two measurements of volatility used for Volatility Targeting for the Index.

These two numbers can be the same, in which case there is effectively only one measurement of volatility for the Index.

If Volatility Targeting is “Not Applicable,” Volatility Targeting Lookback 1 and Volatility Targeting Lookback 2 will also be “Not Applicable.”

Volatility Targeting Period 1
(RDn) and Volatility Targeting
Period 2(RDn):

With respect to Rebalancing Date_n, the two sets of consecutive Calculation Days used in the calculation of IndexVol(RDn), both ending with the Calculation Day immediately preceding Rebalancing Date_n.

Volatility Targeting
Period 1(RDn)

consists of a number of consecutive Calculation Days equal to 1 plus Volatility Targeting Lookback 1.

Volatility Targeting
Period 2(RDn)

consists of a number of consecutive Calculation Days equal to 1 plus Volatility Targeting Lookback 2.

The number of Calculation Days is 1 greater than the corresponding Volatility Targeting Lookback, because in order to measure k consecutive returns you need $k + 1$ levels.

The earliest day of each Volatility Targeting Period shall be regarded as the zero-th day of the period, so that the latest day shall be the corresponding Volatility Targeting Lookback-th day.

U.S. Dollar Level:

With respect to an Underlying Index and a Calculation Day, (a) the official closing level of the Underlying Index as published by the relevant Index Sponsor; *provided, however* that if the Index Calculation Agent determines that such official closing level reflects manifest error on the part of the relevant Index Sponsor, the Index Calculation Agent shall determine the closing level of the Underlying Index in good faith and in a commercially reasonable manner or (b) in such circumstances as set out in the definition of Non-Publication Event relating to the calculation of a Proxy Calculated Level, the U.S. Dollar Level will be the Proxy Calculated Level.

Underlying Commodity:

means, with respect to each Constituent, the commodity (or commodities) referenced by the Underlying Index of such Constituent as determined in accordance with the Index Rules or methodology for that Underlying Index.

Underlying Index:

The “Underlying Index” of each Constituent will be a commodity index. The name and Bloomberg Page of each Underlying Index will be set forth in the relevant Index Supplement.

The Underlying Index will be specified in the relevant Index Supplement.

4. Calculation and Determination of the Index

4.1 Overview

For an Index that is an excess return index, on each Calculation Day, if a Market Disruption Event has not occurred and is not continuing with respect to any Constituent within the Index on Rebalancing Date _{$n-1$} and if a Market Disruption Event has not occurred (and is not continuing) with respect to any Constituent within the Index on such Calculation Day t , the Index Calculation Agent will calculate and determine the Index Level(t) with respect to such Calculation Day based on the formulae set forth in this section and the additional terms and details specified in the Index Supplement.

If a Market Disruption Event occurred with respect to any Constituent within the Index on Rebalancing Date _{$n-1$} or if a Market Disruption Event has occurred (or is continuing) with respect to any Constituent within the Index on any Calculation Day t , the Index Level(t) will be determined in accordance with Section 6 (*Market Disruption Events and the Calculation and Determination of the Index Level upon the Occurrence or Continuation of a Market Disruption Event*) in these Standard Terms.

For an Index that is a total return index, on each Calculation Day, if a Market Disruption Event has not occurred and is not continuing with respect to any Constituent within the Index on Rebalancing Date _{$n-1$} and if a Market Disruption Event has not occurred (and is not continuing) with respect to any Constituent within the Index on such Calculation Day t (or any Calculation Days from but excluding Calculation Day t to but excluding Calculation Day RD $n-1$), the Index Calculation Agent will calculate and determine the Index Level t with respect to such Calculation Day based on the formulae set forth in this section and the additional terms and details specified in the Index Supplement.

If a Market Disruption Event occurred with respect to any Constituent within the Index on Rebalancing Date_{n-1} or if a Market Disruption Event has occurred (or is continuing) with respect to any Constituent within the Index on such Calculation Day t (or any Calculation Days from but excluding Calculation Day t to but excluding Calculation Day RD_{n-1}), the Index Level t will be determined in accordance with the formulas set forth herein, subject to the terms set forth under Section 6 (*Market Disruption Events and the Calculation and Determination of the Index Level upon the Occurrence or Continuation of a Market Disruption Event*) in these Standard Terms.

4.2 Index Rebalancing

Subject to the occurrence or the continuation of a Market Disruption Event, the Index will be rebalanced on each Rebalancing Date to adjust the synthetic exposure of the Long Constituent and the Short Constituent for each Component i in the Index to account for the performance of the Index and such Constituents since the immediately preceding Rebalancing Date, and the effects, if applicable, of the Volatility Matching and/or Volatility Targeting as well as any other formulas set forth in the Index Supplement. The effect of the rebalancing will be to reset the exposure to the Constituents of any Component i, and, if applicable, change (a) the leverage of a Short Constituent with respect to Components where Volatility Matching is “Applicable” and (b) the leverage in the case of the overall Index exposure in the case of which Volatility Targeting is “Applicable,” each as described below.

4.3 Volatility Matching

Volatility Matching is a mechanism used to adjust the weighting of the Short Constituent within any Component in the relevant Index described in the Index Supplement. The relevant Index Supplement will specify whether Volatility Matching applies to all, none or a portion of the Components within the Index. If Volatility Matching is “Applicable”, the purpose of this function is an attempt to account for a difference in volatility between the Short Constituent and the Long Constituent for that specific Component within the relevant Index.

If Volatility Matching is “Applicable” for a specific Component in the Index, the Index Calculation Agent will determine the Short Constituent Leverage with respect to a Rebalancing Date (RD_{n-1}) for that specific Component. The Index Calculation Agent will calculate the volatility ratio (VolRatio(RD_{n-1})) between the realized volatility of the Long Constituent and the realized volatility of the Short Constituent over a period preceding such Rebalancing Date (Volatility Matching Period (RD_{n-1})). The Index Calculation Agent will then determine the Short Constituent Leverage(RD_{n-1}) with respect to such Component i as set forth below, based on the VolRatio(RD_{n-1}), the Maximum Short Constituent Leverage and Minimum Short Constituent Leverage. The Maximum Short Constituent Leverage and the Minimum Short Constituent Leverage, if applicable, are specified in the Index Supplement. The Short Constituent Leverage on Rebalancing Date (RD_{n-1}) will be used to calculate the Period-To-Date Performance for the ith Component as set forth in Section 4.5 (*Calculating the Period-To-Date Component Performance*) of these Standard Terms.

The Short Constituent Leverage is determined by the Index Calculation Agent with respect to Calculation Day d in accordance with the following formula:

$$SCL(RD_{n-1}) = \text{Min}(\text{MaxLeverage}, \text{Max}(\text{MinLeverage}, \text{VolRatio}(RD_{n-1})))$$

where

$SCL(RD_{n-1})$ means, with respect to Calculation Day d, the Short Constituent Leverage for the immediately preceding Rebalancing Date RD_{n-1}.

MaxLeverage means the Maximum Short Constituent Leverage.

MinLeverage means the Minimum Short Constituent Leverage.

$VolRatio(RD_{n-1})$ is 1 if Volatility Matching is “Not Applicable” with respect to Component i, as indicated in the relevant Index Supplement and otherwise is defined by the following formula:

$$VolRatio(RD_{n-1}) = \frac{\sqrt{\frac{252}{m-1} \times \sum_{j=1}^m \left(Rtn_{Long}(j) - \frac{1}{m} \sum_{k=1}^m Rtn_{Long}(k) \right)^2}}{\sqrt{\frac{252}{m-1} \times \sum_{j=1}^m \left(Rtn_{Short}(j) - \frac{1}{m} \sum_{k=1}^m Rtn_{Short}(k) \right)^2}}$$

where

m means the Volatility Matching Lookback

$Rtn_{Long}(j)$ means the return of the Long Constituent on the j -th day of the Volatility Matching Period(RD_{n-1}), defined as follows:

$$Rtn_{Long}(j) = \frac{LookbackLevel_{Long}(j)}{LookbackLevel_{Long}(j-1)} - 1$$

$Rtn_{Long}(k)$ means the return of the Long Constituent on the k -th day of the Volatility Matching Period(RD_{n-1}), defined as follows:

$$Rtn_{Long}(k) = \frac{LookbackLevel_{Long}(k)}{LookbackLevel_{Long}(k-1)} - 1$$

$Rtn_{Short}(j)$ means the return of the Short Constituent on the j -th day of the Volatility Matching Period(RD_{n-1}), defined as follows:

$$Rtn_{Short}(j) = \frac{LookbackLevel_{Short}(j)}{LookbackLevel_{Short}(j-1)} - 1$$

$Rtn_{Short}(k)$ means the return of the Short Constituent on the k -th day of the Volatility Matching Period(RD_{n-1}), defined as follows:

$$Rtn_{Short}(k) = \frac{LookbackLevel_{Short}(k)}{LookbackLevel_{Short}(k-1)} - 1$$

where

$LookbackLevel_{Long}(j)$	means the U.S. Dollar Level of the Long Constituent on the j -th day of the Volatility Matching Period(RD_{n-1}).
$LookbackLevel_{Long}(k)$	means the U.S. Dollar Level of the Long Constituent on the k -th day of the Volatility Matching Period(RD_{n-1}).
$LookbackLevel_{Short}(j)$	means the U.S. Dollar Level of the Short Constituent on the j -th day of the Volatility Matching Period(RD_{n-1}).
$LookbackLevel_{Short}(k)$	means the U.S. Dollar Level of the Short Constituent on the k -th day of the Volatility Matching Period(RD_{n-1}).
$LookbackLevel_{Long}(j-1)$	means the U.S. Dollar Level of the Long Constituent on the $(j-1)$ -th day of the Volatility Matching Period(RD_{n-1}).
$LookbackLevel_{Long}(k-1)$	means the U.S. Dollar Level of the Long Constituent on the $(k-1)$ -th day of the Volatility Matching Period(RD_{n-1}).
$LookbackLevel_{Short}(j-1)$	means the U.S. Dollar Level of the Short Constituent on the $(j-1)$ -th day of the Volatility Matching Period(RD_{n-1}).
$LookbackLevel_{Short}(k-1)$	means the U.S. Dollar Level of the Short Constituent on the $(k-1)$ -th day of the Volatility Matching Period(RD_{n-1}).

4.4 Volatility Targeting

Volatility Targeting is a mechanism that adjusts the overall leverage of the Index ($IndexLeverage(RD_{n-1})$) in order to target a certain level of realized volatility of the Index. Volatility Targeting will be specified in the relevant Index Supplement, and the relevant Index Supplement will specify whether Volatility Targeting is “Applicable” or “Not Applicable” to the Index described therein.

If the relevant Index Supplement specifies that Volatility Targeting is “Applicable” for an Index, the Index Calculation Agent will determine the Index Leverage applicable for the immediately preceding Rebalancing Date (RD_{n-1}). The Index Calculation Agent will calculate index volatility ($IndexVol(RD_{n-1})$) based on the hypothetical realized volatility of a Non-Volatility Targeted Index over the Rebalancing Period (Volatility Targeting Period 1(RD_n) and Volatility Targeting Period 2(RD_n)) (each a “**Volatility Targeting Period**”). The Non-Volatility Targeted Index is a hypothetical index identical to the Index, except that the $IndexLeverage(RD_n)$ is considered to have been 100% for all previous Rebalancing Dates and the Replication Adjustment Rate will be set equal to zero.

The Index Leverage(RD_{n-1}) applied to the Index on Rebalancing Date (RD_{n-1}) will be determined by the Index Calculation Agent and will be equal to a percentage equivalent of the fraction, the numerator of which is the Target Index Volatility and the denominator of which is $IndexVol(RD_n)$; however, such percentage cannot be greater than the Maximum Index Leverage or less than the Minimum Index Leverage.

The Index Leverage is determined by the Index Calculation Agent with respect to the Rebalancing Date (RD_{n-1}) immediately preceding each Calculation Day d in accordance with the following formula:

$IndexLeverage(RD_{n-1})$ means, with respect to Volatility Targeting, if Volatility Targeting is specified as “Not Applicable”, 1; otherwise:

$$IndexLeverage(RD_{n-1}) = \text{Max} \left(\text{Min} \left(\frac{TargetVol}{IndexVol(RD_{n-1})}, MaxLeverage \right), MinLeverage \right)$$

where

$MinLeverage$ means the Minimum Index Leverage

$MaxLeverage$ means the Maximum Index Leverage

$TargetVol$ means the Target Index Volatility

$$IndexVol(RD_{n-1}) = \text{Max}(VolMeasure_1(RD_{n-1}), VolMeasure_2(RD_{n-1}))$$

where

$$VolMeasure_1(RD_{n-1}) = \sqrt{\frac{252}{m_1 - 1} \times \sum_{j=1}^{m_1} \left(Rtn(j, 1, n-1) - \frac{1}{m_1} \sum_{k=1}^{m_1} Rtn(k, 1, n-1) \right)^2}$$

$$VolMeasure_2(RD_{n-1}) = \sqrt{\frac{252}{m_2 - 1} \times \sum_{j=1}^{m_2} \left(Rtn(j, 2, n-1) - \frac{1}{m_2} \sum_{k=1}^{m_2} Rtn(k, 2, n-1) \right)^2}$$

m_1 means Volatility Targeting Lookback 1

m_2 means Volatility Targeting Lookback 2

$Rtn(j, 1, n-1)$ means the return of the Non-Volatility Targeted Index on the j -th day of Volatility Targeting Period 1(RD_{n-1}), defined as follows:

$$Rtn(j, 1, n-1) = \frac{NVTIndex(j, 1, n-1)}{NVTIndex(j-1, 1, n-1)} - 1$$

$Rtn(j, 2, n-1)$ means the return of the Non-Volatility Targeted Index on the j -th day of Volatility Targeting Period 2(RD_{n-1}), defined as follows:

$$Rtn(j,2,n-1) = \frac{NVTIndex(j,2,n-1)}{NVTIndex(j-1,2,n-1)} - 1$$

$Rtn(k,1,n-1)$ means the return of the Non-Volatility Targeted Index on the k -th day of Volatility Targeting Period 1(RD_{n-1}), defined as follows:

$$Rtn(k,1,n-1) = \frac{NVTIndex(k,1,n-1)}{NVTIndex(k-1,1,n-1)} - 1$$

$Rtn(k,2,n-1)$ means the return of the Non-Volatility Targeted Index on the k -th day of Volatility Targeting Period 2(RD_{n-1}), defined as follows:

$$Rtn(k,2,n-1) = \frac{NVTIndex(k,2,n-1)}{NVTIndex(k-1,2,n-1)} - 1$$

$NVTIndex(j,1,n-1)$ means the Non-Volatility Targeted Index Level on the j -th day of Volatility Targeting Period 1(RD_{n-1})

$NVTIndex(j,2,n-1)$ means the Non-Volatility Targeted Index Level on the j -th day of Volatility Targeting Period 2(RD_{n-1})

$NVTIndex(j-1,1,n-1)$ means the Non-Volatility Targeted Index Level on the $j-1$ -th day of Volatility Targeting Period 1(RD_{n-1})

$NVTIndex(j-1,2,n-1)$ means the Non-Volatility Targeted Index Level on the $j-1$ -th day of Volatility Targeting Period 2(RD_{n-1})

$NVTIndex(k,1,n-1)$ means the Non-Volatility Targeted Index Level on the k -th day of Volatility Targeting Period 1(RD_{n-1})

$NVTIndex(k,2,n-1)$ means the Non-Volatility Targeted Index Level on the k -th day of Volatility Targeting Period 2(RD_{n-1})

$NVTIndex(k-1,1,n-1)$ means the Non-Volatility Targeted Index Level on the $k-1$ -th day of Volatility Targeting Period 1(RD_{n-1})

$NVTIndex(k-1,2,n-1)$ means the Non-Volatility Targeted Index Level on the $k-1$ -th day of Volatility Targeting Period 2(RD_{n-1})

4.5 Calculating the Period-To-Date Component Performance for each Component

The Period-To-Date Performance for the i^{th} Component on Calculation Day t (henceforth PTDCP _{i} (t)) represents the net return of such Component i from the Rebalancing Date immediately preceding Calculation Day t (henceforth, such Rebalancing Date will be referred to as Calculation Day (RD_{n-1})).

The Period-To-Date Performance is determined by the Index Calculation Agent with respect to Calculation Day t in accordance with the following formula:

$$PTDCP_i(t) = \left(\frac{Level_{Long}(t)}{Level_{Long}(RD_{n-1})} - 1 \right) - SCL_i(RD_{n-1}) \left(\frac{Level_{Short}(t)}{Level_{Short}(RD_{n-1})} - 1 \right)$$

RD_{n-1} is the Rebalancing Date immediately preceding the relevant Calculation Day

$Level_{Long}(t)$ is 100 if the i^{th} Component has no Long Constituent, otherwise the U.S. Dollar Level of the Long Constituent of the i^{th} Component, with respect to Calculation Day t .

$Level_{Short}(t)$ is 100 if the i^{th} Component has no Short Constituent, otherwise the U.S. Dollar Level of the Short Constituent of the i^{th} Component, with respect to Calculation Day t .

$Level_{Long}(RD_{n-1})$ is 100 if the i^{th} Component has no Long Constituent, otherwise the U.S. Dollar Level of the Long Constituent of the i^{th} Component, on Rebalancing Date $n-1$.

$Level_{Short}(RD_{n-1})$ is 100 if the i^{th} Component has no Short Constituent, otherwise the U.S. Dollar Level of the Short Constituent of the i^{th} Component, on Rebalancing Date $n-1$.

$SCL_i(RD_{n-1})$ is 0 if the i^{th} Component has no Short Constituent, otherwise the Short Constituent Leverage for Component i for Rebalancing Date $n-1$, as defined pursuant to Section 4.3 of these Standard Terms.

4.6 Calculations for an Excess Return Index on each Calculation Day t

Unless otherwise specified in the Index Supplement, the Initial Index Level will be equal to 100.0000 on the Index Inception Date, or:

$$Index(t_0) = 100.0000$$

the Index Inception Date will be set forth in the relevant Index Supplement.

With respect to each Calculation Day t following the Index Inception Date, if the Index is an excess return index, the Index Level will be determined by the Index Calculation Agent as follows:

$$Index_{ER}(t) = \left[Index_{ER}(RD_{n-1}) + Index_{ER}(RD_{n-1}) \times IndexLeverage(RD_{n-1}) \times \sum_{i=1}^{NS} W_i \times PTDCP_i(t) \right] \times (1 - RAF_t)$$

$Index_{ER}(RD_{n-1})$ means, with respect to each Calculation Day t , the Index Level on the Rebalancing Date immediately preceding Calculation Day t , rounded to 4 decimals.

$IndexLeverage(RD_{n-1})$ means, with respect to each Calculation Day t , the Index Leverage on the Rebalancing Date immediately preceding Calculation Day t determined in Section 4.4 (*Volatility Targeting*) above.

NS	means the total number of Components in the Index.
W_i	means Component Weight _i
$PTDCP_i(t)$	means the Period-To-Date Component Performance for the i^{th} Component on Calculation Day t as determined in accordance with Section 4.5 (<i>Calculating the Period-To-Date Component Performance for each Component</i>) above.
RAF_t	means, with respect to Calculation Day t , the Replication Adjustment Factor, calculated by the Index Calculation Agent as follows:

$$RAF_t = 1 - (1 - RAR)^{\frac{\text{CalendarDays}}{360}}$$

where:

RAR	is the Replication Adjustment Rate, if applicable.
CalendarDays	is the number of calendar days from, and including, the Rebalancing Date immediately preceding Calculation Day t to, but excluding, Calculation Day t .

4.7 Calculations for a Total Return Index on each Calculation Day t

With respect to a particular Index, if the Index Type is a total return index, the Index Calculation Agent will calculate the Index Level to reflect the returns associated with the synthetic exposure in the Index and the returns associated with synthetic exposure to three month U.S. T-bills.

The Total Return Index is calculated as follows:

$$Index_{TR}(t) = Index_{TR}(t-1) \times \left[\frac{\left[1 + IndexLeverage(RD_{n-1}) \times \sum_{i=1}^{NS} W_i \times PTDCP_i(t) \right]}{\left[1 + IndexLeverage(RD_{n-1}) \times \sum_{i=1}^{NS} W_i \times \delta(t-1) \times PTDCP_i(t-1) \right]} + TBR_t \right] \times (1 + TBR_t)^{A(t)} \times (1 - RAF_t)$$

where:

$Index_{TR}(t)$	means, with respect to a total return index, the Index Level on Calculation Day t ;
$Index_{TR}(t-1)$	means, with respect to a total return index, the Index Level on Calculation Day $t-1$.
$IndexLeverage(RD_{n-1})$	means, with respect to each Calculation Day t , the Index Leverage on the Rebalancing Date immediately preceding Calculation Day t determined in Section 4.4 (<i>Volatility Targeting</i>) above.

NS means the total number of Components in the Index.

W_i means Component Weight_i

$PTDCP_i(t)$ means the Period-To-Date Component Performance for the i^{th} Component on Calculation Day t as determined in accordance with Section 4.6 (*Calculating the Period-To-Date Component Performance for each Component*) above.

$PTDCP_i(t-1)$ means, with respect to any Calculation Day t , the Period-To-Date Component Performance for each Component i on Calculation Day $t-1$.

$\delta(t-1)$ is equal to 0 if Calculation Day $t-1$ is a Rebalancing Date, otherwise 1

TBR_t means, with respect to Calculation Day t , the return associated with the T-Bill Rate on Calculation Day t , calculated using the following formula:

$$\left(\left(1 - \frac{91}{360} \times TBILL_{t-1} \right)^{\frac{-1}{91}} \right) - 1$$

$TBILL_{t-1}$ means the T-Bill Rate on Calculation Day $t-1$ as defined in section 3 (*Definitions*) herein.

$A(t)$ means the number of calendar days that are not Calculation Days from (and excluding) Calculation Day $t-1$ to (and including) Calculation Day t .

RAF_t means, with respect to Calculation Day t , the Replication Adjustment Factor, calculated by the Index Calculation Agent as follows:

$$RAF_t = 1 - (1 - RAR)^{\frac{\text{CalendarDays}}{360}}$$

where:

RAR is the Replication Adjustment Rate, if applicable.

CalendarDays is the number of calendar days from, and including, the Rebalancing Date immediately preceding Calculation Day t to, but excluding, Calculation Day t .

5. Publication

With respect to each Calculation Day t , unless otherwise specified in the relevant Index Supplement, the Index Calculation Agent will endeavor to publish the Index Level(t) for each Calculation Day t before, at or around 12:00 p.m. noon London time on the following Calculation Day.

Although the Index Calculation Agent will endeavor to publish the Index Level even with respect to a Calculation Day that is a Disrupted Day, the Index Calculation Agent is not obligated to publish the Index Level with respect to any Calculation Day that is a Disrupted Day. The Index Level published with respect to any Calculation Day that is a Disrupted Day will be considered solely indicative and is not intended to provide information regarding “tradable levels”.

For the avoidance of doubt, the Index Calculation Agent will endeavor to publish an Index Level with respect to each Calculation Day, whether or not such Calculation Day is a Disrupted Day and generally will not revise such published Index Level once published. However, where the Index Level on subsequent Calculation Days depends on the Index Level on previous Calculation Days (*e.g.*, the Index

Level on the previous Rebalancing Date), the Index Calculation Agent will apply an adjusted Index Level that is different from the published level. See Section 6 (*Market Disruption Events and the Calculation and Determination of the Index Level upon the Occurrence or Continuation of a Market Disruption Event*) to these Standard Terms.

The Index Level will be published on a Bloomberg page and the Bloomberg website at the pages indicated by the Index Ticker.

The Index Level shall be published to 4 decimal places.

Notwithstanding anything to the contrary, the Index Calculation Agent may calculate, but not publish the Index Level if the Index is used solely as a part of another Index or strategy, the index level or price of which is separately published by the Index Calculation Agent or one of its affiliates. For example, these Standard Terms and an accompanying Index Supplement will constitute the Index Rules for an Index, which may be used as a Component for another Index that incorporates these Standard Terms and has a separate Index Supplement.

For the avoidance of doubt, to the extent the Index is a stand-alone index, the Index Calculation Agent will publish such Index Level in accordance with the provisions herein.

6. Market Disruption Events and the Calculation and Determination of the Index Level upon the Occurrence or Continuation of a Market Disruption Event

6.1. Introduction

For any Index that is an excess return index, on each Calculation Day, if Calculation Day t is a Disrupted Day or if Rebalancing Day n-1 immediately preceding Calculation Day t was a Disrupted Day, the Index Calculation Agent will calculate the Index Level in accordance with this Section 6 (*Market Disruption Events and the Calculation and Determination of the Index Level upon the Occurrence or Continuation of a Market Disruption Event*).

For any Index that is a total return index, on each Calculation Day, if Calculation Day t (or any Calculation Days from and including Rebalancing Date n-1 to but excluding such Calculation Day t) is a Disrupted Day or if Rebalancing Day n-1 immediately preceding Calculation Day t was a Disrupted Day, the Index Calculation Agent will calculate the Adjusted Index Level in accordance with this Section 6 (*Market Disruption Events and the Calculation and Determination of the Index Level upon the Occurrence or Continuation of a Market Disruption Event*).

This Section 6 (*Market Disruption Events and the Calculation and Determination of the Index Level upon the Occurrence or Continuation of a Market Disruption Event*) of these Standard Terms sets forth alternative calculations for determining the Adjusted Index Level in the particular instances where a Market Disruption Event affects the Index Calculation Agent's determination of an Index Level.

The following section sets forth provisions relating to the calculation and publication of Adjusted Index Levels. In this description, the Index Calculation Agent (“**we**” or “**us**”) endeavors to describe the manner in which we will calculate and/or publish the Adjusted Index Level on different dates. In order to best convey this information, the following description errs on the quantitative side, and before reading this description, we would like to highlight certain drafting points for you, the reader.

6.2 Use of Prepositions

References herein to levels calculated “with respect to a Calculation Day t” refer to levels that are calculated for such Calculation Day; however, such levels may not be calculated on that Calculation Day t. In order to denote that levels will be calculated on a day that may or may not be Calculation Day t, we refer to such levels as being calculated “as of” a Calculation Day. When we refer to the actual date on

which we calculate levels, which is the “as of” date, we may refer to a Calculation Day *s*, where “*s*” is a notation that refers to any Calculation Day on or after Calculation Day *t*. In other words, if we refer to an “Adjusted Index Level with respect to Calculation Day *t* as of Calculation Day *s*” and Calculation Day *t* is Monday and Calculation Day *s* is Wednesday, then we are referring to the Adjusted Index Level for Monday that is calculated on Wednesday pursuant to this section 6. You should note that Calculation Day *s* is in most cases Calculation Day *t*; in other words, the Index Level (calculated pursuant to section 4) or Adjusted Index Level (calculated pursuant to this section 6) for Monday will be calculated on Monday if such day is not a Disrupted Day. The Adjusted Index Level with respect to Calculation Day *t* is only calculated on a Calculation Day *s* that is after Calculation Day *t* if Calculation Day *t* is a Disrupted Day.

6.3 Time Frame of Various Index Calculation Agent Determinations

The Index Calculation Agent will make determinations in three distinct time frames pursuant to this section 6.

First, the Index Calculation Agent will determine Adjusted U.S. Dollar Levels of Constituents, Adjusted Period-To-Date Component Performances and the Adjusted Index Level on the relevant Calculation Day *t* as of Calculation Day *t*. We refer to the Adjusted Index Level as of Calculation Day *t* as the “Initial Adjusted Level”. The Index Calculation Agent will publish such Initial Adjusted Level of the Index Level with respect to any Calculation Day *t* as of such Calculation Day *t*. An Initial Adjusted Level may or may not be a tradable price. An Initial Adjusted Level, even one with respect to a Calculation Day that is a Disrupted Day, may have an impact on tradable levels for future Calculation Days.

Second, the Index Calculation Agent will determine levels with respect to Calculation Day *t* as of each Calculation Day *s*, where Calculation Day *t* is a Disrupted Day and “*s*” refers to each Calculation Day from and including Calculation Day *t*, *provided, however*, that Calculation Day *s* is a day that is no later than the earlier of (i) the first Calculation Day following Calculation Day *t* that is not a Disrupted Day or (ii) the sixth Calculation Day from and including Calculation Day *t*. We refer to levels determined in this manner as “Interim Adjusted Levels” because the Index Calculation Agent will determine such levels on Calculation Day *s*. Please note that the Initial Adjusted Level of the Index Level with respect to any Calculation Day *t* as of such Calculation Day *t* is the same as the Interim Adjusted Level with respect to Calculation Day *t* as of Calculation Day *s*, where Calculation Day *s* is a Disrupted Day and “*s*” refers to Calculation Day *t*. Interim Adjusted Levels may have an impact on published prices for future Calculation Days. For example, if Calculation Day *RD* *n*-1 was a Disrupted Day (or, in the case of a total return index, for any Calculation Day from and including Calculation Day *RD* *n*-1 to but excluding Calculation Day *t* was a Disrupted Day), the Interim Adjusted Level of the Index will be used in the calculation of the Initial Adjusted Level on a subsequent Calculation Day *t* that is not a Disrupted Day (for an Index that is an excess return index, see the formula set forth in Step 3 herein under Section 6.6 (*Alternative Calculations upon a Market Disruption Event for Excess Return Indices*) where the Interim Adjusted Level of the Index with respect to Calculation Day *RD* *n*-1, as of Calculation Day *RD* *n*-1, is referred to as

*Index*_{*Adj, RD_{n-1}*} (*RD*_{*n-1*}) and for an Index that is a total return index see Section 6.7 (*Alternative Calculations upon a Market Disruption Events for Total Return Indices*).

Third, the Index Calculation Agent will determine levels with respect to Calculation Day *t* as of Calculation Day *s*, where Calculation Day *s* is the earlier of either (i) the first Calculation Day following Calculation Day *t* that is not a Disrupted Day and (ii) the sixth consecutive Calculation Day from and including Calculation Day *t* that is a Disrupted Day. We refer to this level as the “Final Adjusted Level”. In most cases, we would expect that Calculation Day *t* will not be a Disrupted Day and therefore the Initial Adjusted Level with respect to Calculation Day *t* and as of such Calculation Day *t* (which is the case when *s* equals *t*) will be the Final Adjusted Level. Under these circumstances, the Initial Adjusted Level will be equal to the Final Adjusted Level, and there will be no other Interim Adjusted Level. Please note that if the immediately prior Rebalancing Day *n*-1 was a Disrupted Day but Calculation Day *t* is not a Disrupted Day, the Initial Adjusted Level with respect to Calculation Day *t* will be equal to the Final Adjusted Level with respect to Calculation Day *t*. In other instances, where Calculation Day *t* is a Disrupted Day, the Index Calculation Agent will calculate the Interim Adjusted Level with respect to Calculation Day *t* for up

to six consecutive Calculation Days. Where Calculation Day t is a Disrupted Day, the Final Adjusted Level will equal the Interim Adjusted Level with respect to Calculation Day t as of the last Calculation Day s used for determining such Interim Adjusted Level. Where Calculation Day t is a Disrupted Day, on the first Calculation Day s that is not a Disrupted Day following Calculation Day t, the Index Calculation Agent will determine the Final Adjusted Level with respect to Calculation Day t as of such Calculation Day s using the Final Adjusted U.S. Dollar Levels of each Constituent determined with respect to Calculation Day t as of the applicable Calculation Day s for each such Constituent; *provided, however*, that if each of the six consecutive Calculation Days from and including Calculation Day t is a Disrupted Day, the Index Calculation Agent will determine the Final Adjusted Level of the Index with respect to Calculation Day t as of such Calculation Day s using the Final Adjusted U.S. Dollar Level of that Constituent determined with respect to Calculation Day t as of the applicable Calculation Day s in good faith and in a commercially reasonable manner on the sixth consecutive Disrupted Day from and including Calculation Day t. The Final Adjusted Level of the Index will be a tradable level because such level will generally be determined as of a Calculation Day that is not a Disrupted Day. Again, in most cases, the Final Adjusted Level will be the same as the Initial Adjusted Level with respect to any Calculation Day t because such Calculation Day t is not a Disrupted Day. For clarification, we used “Adjusted” in the term “Final Adjusted Level” because if Calculation Day RD n-1 is a Disrupted Day, such Final Adjusted Level may include an Interim Adjusted Level (see the immediately preceding paragraph and Step 3 of Section 6.6 (*Alternative Calculations upon a Market Disruption Event for Excess Return Indices*) to these Standard Terms for more information for an Index that is an excess return index and Section 6.7 (*Alternative Calculations upon a Market Disruption Event for Total Return Indices*) to these Standard Terms for more information for an Index that is a total return index).

6.4 Adjusted U.S. Dollar Levels determined by the Index Calculation Agent

If Calculation Day t is a Disrupted Day, the Index Calculation Agent may adjust (a) the U.S. Dollar Level of a Constituent c of any Component i with respect to Calculation Day t as of Calculation Day s (an “Adjusted U.S. Dollar Level”), (b) the Period-To-Date Component Performance of any Component i with respect to Calculation Day t as of Calculation Day s (an “Adjusted Period-To-Date Component Performance”) and (c) the Index Level with respect to Calculation Day t as of Calculation Day s (an “Adjusted Index Level”). Determinations of these three items follow the formulas used to calculate the Index Level set forth in Section 4 (*Calculation and Determination of the Index Level*) of these Standard Terms; however, this Section supplements and modifies the formulas set forth in Section 4 (*Calculation and Determination of the Index Level*) of these Standard Terms (a) for any Calculation Day t that is a Disrupted Day (and, with respect to a total return index, for any Calculation Day from and including any Calculation Day RD n-1 to and including Calculation Day t that is a Disrupted Day) and (b) for any Calculation Day t if the immediately previous Calculation Day RDn-1 was a Disrupted Day. With respect to any Calculation Day t that is a Disrupted Day (and, with respect to a total return index, for any Calculation Day from and including any Calculation Day RD n-1 to and including Calculation Day t that is a Disrupted Day), the Index Calculation Agent will calculate Interim Adjusted Levels as of any Calculation Day s where “s” refers to any Calculation Day from and including Calculation Day t, *provided, however*, that Calculation Day s is a day that is not later than the earlier of (i) the first Calculation Day following Calculation Day t that is not a Disrupted Day and (ii) the sixth Calculation Day from and including Calculation Day t. As of each such Calculation Day s, the Index Calculation Agent will calculate the Adjusted U.S. Dollar Level, the Adjusted Period-To-Date Component Performance and the Adjusted Index Level. For the avoidance of doubt, such Calculation Day s refers to the Calculation Day s for each Component. For example, if our Index consisted of two Components (Component A and Component B) with two Constituents each (Constituent A1 and Constituent A2; and Constituent B1 and Constituent B2), (a) if Calculation Day t is not a Disrupted Day with respect to Component A, then Calculation Day t will be the same day as Calculation Day s for Component A and the Final Adjusted U.S. Dollar Level of Constituent A1 and Constituent A2 will be equal to the U.S. Dollar Level of Constituent A1 and Constituent A2 as of Calculation Day t, respectively, and (b) if Calculation Day t is a Disrupted Day with respect to Component B, the Adjusted U.S. Dollar Level of Constituent B1 and B2 will be determined as of Calculation Day t, the Index Calculation Agent will calculate Adjusted U.S. Dollar Levels as of consecutive Calculation Days from and including Calculation Day t, each of which will be a Calculation Day s, and then, on the first Calculation Day s that is the earlier of (a) the first Calculation Day

following Calculation Day t that is not a Disrupted Day for Component B or (b) the sixth Calculation Day from and including Calculation Day t, the Index Calculation Agent will calculate (i) the Final Adjusted U.S. Dollar Levels of each Constituent within Component B with respect to Calculation Day t as of such Calculation Day s, (ii) the Adjusted Period-To-Date Component Performance of Component B with respect to Calculation Day t as of such Calculation Day s and (iii) the Adjusted Index Level with respect to Calculation Day t as of such Calculation Day s, which in each case will equal the Adjusted U.S. Dollar Level with respect to Calculation Day t as of the last Calculation Day s used for determining such Adjusted U.S. Dollar Level. The Calculation Day s on which the Final Adjusted U.S. Dollar Levels associated with Component A are calculated is not the same Calculation Day s on which the Final Adjusted U.S. Dollar Levels associated with Component B are calculated; however, all of such calculations are determined with respect to Calculation Day t.

6.5 Disruption of Constituents with more than one Underlying Commodity

With respect to any Constituent c in which the Underlying Index consists of more than one commodity, if Calculation Day t is a Disrupted Day for any commodity represented in such Constituent c, the Index Calculation Agent may adjust (a) the U.S. Dollar Level of a Constituent c of any Component i with respect to Calculation Day t as of Calculation Day s (an “Adjusted U.S. Dollar Level”), (b) the Period-To-Date Component Performance of any Component i with respect to Calculation Day t as of Calculation Day s and (an “Adjusted Period-To-Date Component Performance”) (c) the Index Level with respect to Calculation Day t as of Calculation Day s (an “Adjusted Index Level”). With respect to any Calculation Day t that is a Disrupted Day, the Index Calculation Agent will calculate Adjusted U.S. Dollar Levels for such Constituent c as of any Calculation Day s where “s” refers to any Calculation Day from and including Calculation Day t, *provided, however*, that Calculation Day s is a day that falls on or before the earlier of (i) the first Calculation Day following Calculation Day t that is not a Disrupted Day and (ii) the sixth Calculation Day from and including Calculation Day t. As of each such Calculation Day s, the Index Calculation Agent will calculate the Adjusted U.S. Dollar Level of such Constituent c (as set forth below), the Adjusted Period-To-Date Component Performance for each Component i (applying such Adjusted U.S. Dollar Level for such Constituent c) and the Adjusted Index Level.

With respect to any Constituent c in which the Underlying Index consists of more than one commodity, if Calculation Day t is a Disrupted Day for any commodity represented in such Constituent c, the Index Calculation Agent will calculate the Adjusted U.S. Dollar Level of such Constituent c with respect to Calculation Day t as of Calculation Day s in a good faith and commercially reasonable manner and (a) if such Calculation Day t is not a Disrupted Day for the applicable commodity in such Constituent c (each, a “Non-Disrupted Commodity”), the Index Calculation Agent will use the official settlement price of the applicable futures contract(s) of each applicable Non-Disrupted Commodity on Calculation Day t as determined by the Index Calculation Agent in a good faith and commercially reasonable manner and (b) if such Calculation Day t is a Disrupted Day for the applicable commodity in such Constituent c (each, a “Disrupted Commodity”),

- if each Calculation Day from and including Calculation Day t to and including Calculation Day s is a Disrupted Day for such Disrupted Commodity, the Index Calculation Agent will use the official settlement price on Calculation Day s; *provided, however* that if the official settlement price for such Disrupted Commodity on Calculation Day s is unavailable, the Index Calculation Agent will determine such price in a good faith and commercially reasonable manner and
- otherwise, the Index Calculation Agent will use the official settlement price on the first Calculation Day from and including Calculation Day t to and including Calculation Day s that is not a Disrupted Day for such Disrupted Commodity; *provided, however* that if each Calculation Day s from and including Calculation Day t to and including Calculation Day t+5 is a Disrupted Day for such Disrupted Commodity, the Index Calculation Agent will determine such price in a good faith and commercially reasonable manner.

6.6 Alternative Calculations upon a Market Disruption Event for Excess Return Indices

Alternative calculations upon a Market Disruption Event pursuant to this section 6 will be applied to the calculation of the Index Level (pursuant to Section 4) with respect to Calculation Day t in three different scenarios:

- (a) such Calculation Day t is a Disrupted Day and Calculation Day RD $n-1$ was not a Disrupted Day for at least one Constituent within the Index;
- (b) such Calculation Day t is a Disrupted Day and Calculation Day RD $n-1$ was a Disrupted Day for at least one Constituent within the Index; and
- (c) such Calculation Day t is not a Disrupted Day and Calculation Day RD $n-1$ was a Disrupted Day for at least one Constituent within the Index.

The Index Calculation Agent will apply the following alternative calculations of the Adjusted Index Level with respect to Calculation Day t if any of the scenarios set forth above have occurred. Additionally, if any preceding Rebalancing Date is a Disrupted Day, the Adjusted Index Level will be affected because the Adjusted Index Level with respect to any Calculation Day RD $n-1$ will be determined with respect to Rebalancing Date $n-2$. In other words, the Adjusted Index Level with respect to any Calculation Day t is path dependent and will be impacted by the Adjusted Index Level with respect to every preceding Rebalancing Date.

Application of Alternative Calculations and Calculation of the Adjusted Index Level

If any of the three different scenarios above occur, the Index Calculation Agent will apply the following alternative calculations to the Adjusted Index Level with respect to Calculation Day t .

For the avoidance of doubt, if Calculation Day t is not a Disrupted Day and Calculation Day RD $n-1$ is not a Disrupted Day, then the Index Level will be determined in accordance with the formulae set forth in Section 4 (Calculation and Determination of the Index Level) to these Standard Terms, and the formulae set forth in this Section 6 (*Market Disruption Events and the Calculation and Determination of the Index Level upon the Occurrence or Continuation of a Market Disruption Event*) to these Standard Terms shall not apply.

Step 1: Calculate the Adjusted U.S. Dollar Level of Constituent c with respect to Calculation Day t as of Calculation Day s

If Calculation Day t is not a Disrupted Day with respect to a Component i , and a Constituent c is contained in Component i , then no alternative calculations are required for such Constituent and the Index Calculation Agent will apply the U.S. Dollar Level of such Constituent c with respect to Calculation Day t as of Calculation Day t . With respect to such Constituent c , the Adjusted U.S. Dollar Level will be equal to the U.S. Dollar Level for such Constituent c .

If Calculation Day t is a Disrupted Day with respect to a Component i , and a Constituent c is contained in Component i , the Index Calculation Agent will determine the Adjusted U.S. Dollar Level of Constituent c , which we refer to as $Level_{Adj,s}^c(t)$, with respect to Calculation Day t as of Calculation Day s (where Calculation Day s is not earlier than Calculation Day t) as follows:

- if each Calculation Day from and including Calculation Day t to and including Calculation Day s is a Disrupted Day for Component i that contains Constituent c , $Level_{Adj,s}^c(t)$ is equal to the U.S. Dollar Level of Constituent c on Calculation Day s ; *provided, however* that if Calculation Day s is a Non-Publication Day for Constituent c , then such level will be equal to the U.S. Dollar Level of Constituent c on the latest Calculation Day preceding Calculation Day s that is not a Non-Publication Day for Constituent c ; and

- otherwise, $Level_{Adj,s}^c(t)$ is equal to the U.S. Dollar Level of Constituent c on the first Calculation Day from and including Calculation Day t to and including Calculation Day s that is not a Disrupted Day for the Component i which contains Constituent c;

provided, however that if each Calculation Day s from and including Calculation Day t to and including Calculation Day t+5 is a Disrupted Day for the Component i which contains Constituent c, then the Index Calculation Agent will determine $Level_{Adj,s}^c(t)$ for Calculation Day s occurring on Calculation Day t+5 in good faith and in a commercially reasonable manner and such level determined by the Index Calculation Agent on Calculation Day t+5 will be the Final Adjusted U.S. Dollar Level for Constituent c with respect to Calculation Day t, i.e. $Level_{Adj,s}^c(t)$ will be equal to such value for each Calculation Day s occurring on or after t+5.

Step 1 will apply to the determination of the Adjusted Index Level with respect to any Calculation Day t that is a Disrupted Day or any Calculation Day t for which Calculation Day RD_{n-1} is a Disrupted Day. With respect to any Calculation Day that is a Calculation Day RD_{n-1}, the Adjusted U.S. Dollar Level for any Constituent c will be notated as $Level_{Adj,s}^c(RD_{n-1})$ where such Adjusted U.S. Dollar Level is determined with respect to Calculation Day RD_{n-1} as of Calculation Day s.

To the extent that Component i consists of two Constituents, the Adjusted U.S. Dollar Level of the Constituent that is not affected by a Market Disrupted Event will be determined with respect to Calculation Day t as of Calculation Day s. In other words, if a Component i consists of two Constituents (for example, Constituent A1 and Constituent A2), $Level_{Adj,s}^{A1}(t)$ and $Level_{Adj,s}^{A2}(t)$ of Constituent A1 and Constituent A2, respectively, would be each determined as of Calculation Day s with respect to Calculation Day t, even if Constituent A2 considered separately was not disrupted on an earlier Calculation Day s.

For example, suppose that today (Monday) is Calculation Day t. The Index Calculation Agent would first seek to determine the Adjusted U.S. Dollar Level with respect to each Constituent, as of Calculation Day t. Suppose further that Monday is a Disrupted Day with respect to Constituent A1 which belongs to Component A (which also contains Constituent A2) but is not a Disrupted Day with respect to any other Constituent, including Constituent A2. To the extent that the Index contains Components other than Component A, the Index Calculation Agent would calculate the Adjusted U.S. Dollar Level for the Constituents of such Components as of such Calculation Day t, and the Adjusted U.S. Dollar Level for such Constituents would be the Final Adjusted U.S. Dollar Level. The Index Calculation Agent will also determine the Adjusted U.S. Dollar Levels for Constituent A1 and Constituent A2, and the Index Calculation Agent will calculate and publish an Index Level based on the Adjusted U.S. Dollar Level of all Constituents as of Calculation Day t. It should be noted that such Adjusted Index Level will not be tradable and that such level will not be adjusted after publication.

The Index Calculation Agent would then calculate the Adjusted U.S. Dollar Levels with respect to Constituent A1 and Constituent A2 on each subsequent Calculation Day s. These are the Adjusted U.S. Dollar Levels of Constituent A1 and Constituent A2 with respect to Calculation Day t as of Calculation Day s. On Tuesday, which is now Calculation Day s, the Index Calculation Agent would seek to determine the Final Adjusted U.S. Dollar Level of each such Constituent with respect to Calculation Day t (Monday); however, suppose Tuesday is a Disrupted Day with respect to Constituent A2. The level for the Constituents of Component A with respect to Calculation Day t (Monday) as of Calculation Day s (Tuesday) will be Adjusted U.S. Dollar Levels calculated as of Tuesday. On Wednesday, which is now Calculation Day s, the Index Calculation Agent will again seek to determine the Final Adjusted U.S. Dollar Level with respect to Calculation Day t (Monday). Wednesday is not a Disrupted Day for either Constituent A1 or Constituent A2, and therefore, the Adjusted U.S. Dollar Level of Constituent A1 and Constituent A2 will be determined as of such Calculation Day s (Wednesday) and such Final Adjusted U.S. Dollar Levels will be applied in determining the Final Adjusted Level of the Index with respect to Calculation Day t.

Step 2: Calculation of the Adjusted Period-To-Date Component Performance with respect to Calculation Day t as of Calculation Day s for Component i

If neither Calculation Day t nor Calculation Day RD_{n-1} is a Disrupted Day with respect to any Constituent c of Component i, then no alternative calculations are required for calculating the Period-To-Date Component Performance and the Index Calculation Agent will calculate the Period-To-Date Component Performance in accordance with Section 4 (Calculation and Determination of the Index Level) to these Standard Terms using the U.S. Dollar Levels of each Constituent c with respect to Calculation Day t as of Calculation Day t and with respect to Calculation Day RD_{n-1} as of Calculation Day RD_{n-1} accordingly, and the formulae set forth in this Section 6 (*Market Disruption Events and the Calculation and Determination of the Index Level upon the Occurrence or Continuation of a Market Disruption Event*) to these Standard Terms shall not apply.

If Calculation Day t is a Disrupted Day with respect to any Constituent c of Component i, the Index Calculation Agent will determine the Adjusted Period-To-Date Component Performance, or $PTDCP_{Adj,i,s}(t)$, of Component i with respect to Calculation Day t as of Calculation Day s.

“ $PTDCP_{Adj,i,s}(t)$ ” means, with respect to Calculation Day t as of Calculation Day s for Component i, the Adjusted Period-To-Date Component Performance calculated in accordance with the formula set forth under Section 4.5 (Calculating the Period-To-Date Component Performance for each Component) to these Standard Terms *except* that:

- each reference to the U.S. Dollar Level of a Constituent c on Calculation Day t shall instead refer to $Level_{Adj,s}^c(t)$;
- each reference to the U.S. Dollar Level of a Constituent c on Calculation Day RD_{n-1} shall instead refer to $Level_{Adj,s}^c(RD_{n-1})$.

Notwithstanding the foregoing, with respect to the calculation of the Short Constituent Leverage for any Component (if applicable) and the Index Leverage (if applicable) as determined in accordance with Section 4 (Calculation and Determination of the Index Level) to these Standard Terms, references to the U.S.

Dollar Level of Constituent c on Calculation Day t shall instead refer to $Level_{Adj,t}^c(t)$, which is equal to the U.S. Dollar Level of Constituent c on Calculation Day t except that if such day is a Non-Publication Day for Constituent c, $Level_{Adj,t}^c(t)$ will be equal to the U.S. Dollar Level of such Constituent on the latest Calculation Day preceding Calculation Day t for which a U.S. Dollar Level of such Constituent c is available.

Step 2 will apply to the determination of the Adjusted Period-To-Date Component Performance with respect to any Component i and any Calculation Day t that is a Disrupted Day for Component i, or any Calculation Day t for which Calculation Day RD_{n-1} is a Disrupted Day for Component i. With respect to any Calculation Day t that is a Calculation Day RD_{n-1} , the Adjusted Period-To-Date Component Performance for any Component i will be notated as $PTDCP_{Adj,i,s}(RD_{n-1})$ where such Adjusted Period-To-Date Component Performance is determined with respect to Calculation Day RD_{n-1} as of Calculation Day s.

Step 3: Calculation of the Adjusted Index Level with respect to Calculation Day t as of Calculation Day s

If neither Calculation Day t nor Calculation Day RD_{n-1} is a Disrupted Day with respect to any Constituent, then no alternative calculations are required and the Index Calculation Agent will calculate the Index Level in accordance with Section 4 (Calculation and Determination of the Index Level) to these Standard Terms using the U.S. Dollar Levels of each Constituent with respect to Calculation Day t and/or Calculation Day RD_{n-1} as applicable, and the formulae set forth in this Section 6 (*Market Disruption Events and the Calculation and Determination of the Index Level upon the Occurrence or Continuation of a Market*

Disruption Event) to these Standard Terms shall not apply. The Index Calculation Agent will calculate and publish the Index Level with respect to Calculation Day t as of Calculation Day s, and this will be a tradable level.

If Calculation Day t (or Rebalancing Date n-1) is a Disrupted Day with respect to a Constituent c of Component i, the Index Calculation Agent will calculate the Adjusted Index Level with respect to such Calculation Day t as of each Calculation Day s, applying the alternative calculations set forth in Steps 1 and 2 above to the following formula:

$$Index_{Adj,s}(t) = \left[Index_{Adj,s}(RD_{n-1}) + Index_{Adj,RD_{n-1}}(RD_{n-1}) \times IndexLeverage(RD_{n-1}) \times \sum_{i=1}^{NS} W_i \times PTDCP_{Adj,i,s}(t) \right] \times (1 - RAF_t)$$

where

“ $Index_{Adj,s}(t)$ ” means, with respect to Calculation Day t as of Calculation Day s, the “Adjusted Index Level” with respect to Calculation Day t as of Calculation Day s;

“ $Index_{Adj,s}(RD_{n-1})$ ” means, with respect to Calculation Day RD n-1 as of Calculation Day s, the Adjusted Index Level with respect to Calculation Day RD n-1 as of Calculation Day s. For the avoidance of doubt, $Index_{Adj,s}(RD_{n-1})$ may continue to change for as many as 5 Calculation Days following the Rebalancing Date RD_{n-1}, in the case that on Calculation Day s there is a Market Disruption Event that is relevant to a Constituent of the Index connected with the rebalancing of the Index on Calculation Day RD_{n-1};

“ $Index_{Adj,RD_{n-1}}(RD_{n-1})$ ” means, with respect to Calculation Day RD n-1, the Index Level (calculated pursuant to Section 4) or Adjusted Index Level (calculated pursuant to this Section 6) determined as of Calculation Day RD n-1. For the avoidance of doubt, such Index Level or Adjusted Index Level (as applicable) will not be adjusted subsequently on any Calculation Day s and will be calculated with unadjusted U.S. Dollar Levels for any Constituent c with respect to Calculation Day RD n-1 in the Index; *provided, however* that if such Rebalancing Date is a Non-Publication Day for any Constituent c, such level will be calculated using the $Level^c_{Adj,RD_{n-1}}(RD_{n-1})$, which is equal to the U.S. Dollar Level of Constituent c on the latest Calculation Day preceding Calculation Day RD n-1 for which a U.S. Dollar Level of such Constituent c is available;

“ $IndexLeverage(RD_{n-1})$ ” will be determined in accordance with the formula set forth in Section 4 (Calculation and Determination of the Index Level) to these Standard Terms; *provided, however* that references to the U.S. Dollar Level of Constituent c on Calculation Day t shall mean $Level^c_{Adj,t}(t)$, which is equal to the U.S. Dollar Level of Constituent c on Calculation Day t, except that if such day is a Non-Publication Day for Constituent c, $Level^c_{Adj,t}(t)$ will be equal to the U.S. Dollar Level of such Constituent on the latest Calculation Day preceding Calculation Day t for which a U.S. Dollar Level of such Constituent c is available.

“ $PTDCP_{Adj,i,s}(t)$ ” will have the meaning set forth in Step 2 of this Section 6 (*Market Disruption Events and the Calculation and Determination of the Index Level upon the Occurrence or Continuation of a Market Disruption Event*) to these Standard Terms.

Upon request, the Index Calculation Agent will make available the Final Adjusted Level for such Index as such Final Adjusted Level is applicable to any Calculation Day t.

6.7 Alternative Calculations upon a Market Disruption Events for Total Return Indices

For any Index that is a total return index, if a Market Disruption Event has occurred on any Calculation Day from and including Calculation Day RD_{n-1} through and including Calculation Day t (the “Calculation Period”), the Index Level for such total return index will be calculated in accordance with this Section 6.7.

If any Calculation Day in the Calculation Period is a Disrupted Day, the Index Calculation Agent will determine the Adjusted U.S. Dollar Level of any Constituent c, which we refer to as $Level_{Adj,t}^c(t)$, with respect to such Calculation Day as of such Calculation Day. For example, if a Market Disruption Event has occurred or is continuing with respect to Constituent c, the Index Calculation Agent will use the disrupted level of such Constituent c on such Calculation Day without regard to any postponement. With respect to each Calculation Day in the Calculation Period that is a Disrupted Day, the Index Calculation Agent will apply that $Level_{Adj,t}^c(t)$ in the calculation of the Adjusted Index Level as of Calculation Day t for each Calculation Day in the Calculation Period that is a Disrupted Day. In other words, the Adjusted Index Level as of Calculation Day t is path dependent relative to each Calculation Day in the Calculation Period and the Index Calculation Agent will apply an Adjusted U.S. Dollar Level for any Constituent c (i.e., $Level_{Adj,t}^c(t)$) to determine an Adjusted Index Level on which to apply the T-Bill Return.

If Calculation Day t is a Disrupted Day with respect to a Component i, and a Constituent c is contained in Component i, the Index Calculation Agent will determine the Adjusted U.S. Dollar Level of Constituent c, which we refer to as $Level_{Adj,s}^c(t)$, with respect to Calculation Day t as of Calculation Day s (where Calculation Day s is not earlier than Calculation Day t) as follows:

- if each Calculation Day from and including Calculation Day t to and including Calculation Day s is a Disrupted Day for Component i that contains Constituent c, $Level_{Adj,s}^c(t)$ is equal to the U.S. Dollar Level of Constituent c on Calculation Day s; and
- otherwise, $Level_{Adj,s}^c(t)$ is equal to the U.S. Dollar Level of Constituent c on the first Calculation Day from and including Calculation Day t to and including Calculation Day s that is not a Disrupted Day for the Component i which contains Constituent c;

provided, however that if each Calculation Day s from and including Calculation Day t to and including Calculation Day t+5 is a Disrupted Day for the Component i which contains Constituent c, then the Index Calculation Agent will determine $Level_{Adj,s}^c(t)$ for Calculation Day s occurring on Calculation Day t+5 in good faith and in a commercially reasonable manner and such level determined by the Index Calculation Agent on Calculation Day t+5 will be the Final Adjusted U.S. Dollar Level for Constituent c with respect to Calculation Day t, i.e. $Level_{Adj,s}^c(t)$ will be equal to such value for each Calculation Day s occurring on or after t+5.

Based on the calculations above, the Adjusted Index Level will be determined on each Calculation Day t as of Calculation Day s as follows:

$$IndexTR_{adj,s}(t) = IndexTR_{Adj,t-1}(t-1) \times \left[\frac{\left[1 + IndexLeverage(RD_{n-1}) \times \sum_{i=1}^{NS} (W_i \times PTDCP_{adj,i,s}(t)) \right]}{\left[1 + IndexLeverage(RD_{n-1}) \times \sum_{i=1}^{NS} (W_i \times \delta(t-1) \times PTDCP_{adj,i,s}(t-1)) \right]} + TBR_t \right] \times (1 + TBR_t)^{A(t)} \times (1 -$$

where

“ $IndexTR_{Adj,s}(t)$ ” means, with respect to Calculation Day t , the Adjusted Index Level with respect to Calculation Day t as determined by the Index Calculation Agent as of Calculation Day s ;

“ $IndexTR_{Adj,t-1}(t-1)$ ” means, with respect to Calculation Day t , the Index level (calculated pursuant to Section 4) or Adjusted Index Level (calculated pursuant to this Section 6) on Calculation Day $t-1$, as applicable, for such total return index determined by the Index Calculation Agent by applying $Level^c_{Adj,t}(t)$ for each Constituent c as determined on Calculation Day $t-1$ as of Calculation Day $t-1$, regardless of whether such Calculation Day t is a Disrupted Day;

“ $IndexLeverage(RD_{n-1})$ ” will be determined in accordance with the formula set forth in Section 4 (*Calculation and Determination of the Index Level*) to these Standard Terms; *provided, however* that references to the U.S. Dollar Level of Constituent c on Calculation Day t shall mean $Level^c_{Adj,t}(t)$, which is equal to the U.S. Dollar Level of Constituent c on Calculation Day t , except that if such day is a Non-Publication Day for Constituent c , $Level^c_{Adj,t}(t)$ will be equal to the U.S. Dollar Level of such Constituent on the latest Calculation Day preceding Calculation Day t for which a U.S. Dollar Level of such Constituent c is available.

“ $PTDCP_{Adj,i,s}(t)$ ” means, with respect to Calculation Day t , the Adjusted Period-To-Date Component Performance for each Component i as determined with respect to Calculation Day t as of Calculation Day s as determined in accordance with Section 4.5 (*Calculating the Period-To-Date Component Performance for each Component*) to these Standard Terms, except that the Index Calculation Agent will determine such value by reference to $Level^c_{Adj,s}(t)$ for each Constituent c as determined with respect to Calculation Day t as of Calculation Day s .

“ $PTDCP_{Adj,i,s}(t-1)$ ” means, with respect to Calculation Day t , the Adjusted Period-To-Date Component Performance for each Component i as determined with respect to Calculation Day $t-1$ as of Calculation Day s as determined in accordance with Section 4.5 (*Calculating the Period-To-Date Component Performance for each Component*) to these Standard Terms, except that the Index Calculation Agent will determine such value by reference to $Level^c_{Adj,s}(t-1)$ for each Constituent c as determined with respect to Calculation Day $t-1$ as of Calculation Day s .

$\delta(t-1)$ is equal to 0 if Calculation Day $t-1$ is a Rebalancing Date, otherwise 1

Upon Request, the Index Calculation Agent will make available the Final Adjusted Level for such Index as such Final Adjusted Level is applicable to any Calculation Day t .

6.8 Publication

The level of the Index Level calculated and published by the Index Calculation Agent with respect to each Calculation Day t shall be $Index_{Adj,t}(t)$ or $IndexTR_{Adj,t}(t)$, as applicable, that is the Initial Adjusted Level for the Index, which agrees with the calculation of $Index(t)$ as defined in Section 4 (*Calculation and Determination of the Index Level*) to these Standard Terms in the circumstances described in the paragraph immediately above.

6.9 Tradable Level

The tradable level of the Index Level with respect to each Calculation Day t shall be $Index_{Adj,s}(t)$ or $IndexTR_{Adj,s}(t)$ as of Calculation Day s ; *provided* that this level is the Final Adjusted Level of the Index Level with respect to Calculation Day t (where in any case Calculation Day s shall be no later than $t+5$).

6.10 T-Bill Rate

The following actions will be taken by the Index Calculation Agent following any abnormalities in the publication of the T-Bill Rate, only if a Total Return Index is defined and published by the Index Calculation Agent as specified in the Index Supplement.

If, with respect to a Calculation Day, such rate for such date does not appear on Bloomberg® ticker USB3MTA (or any official successor page thereto), the rate for that date will be the Bond Equivalent Yield of the rate displayed in H.15 Daily Update, currently <http://www.federalreserve.gov/releases/h15/update/>, (or any official successor page thereto), or such other recognized electronic source used for the purpose of displaying such 3-month T-bill rate for that day under the caption "U.S. Government Securities/Treasury bills/Auction high" converted by the Index Calculation Agent in a commercially reasonable manner to bank discount basis such that it is expressed in the same manner as the T-Bill Auction High Rate.

If such rate for such date does not appear on Bloomberg® ticker USB3MTA (or any official successor page thereto) and such 3-month rate is not displayed in the H.15 Daily Update under the caption "U.S. Government securities/Treasury bills/Auction high" or another recognized electronic source, the rate for that date will be the Bond Equivalent Yield of the auction rate for those Treasury Bills as announced by the United States Department of Treasury, converted by the Index Calculation Agent in a commercially reasonable manner to bank discount basis such that it is expressed in the same manner as the T-Bill Auction High Rate.

If the rate for United States 3-month Treasury Bills is still not available, the rate will be determined by Calculation Agent in good faith and in a commercially reasonable manner.

7. Extraordinary Events

7.1. Successor Constituent

If any Constituent is (a) not calculated and announced by the Index Sponsor but is calculated and announced by a successor sponsor acceptable to the Index Calculation Agent, or (b) replaced by a successor index using, in the determination of the Index Calculation Agent, the same or substantially similar formula for and method of calculation as used in the calculation of such Constituent, then such index will be deemed to be the index so calculated and announced by that successor index sponsor or that successor index, as the case may be.

7.2. Material Change in the Method or Formula of Calculating a Constituent

If on or prior to any Calculation Day on which the Index Calculation Agent is determining the Index Level of the Index, the Index Sponsor makes a material change in the formula for or the method of calculating a relevant Constituent (other than a modification prescribed in that formula or method to maintain such index in the Constituent or prescribed routine events) which affects the ability of the Index Calculation Agent to calculate the Index Level, then the Index Calculation Agent shall, in good faith, make such adjustment(s) that it determines to be appropriate to any variable, calculation, methodology or detail in the relevant Index Supplement or any other rule or input in relation to the Index to account for such modification.

7.3. Non-Publication of the Constituent as a result of Cancellation of a Constituent

On or prior to any Calculation Day on which the Index Calculation Agent is determining the Index Level of the Index, if an Index Sponsor permanently cancels the relevant Constituent, and no successor index exists, the Index Calculation Agent shall, in good faith, either:

- (a) continue to calculate the Index Level of the relevant Index using the latest terms specified in the Index Supplement at the time the Constituent was cancelled; or
- (b) 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 such cancellation, including but not limited to excluding or substituting a relevant Constituent.

7.4. Change in Law Event

Without prejudice to the ability of the Index Calculation Agent to amend the Index Rules (see Section 8 herein), the Index Calculation Agent may, acting in good faith and in a commercially reasonable manner:

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

any Constituent following the occurrence (and/or continuation) of a Change in Law or in circumstances where it considers it reasonably necessary to do so to reflect the intention of the Index, including (without prejudice to the generality of the foregoing) any perception among market participants generally that the published price of the relevant Constituent is inaccurate (and the Relevant Exchange fails to correct such level of the underlying futures contract or Index Sponsor fails to correct such level of the Underlying Index), and if it so excludes or substitutes any Constituent, 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. The Index Calculation Agent is under no obligation to continue the calculation and publication of any Index upon the occurrence or existence of a Change in Law; and the Index Calculation Agent may decide to cancel any Index if it determines, acting in good faith, that the objective of the relevant Index can no longer be achieved.

7.5. Cancellation of an Index License relating to a Constituent

With respect to any Index, if, at any time, the license granted to the Index Calculation Agent (or its affiliates) to use any Constituent for the purposes of the Index terminates, or the Index Calculation Agent's rights to use any Constituent for the purpose of the Index is otherwise disputed, impaired or ceases (for any reason), the Index Calculation Agent may (a) remove such Constituent from the Index or (b) replace such Constituent with a successor Constituent that is the same or substantially similar and may make such adjustments to these Standard Terms and the relevant Index Supplement, each as it determines in good faith to be appropriate to account for such event on such dates as selected by the Index Calculation Agent.

8. Additional Terms

8.1. Amendments

These Standard Terms 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 thirty (30) calendar days following such amendment.

The Standard Terms, when read together with the relevant Index Supplement, are intended to be comprehensive; however, ambiguities may arise. If an ambiguity does arise, the Index Calculation Agent will resolve such ambiguities and, if necessary, amend the Standard Terms or the Index Supplement, as applicable, to reflect such resolution.

8.2. Not An Offer to Sell or Solicitation to Buy Securities

These Standard Terms, together with the relevant Index Supplement, do not constitute either an offer to sell or a solicitation to buy securities. Any such offer to sell or solicitation to buy securities in the relevant jurisdiction in which such securities are being offered or purchased will be accompanied by an offering document that is prepared with respect to that jurisdiction's laws and regulation.

8.3. No Investment Advice and No Fiduciary Duty

The Index Calculation Agent and its affiliates, officers, agents or employees (a) have not rendered legal, regulatory, investment, tax, accounting or other advice to an investor in relation to any product that is linked to or references an Index and (b) are not fiduciaries under applicable law governing such product or in the jurisdiction in which any investor purchases a product that is linked to or references an Index. Each investor should make its own investment decision based on its own judgment and on its own examination of the relevant Index and the applicable product, and each investor should consult its own legal, regulatory, investment, tax, accounting and other professional advisers as it deems necessary in connection with the relevant transaction.

8.4. Index Calculation Agent; Index Calculation Standards and Index Calculation Determinations

Unless otherwise specified in the relevant Index Supplement, 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 shall act in good faith and in a commercially reasonable manner with respect to determinations made by it pursuant to the Index Rules for an Index.

All determinations of the Index Calculation Agent pursuant to these Standard Terms and the Index Supplement for an Index and interpretation of these Standard Terms and the Index Supplement will 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) with respect to an Index or with respect to the publication of any Index Level (or failure to publish such level) or any use to which any person may put an Index or the Index Levels.

8.5. Index Corrections

With respect to any Index,

- (a) if the level of a Constituent, variable or other input that is used for any calculation relevant to the Index Level for any Calculation Day is subsequently corrected and the correction is published by the relevant Index Sponsor or relevant publication source; or
- (b) if the Index Calculation Agent identifies an error or omission in any of its calculations or determinations with respect to the Index for any Calculation Day,

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

8.6. Index Cancellation

If the Index Calculation Agent determines that any adjustment that can be made with respect to any Extraordinary Event (see Section 7 herein) cannot or would not produce a commercially reasonable result, then the Index Calculation Agent may cease calculating and publishing the Index from the date of such determination by the Index Calculation Agent.

9. Disclaimer and Conflicts of Interest

The following disclaimer and disclosure relating to our conflicts of interests applies to each Index that reference these Standard Terms. References herein apply to each Index that is described in the relevant Index Supplement, which incorporates the terms set forth herein.

The information contained in these Standard Terms and the relevant Index Supplement (together, the “Index Rules”) is accurate as of the date specified in the relevant Index Supplement (and may change at any time without prior notice), and neither JPMSL nor any of its affiliates or subsidiaries or their respective directors, officers, employees, representatives, delegates or agents (each a “Relevant Person”) is under any obligation to update such information. These Index Rules have been prepared by JPMSL, and are not a product of JPMorgan’s research departments. Opinions expressed herein may differ from the opinions expressed by other areas of JPMorgan, including its research departments.

None of the Relevant Persons makes any representation or warranty, whatsoever, express or implied, as to the results that may be obtained through use of these Index Rules or through an investment linked to an Index described herein and in the relevant Index Supplement. 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, punitive consequential or otherwise) to any person even if notified of the possibility of any such damages.

During the course of their normal business, any Relevant Person may enter into or promote, offer or sell financial instruments or investments (structured or otherwise) linked to the Index, commodities generally or the commodity indices referenced in the Index. 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 the Index, commodities generally or commodity indices referenced therein, or related derivatives, or may invest or engage in transactions with other persons, or on behalf of such persons, relating to the Index, commodities generally or commodity indices. Such activity may have an adverse impact on the liquidity of the commodity markets and on the spot prices, forward rates, futures prices and index values referenced by the Index. In some cases, these activities and transactions may have an adverse affect on the performance of the Index. None of the Relevant Persons have 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 anyone with exposure to the Index.

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The Index represents a portfolio of various potential commodity indices or commodity exchange traded futures contracts, with each commodity index or commodity exchange traded futures contract providing exposure to a specific commodity. The Index has a limited operating history and any hypothetical performance history of the strategy merely identifies certain hypothetical trading positions, the performance of which do not provide a basis for evaluating or anticipating the future performance of the Index.

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J.P. Morgan Enhanced Beta Select Alternative Benchmark Total
Return Index

Index Supplement
to the
J.P. Morgan Bespoke Commodity Index
Standard Terms

J.P.Morgan

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Last amended on July 21, 2014

(this Index Supplement incorporates the terms and conditions set forth in
the J.P. Morgan Bespoke Commodity Standard Terms, as amended and restated from time to time)

1. An Introduction to the J.P. Morgan Enhanced Beta Select Alternative Benchmark Total Return Index

The J.P. Morgan Enhanced Beta Select Alternative Benchmark Total Return Index (the “Index” or the “JPMorgan Index”) is a total return index that seeks to outperform the Bloomberg Commodity Index.

2. This Document and its Relationship to the Standard Terms

This document, the Index Supplement (the “**Index Supplement**”) for the Index, sets forth index level specific terms needed to calculate this specific Index.

This document should be read in conjunction with the J.P. Morgan Bespoke Commodity Index Standard Terms (as amended and restated from time to time, the “**Standard Terms**”). The current version of the Standard Terms is available at the following hyperlink:

http://www.jpmorgan.com/directdoc/Bespoke_Index_Standard_Terms_February_2011_Final.pdf

This document explains index level specific terms (for example, this Index Supplement will specify the Constituents of the Index, the applicable Component Weights of such Constituents and other index specific items) and supplements the general form set forth in the Standard Terms. This Index Supplement together with the Standard Terms will constitute the “**Index Rules**.”

For the avoidance of doubt, this Index Supplement may include a provision, formula or definition, and such provision, formula or definition will supersede and replace the relevant provision, formula or definition set forth in the Standard Terms.

This document may be amended or supplemented from time to time at the discretion of the Index Calculation Agent and will be re-published no later than thirty (30) calendar days following such amendment or supplement.

This document is published by J.P. Morgan Securities plc (“**JPMS plc**”) of 25 Bank Street, Canary Wharf, London, E14 5JP, United Kingdom in its capacity as Index Calculation Agent. A copy of this document is available from the Index Calculation Agent.

ALL PERSONS READING THIS INDEX SUPPLEMENT SHOULD REFER TO THE DISCLAIMERS AND CONFLICTS SECTIONS SET OUT IN THE ACCOMPANYING STANDARD TERMS AND CONSIDER THE INFORMATION CONTAINED IN THIS INDEX SUPPLEMENT IN LIGHT OF SUCH DISCLAIMERS AND CONFLICTS OF INTEREST.

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Each of JPMS plc and its affiliates may have positions or engage in transactions in securities or other financial instruments based on or indexed or otherwise related to the Index.

3. General Terms relating to the Index

The following terms set forth certain economics related to the Index. Terms relating to the composition of the Index are set forth on the following page.

Index Name:	J.P. Morgan Enhanced Beta Select Alternative Benchmark Total Return Index
Index Inception Date:	08 January 1999
Initial Index Level:	100
Bloomberg Page:	JMEBDJST <Index>
Index Type:	Total return
Rebalancing Date Integer:	1 (the first day of each Rebalancing Period)
Rebalancing Determination Date:	The 10 th business day of each calendar year
Volatility Targeting:	Not Applicable
Target Index Volatility:	Not Applicable
Volatility Targeting Lookback 1:	Not Applicable
Volatility Targeting Lookback 2:	Not Applicable
Maximum Index Leverage:	Not Applicable
Minimum Index Leverage:	Not Applicable
Replication Adjustment Rate:	0.00%
Index Calculation Agent:	JPMS plc

4. Components and Constituents Comprising the Index

The Index is composed of the following Components, which consist of a single Long Constituent. Table A specifies the relevant Components for the Index. The Index has twenty six (26) Components, and each Component will have a Component Weight that is determined on each Rebalancing Determination Date as set forth in Section 5 below. Each of the Components will have a single Underlying Index of Long Constituent and no Underlying Index of Short Constituent. Therefore, Volatility Matching, Volatility Matching Lookback, Maximum Short Constituent Leverage and Minimum Short Constituent Leverage are all “Not Applicable” for the purposes of the Standard Terms because such features are related to the Short Constituent.

Table A: Components, the Long Constituents and Bloomberg Tickers for the Long Constituents

Component Designation	Component Weight	Underlying Index of Long Constituent	Bloomberg Ticker for Underlying Index of Long Constituent
Component 1	See Section 5 herein	J.P. Morgan Contag Natural Gas Index—Excess Return	JCTABNGE
Component 2	See Section 5 herein	J.P. Morgan Contag WTI Index—Excess Return	JCTABCLE
Component 3	See Section 5 herein	J.P. Morgan Contag Gasoline Index—Excess Return	JCTABXBE
Component 4	See Section 5 herein	J.P. Morgan Contag Heating Oil Index—Excess Return	JCTABHOE
Component 5	See Section 5 herein	JPMorgan JPMCCI Ex-Front Month Live Cattle Excess Return Index	JMCXXLCE
Component 6	See Section 5 herein	JPMorgan JPMCCI Ex-Front Month Lean Hogs Excess Return Index	JMCXXLHE
Component 7	See Section 5 herein	JPMorgan Seasonal Custom Roll 2 Wheat Index—Excess Return	JMC1SWP
Component 8	See Section 5 herein	JPMorgan Seasonal Custom Roll 2 Corn Index—Excess Return	JMC1SCP
Component 9	See Section 5 herein	JPMorgan Seasonal Custom Roll 2 Soybeans Index—Excess Return	JMC1SSP
Component 10	See Section 5 herein	J.P. Morgan Contag Aluminum Index—Excess Return	JCTABLAE
Component 11	See Section 5 herein	J.P. Morgan Contag Comex Copper Index—Excess Return	JCTABHGE
Component 12	See Section 5 herein	J.P. Morgan Contag Zinc Index—Excess Return	JCTABLXE
Component 13	See Section 5 herein	J.P. Morgan Contag Nickel Index—Excess Return	JCTABLNE
Component 14	See Section 5 herein	J.P. Morgan Contag Gold Index—Excess Return	JCTABGCE
Component 15	See Section 5 herein	J.P. Morgan Contag Silver Index—Excess Return	JCTABSIE
Component 16	See Section 5 herein	JPMorgan Seasonal Custom Roll 2 Sugar Index—Excess Return	JMC1SSBP
Component 17	See Section 5 herein	JPMorgan Seasonal Custom Roll 2 Cotton Index—Excess Return	JMC1SCTP
Component 18	See Section 5 herein	JPMorgan Seasonal Custom Roll 2 Coffee Index—Excess Return	JMC1SKCP
Component 19	See Section 5 herein	JPMorgan Seasonal Custom Roll 2 Cocoa Index—Excess Return	JMC1SCCP
Component 20	See Section 5 herein	JPMorgan Seasonal Custom Roll 2 Soybean Oil Index—Excess Return	JMC1SBOP
Component 21	See Section 5 herein	J.P. Morgan Contag Brent Crude Oil Index—Excess Return	JCTABCOE
Component 22	See Section 5 herein	J.P. Morgan Contag Gas Oil Index—Excess Return	JCTABQSE
Component 23	See Section 5 herein	JPMorgan Seasonal Custom Roll 2 Kansas Wheat Index—Excess Return	JMC1SKWP
Component 24	See Section 5 herein	J.P. Morgan Contag Lead Index—Excess Return	JCTABLLE
Component 25	See Section 5 herein	JPMorgan JPMCCI Ex-Front Month Feeder Cattle Excess Return Index	JMCXXFCE
Component 26	See Section 5 herein	JPMorgan Seasonal Custom Roll 2 Soybean Meal Index—Excess Return	JMC1SSMP

5. Component Weights

With respect to each Component, the applicable Component Weight for each Component will be the most recently published target weight for the applicable underlying commodity that are published prior to the applicable Rebalancing Determination Date that are associated with the Bloomberg Commodity Index assigned to the underlying commodity related to that Component as published by Bloomberg Finance L.P. (or any of its successors or affiliates, each, a “**Bloomberg-related Entity**”) in connection with the Bloomberg Commodity Index available on the Rebalancing Determination Date. Notwithstanding anything to the contrary, to the extent a Bloomberg-related Entity does not publish the published target weight for the applicable underlying commodity, the Component Weight for the respective Component will be equal to zero.

6. Future Amendments

The Index Sponsor may amend this Index Supplement to add or subtract additional Components to the extent a Bloomberg-related Entity includes or removes an additional commodity to the Bloomberg Commodity Index. The Index Sponsor shall not be required to seek the consent, written or otherwise, of any person who may own an interest in a financial product that is linked to the Index.

7. Hypothetical Back-Tested Historical Levels

The hypothetical back-tested historical levels of the Index should not be taken as an indication of future performance, and no assurance can be given as to the levels or performance of the Index on a future date. Any hypothetical back-tested historical levels related to the Index may not been verified by an independent third party, and such results have inherent limitations. Back-tested results are achieved by means of a retroactive application of a back-tested model designed with the benefit of hindsight. The Index Calculation Agent, in calculating hypothetical back-tested historical index levels, may have applied the disruption provisions set forth the Standard Terms differently than it otherwise would have applied such provisions in a “live” calculation scenario. Additionally, the precision and rounding of index levels (or other calculated values) may differ from the methodology applied on a going forward basis. No representation is made that any investment that reference the Index will or is likely to achieve returns similar to any hypothetical back-tested historical returns. Alternative modelling techniques or assumptions might provide different results. Finally, hypothetical back-tested results of past performance are neither an indicator nor a guarantee of future performance or returns. Actual results may vary from such hypothetical back-tested levels.

8. Index Disclaimers

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ANNEX B

J.P. Morgan Contag Module A: Selection Methodology

J.P.Morgan

Last Modified: December 2012¹

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¹ As of April 20, 2012, pursuant to the Extraordinary Event provisions set forth in the applicable module(s) that are read together with this Module A the Index Sponsor hereby amends this Module A in response to the CME's announcement that it will amend the grade and quality specifications of the NYMEX New York Harbor No. 2 Heating Oil futures contract beginning with the May 2013 HO contract month. As a result of this Extraordinary Event, the Index Sponsor reserves the right to (a) cease publication of such Contag Index or (b) change Heating Oil to a Non-Deferring Contract. The Index Sponsor will announce such change on or prior to the first anniversary of this amendment. If the Index Sponsor does not make a change on or prior to the first anniversary of this amendment, the Index Sponsor will not make a change to the Index relating to Heating Oil without an additional Extraordinary Event.

1. Contag

Contag refers to a methodology for selecting Futures Contracts (the “Selection Methodology”) and several strategies developed by J.P. Morgan (the “Contag Indices”) that utilise this methodology. The Selection Methodology uses the slope of the futures curve of certain specified commodities in order to select a particular Futures Contract in respect of each commodity in which to synthetically gain exposure. The Selection Methodology aims to select a Futures Contract with the highest level of Local Backwardation subject to certain constraints, all as further explained in more detail below.

2. This Document

This document, Module A (*Selection Methodology*), explains the Selection Methodology. By itself this document does not define an index or product. The Selection Methodology will result in the determination of a Futures Contract for each Eligible Commodity (the “Contag Contract”) in which the relevant Contag Index will have synthetic exposure over the following month.

The determination of the level of a Contag Index will depend, amongst other things, on the selection of the Contag Contracts according to the Selection Methodology. Further modules will be used to describe other concepts or details of the Contag Indices and or modify concepts or details described herein for the purposes of a particular Contag Index. One or more of these modules should be read in conjunction with this document to obtain the full rules of the relevant Contag Index.

3. Definitions

Capitalised terms used in this document should be interpreted according to the definitions given below. In many cases there is a further explanation of the term or concept in the body of this document.

Base Contract	means, in relation to an Eligible Commodity and a Relevant Month, a Futures Contract which is a member of the Base Set.
Base Set	means, in relation to an Eligible Commodity and a Relevant Month, a set of Futures Contracts which enter into the Selection Methodology for the determination of the Contag Contract.
Closest Dated Preceding Futures Contract	means, in relation to a Base Set and the i^{th} Base Contract of the Base Set, the $(i-1)^{\text{th}}$ Base Contract.
Contag Contract	means, in relation to an Eligible Commodity and a Relevant Month, the Futures Contract selected by the Selection Methodology.
Contag Index or Contag Indices	means a family of commodity based strategies developed by J.P. Morgan that are dependent on the Selection Methodology.
Contract at Month Start	means, in relation to an Eligible Commodity and a Relevant Month, the Futures Contract with the earliest Delivery Month in the Base Set.
Contract Business Day	means, in relation to an Eligible Commodity and a Futures Contract, a day on which the Relevant Exchange for such Eligible Commodity is scheduled to be open for trading for its regular trading sessions and to publish a settlement price.

Contract Letter	means each letter listed in Table 2: Mapping of <i>Contract Letter to Delivery Months</i>), denoting the Delivery Month of a Futures Contract.
Contract Price	means, in relation to a Futures Contract and a Dealing Day, the settlement price in USD of such Futures Contract as published by the Relevant Exchange for such Dealing Day.
Contract Selection Date	means, in relation to each Relevant Month, the Dealing Day for which Contract Prices are observed in the Selection Methodology as specified in Section 4.1 (<i>General</i>) below.
Dealing Day	means a day on which the NYSE Euronext is scheduled to be open for trading for its regular trading session.
Deferring Commodities	means the Eligible Commodities set out as a Deferring Commodity in Table 3 (<i>Eligible Commodities</i>).
Delivery Month	means, in relation to a Futures Contract, the month in which such Futures Contract is due to expire, settle or be delivered as specified by the Relevant Exchange.
Disrupted Day	has the meaning given to it in Section 5 (<i>Market Disruption</i>) below.
Eligible Commodity	means each commodity listed on the Related Exchange specified in Table 3: <i>Eligible Commodities</i>) below.
Eligible Contract	means, in relation to an Eligible Commodity and a Relevant Month, a Futures Contract which is eligible to be selected as the Contag Contract as determined in Section 4.4 (<i>Eligible Contracts</i>) below.
Eligible Set	means, in relation to an Eligible Commodity and a Relevant Month, a set of Eligible Contracts.
Futures Contract	means a contract for delivery of an Eligible Commodity which is associated with a Delivery Month.
Index Calculation Agent	means, JPMorgan Global Index Research Group (“ GIRG ”), a separate division of J.P. Morgan Securities LLC, which will use only employees of JPMorgan Chase Bank, National Association for purposes of calculating the Contag Indices. The Index Calculation Agent is appointed by the Index Sponsor to calculate and maintain the Index from and until such time that the Index Sponsor terminates its relationship with the current Index Calculation Agent and appoints a successor index calculation agent.
Index Sponsor	means J.P. Morgan Securities plc. The Index Sponsor will maintain all ownership rights, expressed or otherwise, with respect to the Contag Indices, including the ability to license, sell or transfer any or all of its ownership rights with respect to any Contag Index, including but not limited to terminating and appointing any successor Index Calculation Agent.

J.P. Morgan	means J.P. Morgan Securities plc, any affiliate, subsidiary of nominated successor thereof.
Limit Price	means, in relation to a Dealing Day and a Contract Price, the maximum or minimum price allowed for that Futures Contract by the Relevant Exchange on such day.
Liquid Contract Months	means, in relation to an Eligible Commodity that is a Deferring Commodity, the Futures Contracts listed as such in <i>Table 3: Eligible Commodities</i>).
Local Backwardation	means, in respect of a Futures Contract (F_i), a measure of the degree of backwardation between F_i and the Closest Dated Preceding Futures Contract (F_{i-1}) as further defined in Section 4.2 (<i>Local Backwardation</i>) below.
Market Disruption	means the occurrence of a Disrupted Day, as described in Section 5 (<i>Market Disruptions</i>) below.
Most Backwardated Contract	means, in relation to an Eligible Set, the Eligible Contract with the highest Local Backwardation.
Non-Deferring Commodity	means an Eligible Commodity which is not a Deferring Commodity as set out in Table 3 (<i>Eligible Commodities</i>) below.
Previously Selected Contract	means, in relation to a Relevant Month and an Eligible Commodity, the Contag Contract for such Eligible Commodity for the month immediately preceding the Relevant Month.
Relevant Exchange	means, in respect of an Eligible Commodity, the exchange on which such Futures Contract is listed as specified in Table 3 (<i>Eligible Commodities</i>), or any successor to such exchange.
Relevant Month	means the calendar month in respect of which the Selection Methodology is determining the Contag Contracts.
Selection Methodology	means the algorithmic process described in this document for the selection of Contag Contracts.
Significant Benefit Test	means the test set out in Section 4.5.3 (<i>Significant Benefit Test</i>) to decide if the Most Backwardated Contract shall be the Contag Contract.

4. Methodology

4.1 General

The Selection Methodology is an algorithmic process which determines, in respect of each calendar month (the “Relevant Month”) and each Eligible Commodity, the Contag Contract. The Contag Contract is selected from the Eligible Contracts in respect of such Eligible Commodity for such Relevant Month. This selection is based on Contract Prices for the last Dealing Day of the calendar month immediately preceding the Relevant Month (the “Contract Selection Date” for the Relevant Month).

The Selection Methodology may be described as “backwardation-seeking”. The methodology aims (subject to various constraints) to select the Futures Contract which has the highest Local Backwardation based on the Contract Price for a Futures Contract on the Contract Selection Date compared to the Contract Price for the Closest Dated Preceding Futures Contract.

4.2 Local Backwardation

When looking at the Contract Prices of Futures Contracts in relation to an Eligible Commodity the term “backwardation” is used to refer to the situation where Futures Contracts with a Delivery Month further in time have lower Contract Prices than Futures Contracts with a Delivery Month closer in time. If plotted on a graph the curve of the Contract Prices of the Futures Contracts of an Eligible Commodity would be down-sloping.

In the Selection Methodology the term Local Backwardation is used as a measure of the degree of backwardation for the i^{th} Base Contract (F_i) in the Base Set compared to the preceding Base Contract (F_{i-1}) in the Base Set (the “Closest Dated Preceding Futures Contract”).

Subject to the occurrence of a Market Disruption and in respect of a Relevant Month, Local Backwardation in respect of the i^{th} Base Contract in the Base Set (F_i) is determined by the Index Calculation Agent in accordance with the following formula:

$$\text{Local Backwardation}(F_i) = \frac{1}{m} \left(\frac{\text{Level}(F_{i-1})}{\text{Level}(F_i)} - 1 \right)$$

where:

$\text{Level}(F_i)$ means the Contract Price of the i^{th} Base Contract in the Base Set (F_i) on the Contract Selection Date in respect of the Relevant Month;

$\text{Level}(F_{i-1})$ means the Contract Price of the $(i-1)^{\text{th}}$ Base Contract in the Base Set (F_{i-1}) on the Contract Selection Date in respect of the Relevant Month; and

m means the number of calendar months from and including the Delivery Month of F_{i-1} to but excluding the Delivery Month of F_i . If the Delivery Months of F_{i-1} and F_i are consecutive, m shall be 1.

Local Backwardation cannot be determined for the first Base Contract in a Base Set (F_1) since there is no Closest Dated Preceding Futures Contract in the Base Set.

4.3 The Base Set

In respect of each Relevant Month and for each Eligible Commodity, only certain Futures Contracts may be considered by the Selection Methodology. These Futures Contracts comprise the Base Set and each such Futures Contract in the Base Set is a Base Contract.

The Base Set shall be determined by reference to Table 1 (*Futures Contracts entering into the Base Set*) below.

Each row of Table 1 gives information about an Eligible Commodity. Under the heading “Contract at Month Start” are 12 columns, corresponding (from left to right) to each calendar month from, and including, January to, and including, December. The entries in the columns are single uppercase letters (each a “Contract Letter”). Each Contract Letter relates to a month which is detailed in Table 2 (*Mapping of Contract Letter to Delivery Months*) below and such month is the Delivery Month of a Futures Contract. Reading from left to right in Table 1 the Delivery Month is increasing through the year, so that where the Delivery Month in the columns towards the right of the table moves from a later month e.g. Z (December) to an earlier month e.g. F (January) the Delivery Month refers to that month in the year immediately following the year in which the Relevant Month falls.

Eligible Commodity (Relevant Exchange)	Contract at Month Start											
	J a n	F e b	M a r	A p r	M a y	J u n	J u l	A u g	S e p	O c t	N o v	D e c
WTI Crude Oil (NYMEX)	G	H	J	K	M	N	Q	U	V	X	Z	F
Brent Crude Oil (ICE)	H	J	K	M	N	Q	U	V	X	Z	F	G
Heating Oil (NYMEX)	G	H	J	K	M	N	Q	U	V	X	Z	F
Gas Oil (ICE)	G	H	J	K	M	N	Q	U	V	X	Z	F
RBOB Gasoline (NYMEX)	G	H	J	K	M	N	Q	U	V	X	Z	F
Natural Gas (NYMEX)	G	H	J	K	M	N	Q	U	V	X	Z	F
Wheat (CBOT)	H	H	K	K	N	N	U	U	Z	Z	Z	H
Kansas Wheat (KCBOT)	H	H	K	K	N	N	U	U	Z	Z	Z	H
Soybeans (CBOT)	H	H	K	K	N	N	X	X	X	X	F	F
Corn (CBOT)	H	H	K	K	N	N	U	U	Z	Z	Z	H
Coffee (NYBOT)	H	H	K	K	N	N	U	U	Z	Z	Z	H
Sugar (NYBOT)	H	H	K	K	N	N	V	V	V	H	H	H
Cotton (NYBOT)	H	H	K	K	N	N	Z	Z	Z	Z	Z	H
Cocoa (NYBOT)	H	H	K	K	N	N	U	U	Z	Z	Z	H
Aluminium (LME)	G	H	J	K	M	N	Q	U	V	X	Z	F
Copper (LME)	G	H	J	K	M	N	Q	U	V	X	Z	F
Lead (LME)	G	H	J	K	M	N	Q	U	V	X	Z	F
Nickel (LME)	G	H	J	K	M	N	Q	U	V	X	Z	F
Zinc (LME)	G	H	J	K	M	N	Q	U	V	X	Z	F
Gold (COMEX)	G	J	J	M	M	Q	Q	Z	Z	Z	Z	G
Silver (COMEX)	H	H	K	K	N	N	U	U	Z	Z	Z	H
Lean Hogs (CME)	G	J	J	M	M	N	Q	V	V	Z	Z	G
Live Cattle (CME)	G	J	J	M	M	Q	Q	V	V	Z	Z	G
Feeder Cattle (CME)	H	H	J	K	Q	Q	Q	U	V	X	F	F
Copper (COMEX)	H	H	K	K	N	N	U	U	Z	Z	Z	H
Soybean Oil (CBOT)	H	H	K	K	N	N	Z	Z	Z	Z	F	F
Soybean Meal (CBOT)	H	H	K	K	N	N	Z	Z	Z	Z	F	F

Table 1: Futures Contracts entering into the Base Set

Contract Letter	F	G	H	J	K	M	N	Q	U	V	X	Z
Delivery Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Table 2: Mapping of Contract Letter to Delivery Months

The Base Set in respect of each Eligible Commodity shall comprise (i) the Futures Contract indicated as the “Contract at Month Start” in Table 1 above for the Relevant Month and (ii) each Futures Contract indicated for each subsequent month from, but excluding, the Relevant Month to, and including, the month falling 12 months after the Relevant Month.

Example 1: for the Eligible Commodity WTI Crude Oil (NYMEX) and the Relevant Month of January 2009, the Base Set shall consist of the 13 Futures Contracts with Delivery Months of February 2009 (the Contract at Month Start for the Relevant Month), March 2009, April 2009, May 2009, June 2009, July 2009, August 2009, September 2009, October 2009, November 2009, December 2009, January 2010 and February 2010.

Although the Base Set considers the Futures Contracts for the 13 calendar months from and including the Relevant Month to and including the month falling 12 months after the Relevant Month, the number of Base Contracts in the Base Set may be less than 13 (as in Example 2 below). The number of Base Contracts in the Base Set can be determined by considering the number of different Contract Letters in the row relevant to an Eligible Commodity in Table 1 (*Futures Contracts entering into the Base Set*) above.

Example 2: for the Eligible Commodity Corn (CBOT) and the Relevant Month of January 2009, the Base Set shall consist of the 6 Futures Contracts with Delivery Months of March 2009 (the Contract at Month Start for the Relevant Month), May 2009, July 2009, September 2009, December 2009 and March 2010.

The Base Contracts contained in the Base Set shall be enumerated from 1 (the nearest-dated Base Contract in the Base Set) to i (the farthest-dated Base Contract in the Base Set) where i is the size of the Base Set. In Example 1 above, the February 2009 Base Contract shall be numbered 1 and the February 2010 Base Contract shall be numbered 13. In Example 2 above, the March 2009 Base Contract shall be numbered 1 and the March 2010 Base Contract shall be numbered 6.

4.4 Eligible Contracts

Once the Base Set in respect of an Eligible Commodity is determined the Index Calculation Agent will then determine a subset of the Base Set called the Eligible Set in accordance with paragraphs 4.4.1 (*Deferring Commodity*) and 4.4.2 (*Non-Deferring Commodity*) below. Each Futures Contract which is a member of such subset is an Eligible Contract.

Each Eligible Commodity is classified as either a Deferring Commodity or a Non-Deferring Commodity as specified in Table 3 (*Eligible Commodities*) below.

4.4.1 Deferring Commodity

In respect of Deferring Commodities, the Eligible Contracts are the Base Contracts which are:

- (1) not earlier than the second Base Contract in the Base Set (F_2); and
- (2) either with a Delivery Month:
 - (a) not more than 6 months following the Relevant Month; or
 - (b) more than 6 months following the Relevant Month and included in the list of Liquid Contract Months for the Eligible Commodity as specified in Table 3 (*Eligible Commodities*) below.

4.4.2 Non-Deferring Commodity

In respect of Non-Deferring Commodities, the Contract at Month Start for the month immediately following the Relevant Month shall be the only Eligible Contract in the Eligible Set.

4.5 Contag Contracts

4.5.1 The Previously Selected Contract

In respect of each Eligible Commodity, the Previously Selected Contract shall mean the Contag Contract for such Eligible Commodity for the month immediately preceding the Relevant Month.

4.5.2 The Most Backwardated Contract

In respect of each Eligible Commodity, the Local Backwardation shall be calculated for each Eligible Contract in the Eligible Set. When determining the Local Backwardation for an Eligible Contract the Closest Dated Preceding Futures Contract in relation to such Eligible Contract shall be the Base Contract immediately preceding the Eligible Contract in the Base Set.

The Eligible Contract with the highest Local Backwardation shall be the Most Backwardated Contract for the relevant Eligible Commodity.

4.5.3 Significant Benefit Test

In cases where the Previously Selected Contract is an Eligible Contract in the Eligible Set for the Relevant Month, the Significant Benefit Test is intended to determine that the Contag Contract should change from one Relevant Month to the next Relevant Month, *only* where the increase in Local Backwardation by changing the exposure of the Contag Index to the Most Backwardated Contract significantly increases the Local Backwardation.

The Index Calculation Agent shall determine whether the Significant Benefit Test is passed as follows:

The Significant Benefit Test is considered to be passed if either:

- (1) F_{PS} is not in the Eligible Set; or
- (2) the following inequality is true:

$$Local\ Backwardation(F_{MB}) > Local\ Backwardation(F_{PS}) + SBT$$

where:

F_{PS} means the Previously Selected Contract;

F_{MB} means the Most Backwardated Contract; and

SBT means the “Significant Benefit Threshold” and is equal to 0.005.

If the Previously Selected Contract and the Most Backwardated Contract are the same Futures Contract the Significant Benefit Test will fail.

4.5.4 Choice of Contag Contract

In respect of an Eligible Commodity, the Contag Contract in respect of the Relevant Month shall be selected as follows:

If the Significant Benefit Test is passed the Contag Contract shall be the Most Backwardated Contract otherwise it shall be the Previously Selected Contract.

4.6 Eligible Commodities

Eligible Commodity	Relevant Exchange	Deferring Commodity (D) or Non-Deferring Commodity (N)	Liquid Contract Months
WTI Crude Oil	NYMEX	D	Z
RBOB Gasoline	NYMEX	D	None
Heating Oil	NYMEX	D	None ²
Natural Gas	NYMEX	D	F, H, J, V
Brent Crude Oil	ICE	D	Z
Gas Oil	ICE	D	M, Z
Gold	COMEX	N	Not Applicable
Silver	COMEX	N	Not Applicable
Copper	COMEX	D	None
Aluminium	LME	D	Z
Copper	LME	D	Z
Lead	LME	D	Z
Nickel	LME	D	Z
Zinc	LME	D	Z
Corn	CBOT	D	Z
Soybeans	CBOT	D	X
Wheat	CBOT	D	N, Z
Soybean Oil	CBOT	D	Z
Soybean Meal	CBOT	D	Z
Kansas Wheat	KCBOT	D	N, Z
Cocoa	NYBOT	D	None
Coffee	NYBOT	D	None
Cotton	NYBOT	N	Not Applicable
Sugar	NYBOT	D	H
Feeder Cattle	CME	N	Not Applicable
Lean Hogs	CME	N	Not Applicable
Live Cattle	CME	D	None

Table 3: Eligible Commodities

5. Market Disruptions

If, on any Contract Selection Date, any of the conditions (i) to (iii) below apply to a Futures Contract due to comprise the Base Set then such day shall be regarded as a Disrupted Day in respect of that Futures Contract and this shall constitute a Market Disruption for such Futures Contract:

- (i) such Contract Selection Date is not a Contract Business Day with respect to such Futures Contract;
- (ii) the Contract Price of such Futures Contract on such Contract Selection Date is a Limit Price; or
- (iii) no Contract Price is available for the Futures Contract on such Contract Selection Date.

² Prior to the Roll Period occurring in May 2012, the Eligible Set for Heating Oil included the June (M) and December (Z) as Liquid Contract Months pursuant to Section 4.4.1 (1)(b) of this Module A. With respect to any Roll Period occurring on or after May 2012, the Eligible Set for Heating Oil will not include any Liquid Contract Months specified in 4.4.1(1)(b).

If a Market Disruption exists in respect of a Futures Contract due to comprise the Base Set the Selection Methodology will be adjusted by the Index Calculation Agent as follows:

A) in cases (i) and (iii) above, the Selection Methodology will treat the Contract Price for such Contract Selection Date as being equal to the Contract Price for the relevant Futures Contract which was available on the Dealing Day immediately preceding the Contract Selection Date and on which no Market Disruption occurred. If no such Contract Price exists then that particular Futures Contract will be excluded from the Base Set and the Selection Methodology will otherwise remain unaltered; or

B) in case (ii) the Selection Methodology will not be modified and the Contract Price for such Contract Selection Date shall be the Limit Price.

J.P. Morgan Contag
Module B: J.P. Morgan Contag Beta
Indices

J.P.Morgan

Last Modified December 2012

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1. Contag

Contag refers to a methodology for selecting Futures Contracts (the “Selection Methodology”) and several strategies developed by J.P. Morgan (the “Contag Indices”) that utilise this methodology. The Selection Methodology uses the slope of the futures curve of certain specified commodities in order to select a particular Futures Contract in respect of each commodity in which to synthetically gain exposure. The Selection Methodology aims to select a Futures Contract with the highest level of Local Backwardation subject to certain constraints, all as further explained the document “J.P. Morgan Contag Module A: Selection Methodology”).

2. This Document

This document, Module B (*J.P. Morgan Contag Beta Indices*), explains the construction of the J.P. Morgan Contag Beta Indices (the “Contag Beta Indices”). By itself this document does not define an index or product. A Contag Beta Index is a notional rules-based proprietary commodity index reflecting an unleveraged, long only synthetic exposure to commodities by reference to Futures Contracts selected by the Selection Methodology.

This document should be read in conjunction with the document “J.P. Morgan Contag Module A: Selection Methodology” (the “Selection Methodology Document”). The index construction explained in this document is of a general form, with certain concepts or particulars left unspecified (for example, the values of the Commodity Weights). Other modules will be used to specify these particulars (each an “Externally Specified Particular”). One or more modules should be read in conjunction with this document and the Selection Methodology Document to obtain the full rules of the relevant Contag Index. Throughout this document, “Index” shall refer to a Contag Beta Index. Each Contag Beta Index shall have a further module setting out the Index Name and any Externally Specified Particulars or other details required by the Index Calculation Agent to determine the Index Level.

This document may be amended or supplemented from time to time at the discretion of the Index Sponsor and will be re-published no later than thirty (30) calendar days following such amendment or supplement.

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Each of the Index Sponsor, the Index Calculation Agent and their affiliates may have positions or engage in transactions in securities or other financial instruments based on or indexed or otherwise related to the Contag Beta Indices.

3. Definitions

Capitalised terms used in this document should be interpreted according to the definitions given below. In many cases there is a further explanation of the term or concept in the body of this document. All terms listed under the Definitions section in the Selection Methodology Document shall be deemed to have the same meaning in this document. In the event of a conflict between definitions used in the Selection Methodology Document and this document, the term used herein shall prevail.

Unless otherwise specified, references to “Sections” or “Tables” in this Document shall mean sections or tables in this Document.

The following terms are defined as follows:

Change in Law	means: <ul style="list-style-type: none">(a) due to:<ul style="list-style-type: none">(i) the adoption of, or any change in, any applicable law, regulation, rule or order (including, without limitation, any tax law); or(ii) the promulgation of, or any change in, the interpretation, application, exercise or operation by any court, tribunal, regulatory authority, exchange or trading facility or any other relevant entity with competent jurisdiction of any applicable law, rule, regulation, order, decision or determination (including, without limitation, as implemented by the CFTC or exchange or trading facility), in each case occurring on or after the Initial Index Day, <p>in each case, the Index Sponsor determines in good faith that it is contrary (or, upon adoption, it will be contrary) to such law, rule, regulation, order, decision or determination for any market participants that are brokers or financial intermediaries (individually or collectively) to purchase, sell, enter into, maintain, hold, acquire or dispose of any Futures Contracts or any transaction referencing any Futures Contract (in whole or in part) (in the aggregate on a portfolio basis or incrementally on a trade by trade basis) including (without limitation) if such Futures Contract (in whole or in part) are (or, but for the consequent disposal 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) in relation to any Futures Contract traded on any exchange(s) or other trading facility; or</p> <ul style="list-style-type: none">(b) the occurrence or existence of any:<ul style="list-style-type: none">(i) suspension or limitation imposed on trading commodities futures contracts (including, without limitation the Futures Contracts); or(ii) any other event that causes trading in commodity futures contracts (including, without limitation Futures Contracts) to cease;
Commodity Weight	means, in respect of an Eligible Commodity and each Weights Period, a decimal number representing the number of units of that Eligible Commodity in the Nominal Basket used in the calculation of the Index Level. The Commodity Weights are Externally Specified Particulars;
Commodity Weight Incoming (“ CWI_d^c ”)	means, in respect of Dealing Day d and Eligible Commodity c , the Commodity Weight in respect of the Weights Period in which such Dealing Day falls;

Commodity Weight Outgoing (“ CWO_d^c ”)	means, in respect of Dealing Day d and Eligible Commodity c , the Commodity Weight in respect of the Weights Period for the month immediately preceding the Relevant Month in which such Dealing Day falls.
Contag Beta Index	see Section 2 (<i>This Document</i>);
Contract Price Incoming (“ $CPI_{cd}^c(vd)$ ”)	means the Contract Price on Dealing Day vd (the “Valuation Day”) of the Incoming Contract for Dealing Day cd (the “Composition Day”) for Eligible Commodity c ;
Contract Price Outgoing (“ $CPO_{cd}^c(vd)$ ”)	means the Contract Price on Dealing Day vd (the “Valuation Day”) of the Outgoing Contract for Dealing Day cd (the “Composition Day”) for Eligible Commodity c ;
Contract Roll Weight Incoming (“ $CRWI_d^c$ ”)	see Section 5.3 (<i>Contract Roll Weights</i>);
Contract Roll Weight Outgoing (“ $CRWO_d^c$ ”)	see Section 5.3 (<i>Contract Roll Weights</i>);
Current Month	means, in relation to a Dealing Day d , the calendar month in which such day falls;
Externally Specified Particular	means any value or parameter used in this document but not specified. Such values or parameters will be specified in other modules;
Incoming Contract	means, in respect of an Eligible Commodity and Dealing Day d , the applicable Contag Contract for the Current Month;
Index	means a particular Contag Beta Index comprising the applicable modules as specified in another relevant module and bearing the Index Name specified in such relevant module;
Initial Index Day	means the first date in respect of which values of the Index are published by the Index Calculation Agent. The Initial Index Day is an Externally Specified Particular;
Initial Index Level	means the level of the Index on the Initial Index Day. The Initial Index Level is an Externally Specified Particular;
Index Level	means in respect of each Dealing Day, and subject to the occurrence of a Market Disruption, a decimal value published by the Index Calculation Agent in accordance with Section 5.6 (<i>The Index Level</i>);
Index Name	means the name by which the Index is identified. The Index Name is an Externally Specified Particular;

Index Ticker	means a Bloomberg™ ticker which identifies the Index. The Index Ticker is an Externally Specified Particular;
Investment Return (“IR”)	see Section 5.6 (<i>The Index Level</i>);
New Normalising Constant	see Section 5.2 (<i>Normalising Constant</i>)
New Weights Period	see Section 5.2 (<i>Normalising Constant</i>);
Nominal Basket	see Section 5.6 (<i>Nominal Basket</i>);
Normalising Constant (“NC”)	see Section 5.2 (<i>Normalising Constant</i>);
Old Normalising Constant	see Section 5.2 (<i>Normalising Constant</i>);
Old Weights Period	see Section 5.2 (<i>Normalising Constant</i>);
Outgoing Contract	means, in respect of an Eligible Commodity and Dealing Day d, the applicable Contag Contract for the Previous Month;
Previous Month	means, in relation to a Dealing Day d, the calendar month immediately preceding the Current Month;
Roll Period	means, with respect to any Relevant Month, the sequence of Dealing Days over which the exposure of the Index is rolled from the Outgoing Contracts to the Incoming Contracts. See Section 5.3 (<i>Contract Roll Weights</i>);
Roll Period Starting Day	means an integer indicating the first Dealing Day of any Roll Period. The Roll Period Starting Day is an Externally Specified Particular;
Roll Period Length	means an integer indicating the length of the Roll Period measured in Dealing Days. The Roll Period Length is an Externally Specified Particular;
Rules	means, with respect to any transaction linked to the Index, the modules which comprise the Index;
Selection Methodology Document	“J.P. Morgan Contag Module A: Selection Methodology”; and
Weights Period	A period of one or more calendar months for which a set of Commodity Weights are applicable. Each Weights Period will start with the first calendar day of a month and end with the last calendar day of the same or any subsequent month. The Weights Period(s) is an (are) Externally Specified Particular(s).

4. Index Construction Overview

The Index captures the return of the synthetic exposure to the Contag Contract for each Eligible Commodity during each Relevant Month, including the effect of the monthly composition change of the Index due to the roll from the Contag Contract for each Eligible Commodity for a Relevant Month to the Contag Contract for each Eligible Commodity for the next Relevant Month. The Index is constructed as an excess return index.

Subject to the occurrence of a Market Disruption, the Index Calculation Agent shall calculate and publish the Index Level in respect of each Dealing Day, rounded to 4 decimal places, on a Bloomberg page and the Bloomberg website and the Index Level shall be identified by the Index Ticker.

The Index Level shall be determined in respect of each Dealing Day d (the Index Level on such Dealing Day being Index_d) and is determined by reference to the Index Level published in respect of the immediately preceding Dealing Day (Index_{d-1} and Dealing Day $d-1$ respectively) and the notional return on the exposure of the Index to the relevant Contag Contracts from the close of business on the Relevant Exchanges on Dealing Day $d-1$ to the close of business on the Relevant Exchanges on Dealing Day d . This notional return is measured by reference to the Contract Prices of the Contag Contracts on such Dealing Days. Where one or more Relevant Exchanges is closed on a Dealing Day, this will constitute a Market Disruption and the Contract Prices of the affected Eligible Commodities will be determined in accordance with Section 7 (*Market Disruptions*).

Each month the Selection Methodology will determine the Contag Contracts to which the Index should be synthetically exposed. When a new Contag Contract is selected on a Contract Selection Date, the Index transfers its synthetic exposure from the Previously Selected Contract to the new Contag Contract. In order to limit the possible adverse impact on the Index Level of trading out of the Previously Selected Contract and into the new Contag Contract, the exposure is transferred gradually in equal percentages per Dealing Day over the Roll Period, as explained in Section 5.3 (*Contract Roll Weights*).

5. Calculation of the Index

5.1 Commodity Weights

For an Eligible Commodity and each Weights Period, the Commodity Weight is a decimal number representing the number of units of that Eligible Commodity in the Nominal Basket used in the calculation of the Index Level.

5.2 Normalising Constant

The Normalising Constant is a number associated with each Weights Period, which is an adjustment to allow for the fact that the Commodity Weights change from one Weights Period to the next. The Commodity Weights are not percentage weights which would always sum to 100% and accordingly changes in the Commodity Weights may have the unintended side effect of increasing or decreasing the total weight of the Nominal Basket which in turn could distort the intended rate of rolling from the Outgoing Contracts to the Incoming Contracts.

A new Normalising Constant ("New Normalising Constant") is determined by the Index Calculation Agent with respect to each Weights Period (the "New Weights Period") based on:

- (a) the Contract Prices on the Dealing Day immediately preceding the first Dealing Day of the first Roll Period of the New Weights Period;
- (b) the Commodity Weights for (i) the New Weights Period and (ii) the Weights Period immediately preceding the New Weights Period (the "Old Weights Period"); and
- (c) the Normalising Constant associated with the Old Weights Period (the "Old Normalising Constant").

The New Normalising Constant is applicable to the whole of the New Weights Period. During the first Roll Period of the New Weights Period, the Nominal Basket will be based on a combination of the Commodity Weights for the Old Weights Period and the Commodity Weights for the New Weights Period.

The weight given to the Outgoing Contracts is adjusted by the ratio of the New Normalising Constant to the Old Normalising Constant as described further in Section 5.5 (*The Nominal Basket*).

The Normalising Constant:

- (a) for the Weights Period following the Initial Index Day is 1000; and thereafter
- (b) for a New Weights Period is determined by the Index Calculation Agent as follows:

$$NC_{new} = NC_{old} \times \frac{\sum_c CWI_d^c \times CPO_d^c (d-1)}{\sum_c CWO_d^c \times CPO_d^c (d-1)}$$

Where:

NC_{new} means the New Normalising Constant;

NC_{old} means the Old Normalising Constant, being 1000 if the Old Weights Period is the first Weights Period;

CWI_d^c means the Commodity Weight Incoming in respect of Eligible Commodity c and Dealing Day d;

CWO_d^c means the Commodity Weight Outgoing in respect of Eligible Commodity c and Dealing Day d; and

$CPO_d^c (d-1)$ means the Contract Price Outgoing in respect of Eligible Commodity c with Composition Day d and Valuation Day d-1.

d means the first Dealing Day of the first Roll Period of the New Weights Period

5.3 Contract Roll Weights

In respect of an Eligible Commodity c and a Dealing Day d, each of the Contract Roll Weight Incoming ($CRWI_d^c$) and Contract Roll Weight Outgoing ($CRWO_d^c$) is a number between 0.0 and 1.0, representing the fraction of the weight for that Eligible Commodity given to the Incoming Contract and the Outgoing Contract respectively and is calculated by the Index Calculation Agent in accordance with the below. It is always the case that $CRWI_d^c + CRWO_d^c = 1$.

The exposure of the Index to the Contag Contract in respect of an Eligible Commodity is rolled from the Outgoing Contract to the Incoming Contract over the course of a Roll Period. The Roll Period is a period of consecutive Dealing Days during each Relevant Month from, and including, the Roll Period Starting Day and continuing for a specified number of Dealing Days following such Roll Period Starting Day, being the “Roll Period Length”.

- (i) The Contract Roll Weight on any Dealing Day in a Roll Period

The Contract Roll Weights on each i-th Dealing Day (d_i) of the Roll Period for a Relevant Month (where i is between 1 and Roll Period Length, inclusive) are determined by the Index Calculation Agent as follows:

$$CRWI_{d_i}^c = \frac{i}{Roll\ Period\ Length}$$

$$CRWO_{d_i}^c = 1 - \frac{i}{\text{Roll Period Length}}$$

where:

$CRWI_{d_i}^c$ means the Contract Roll Weight Incoming for Eligible Commodity c and Dealing Day d_i ;

$CRWO_{d_i}^c$ means the Contract Roll Weight Outgoing for Eligible Commodity c and Dealing Day d_i ; and

d_i means the i-th Dealing Day of the Roll Period.

(ii) The Contract Roll Weight on any Dealing Day which is not in the Roll Period

The Contract Roll Weights on each Dealing Day d which is not during the Roll Period for a Relevant Month are determined by the Index Calculation Agent as follows:

(a) in respect of any Dealing Day d of the Relevant Month prior to the Roll Period Starting Day for such Relevant Month:

$$CRWI_d^c = 0.0; \text{ and}$$

$$CRWO_d^c = 1.0.$$

(b) in respect of any Dealing Day d of the Relevant Month following the last Dealing Day of the Roll Period for such Relevant Month:

$$CRWI_d^c = 1.0; \text{ and}$$

$$CRWO_d^c = 0.0.$$

Example 1: if the Roll Period Starting Day is 3 and the Roll Period Length is 4 then the Roll Period will run for 4 Dealing Days from the 3rd Dealing Day of the Relevant Month inclusive. In the absence of Market Disruptions, the Contract Roll Weights would be as shown in Table 1 immediately below:

Table 1

Dealing Day of the Relevant Month (d)	$CRWO_d^c$	$CRWI_d^c$
1	1.00	0.00
2	1.00	0.00
3 (Roll Period Starting Day)	0.75	0.25
4	0.50	0.50
5	0.25	0.75
6 (last Dealing Day of Roll Period)	0.00	1.00
7	0.00	1.00
8	0.00	1.00
etc.	etc.	etc.

5.4 Adjustment of the roll for Disrupted Days

If any Dealing Day during the Roll Period is a Disrupted Day for either an Incoming Contract or an Outgoing Contract, then the portion of the roll which was scheduled to take place on that Dealing Day for the affected Eligible Commodity shall be postponed until the next following Dealing Day which is not a Disrupted Day for either of the Incoming Contract or Outgoing Contract in respect of such Eligible Commodity, irrespective of whether such day is already a day on which a portion of the roll is scheduled to take place.

Example 2: if the Roll Period Starting Day is 3 and the Roll Period Length is 4, and the 3rd and 4th Dealing Days of the Relevant Month are Disrupted Days for Corn (CBOT). Then the Contract Roll Weights for Corn (CBOT) would be as shown in Table 2 immediately below:

Table 2

Dealing Day of the Relevant Month (d)	$CRWO_d^c$	$CRWI_d^c$
1	1.00	0.00
2	1.00	0.00
3 (Roll Period Starting Day that is a Disrupted Day)	1.00	0.00
4 (Disrupted Day)	1.00	0.00
5	0.25	0.75
6 (last Dealing Day of Roll Period)	0.00	1.00
7	0.00	1.00
8	0.00	1.00
etc.	etc.	etc.

5.5 The Nominal Basket

The Nominal Basket is a nominal basket of Futures Contracts representing the synthetic exposure of the Index. Associated with each Dealing Day cd (the “composition day”, i.e. the day in respect of which the Nominal Basket is composed) is a particular composition of the Nominal Basket. Furthermore, associated with each Dealing Day vd (the “valuation day”, i.e. the day on which the Nominal Basket is valued) is a level of the Nominal Basket composed in respect of Dealing Day cd , defined as follows:

$$NB_{cd}(vd) = \frac{NCI}{NCO} \sum_c CWO_{cd}^c \times CRWO_{cd}^c \times CPO_{cd}^c(vd) + \sum_c CWI_{cd}^c \times CRWI_{cd}^c \times CPI_{cd}^c(vd)$$

Where:

$NB_{cd}(vd)$	means the level of the Nominal Basket composed in respect of Dealing Day cd , valued as at Dealing Day vd ;
NCO	means the Normalising Constant in respect of the Weights Period including the Previous Month as at Dealing Day cd ;
NCI	means the Normalising Constant in respect of the Weights Period including the Current Month as at Dealing Day cd ;
c	means an Eligible Commodity, where the summation signs (\sum) indicate summation over all Eligible Commodities;
cd	means the Dealing Day in respect of which the Nominal Basket is composed; and
vd	means the Dealing Day in respect of which the Nominal Basket is valued.

5.6 The Index Level

The Index Level on the Initial Index Day is the Initial Index Level.

In respect of each Dealing Day d following the Initial Index Day, the Index Level will be determined by the Index Calculation Agent, representing the cumulative effect of the Investment Return since the Initial Index Day, in accordance with the following formula:

$$Index_d = Index_{d-1} \times (1 + IR_d)$$

where

IR_d means the Investment Return for Dealing Day d , which is determined by the Index Calculation Agent in accordance with the following formula:

$$IR_d = \frac{NAR_d}{NAI_{d-1}} - 1$$

Where:

NAI_{d-1} means the Nominal Amount Invested as at Dealing Day $d - 1$;

NAR_d means the Nominal Amount Returned as at Dealing Day d ;

Nominal Amount
Invested as at Dealing

Day $d - 1$ means $NB_{d-1}(d - 1)$, that is, the level of the Nominal Basket composed in respect of Dealing Day $d-1$, valued as at Dealing Day $d-1$; and

Nominal Amount
Returned as at Dealing

Day d means $NB_{d-1}(d)$, that is, the level of the Nominal Basket composed in respect of Dealing Day $d-1$, valued as at Dealing Day d .

6. Publication

Subject to the occurrence or existence of a Market Disruption, the Index Calculation Agent shall calculate and publish the Index Level in respect of each Dealing Day (although the Index Calculation Agent may calculate the Index Level with greater frequency and share this calculation with its affiliates for internal purposes).

The Index Level will be published on a Bloomberg page and the Bloomberg website at the pages indicated by the Index Ticker.

The Index Level shall be published to 4 decimal places.

7. Market Disruptions

The impact of Market Disruption with respect to:

- (a) the roll is addressed in Section 5.4 (*Adjustment of the roll for Disrupted Days*); and
- (b) the valuation of the Nominal Basket and the calculation of the Normalising Constant is addressed by the Index Calculation Agent (i) taking all published Contract Prices in respect of such day; and (ii) the most recently published Contract Prices for those Futures Contracts for which no Contract Price is published by the Relevant Exchange on the Dealing Day in question.

8. Extraordinary Events

8.1 Successor Futures Contract

If any Futures Contract is:

- (a) not quoted by the Relevant Exchange but by a successor exchange acceptable to the Index Sponsor; or
- (b) replaced by a successor futures contract referencing, in the determination of the Index Sponsor, a substantially similar commodity as used in the relevant Futures Contract,

then in each case that successor futures contract (the “Successor Futures Contract”) shall replace the relevant Futures Contract and the Index Sponsor shall determine in good faith the adjustments to the Rules set out herein, as it determines appropriate, to account for such change.

8.2 Change in Law/ Inaccurate Contract Prices

Without prejudice to the ability of the Index Sponsor to amend the Rules (see Section 2 (*This Document*) above), the Index Sponsor may, acting in good faith and in a commercially reasonable manner:

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

any Futures Contract following the occurrence (and/or continuation) of a Change in Law or in circumstances where it considers it reasonably necessary to do so to reflect the intention of the Contag Beta Indices, including (without prejudice to the generality of the foregoing) any perception among market participants generally that the published price of the relevant Futures Contract is inaccurate (and the Relevant Exchange fails to correct such level), and if it so excludes or substitutes any Futures Contract, then the Index Sponsor 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 Index Sponsor. The Index Calculation Agent is under no obligation to continue the calculation and publication of any Contag Beta Indices upon the occurrence or existence of a Change in Law; and the Index Calculation Agent and Index Sponsor may decide to cancel any Contag Beta Indices if they determine, acting in good faith, that the objective of the relevant Contag Beta Indices can no longer be achieved.

8.3 Material change to Futures Contract, cancellation or non-publication

If, at any time, any Relevant Exchange:

- (a) announces that it will make a material change to any Futures Contract or in any other way materially modifies such contract (other than a modification prescribed in the definition of such contract); or
- (b) (i) permanently cancels any Futures Contract and no Successor Futures Contract exists or (ii) is otherwise unable or unwilling to publish levels of the Futures Contract,

then the Index Sponsor may remove such futures contract from the Contag Beta Indices and may adjust the Rules as it determines in good faith to be appropriate to account for such change(s) (including, without limitation, selecting a replacement underlying futures contract traded on an equivalent exchange and having similar characteristics to the affected Futures Contract) on such date(s) as selected by the Index Sponsor.

Risk Factors

The following list of risk factors does not purport to be a complete enumeration or explanation of all the risks associated with Contag Beta Indices and should be read in conjunction with any other relevant modules, where applicable.

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

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

2 Synthetic Exposure to Commodities

The Contag Beta 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 Contag Beta Indices.

3 Contag Beta Indices 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 Contag Beta Indices 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 Contag Beta Indices will therefore not generate the same return as one would obtain from a collateralised investment in the relevant futures contracts.

4 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 Contag Beta Indices 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 Contag Beta Indices and the Index Level.

5 *Backwardation Seeking*

The Selection Methodology is based on a principal known as “backwardation seeking”. There can be no guarantee that Futures Contracts selected according to such a principal and employing such a mechanism as used in the Selection Methodology will exhibit superior returns to Futures Contracts selected on any other basis.

6 *Investment in deferred Futures Contracts*

Contag Beta Indices are synthetically exposed to the Futures Contracts selected as the Contag Contracts by the Selection Methodology and such Futures Contracts may, in general, be deferred Futures Contracts (i.e., those contracts having a Delivery Month further dated than the Futures Contract with the nearest Delivery Month). It is generally expected that such deferred Futures Contracts may have less liquidity than the near-month Futures Contracts (those being the nearest-to-deliver) with respect to the same Eligible Commodities. Additionally, deferred Futures Contracts may be less well correlated with the spot market (physical) prices of the relevant Eligible Commodities and exhibit different levels of volatility.

7 *Diversification*

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

8. *Index Sponsor and Index Calculation Agent discretion*

The Index Sponsor and the Index Calculation Agent are entitled to exercise certain discretions in relation to Contag Beta Indices, including but not limited to, the determination of the values to be used in the event of Market Disruptions and the interpretation of these Rules. Although the Index Sponsor and the Index Calculation Agent will make all determinations and take all action in relation to Contag Beta Indices acting in good faith, such discretion could have an impact, positive or negative, on the Index Level.

9. *Potential Conflicts of Interest*

Potential conflicts of interest may exist in the structure and operation of Contag Beta Indices and the conduct of normal business activities by any Relevant Person.

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 Contag Beta Indices.

J. P. Morgan Contag
Module B(ii): J.P. Morgan Contag
Beta Single Commodity Indices

J.P.Morgan

August 2009, updated November 2012 and March 2013

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1. Contag

Contag refers to a methodology for selecting Futures Contracts (the “Selection Methodology”) and several strategies developed by J.P. Morgan (the “Contag Indices”) that utilise this methodology. The Selection Methodology uses the slope of the futures curve of certain specified commodities in order to select a particular Futures Contract in respect of each commodity in which to synthetically gain exposure. The Selection Methodology aims to select a Futures Contract with the highest level of Local Backwardation subject to certain constraints, all as further explained the document “J.P. Morgan Contag Module A: Selection Methodology”)

2. This Document

This document, Module B(ii) (*J.P. Morgan Contag Beta Single Commodity Indices*), explains the J.P. Morgan Contag Beta Single Commodity Indices, each a Contag Beta Index. By itself this document does not define an index or product. This document provides the Externally Specified Particulars required for the calculation of each J.P. Morgan Contag Beta Single Commodity Index. At its discretion, the Index Sponsor may create additional J.P. Morgan Contag Beta Single Commodity Indices, the rules of which will be included in a later Module that will be made available by the Index Sponsor and which will supplement this document.

This document should be read in conjunction with the documents “J.P. Morgan Contag Module A: Selection Methodology” (the “Selection Methodology Document”) and “J.P. Morgan Contag Module B: J.P. Morgan Beta Indices” (the “Beta Index Document”) and together they comprise the rules (the “Rules”) of the J. P. Morgan Contag Beta Single Commodity Indices. These Rules may be amended or supplemented from time to time at the discretion of the Index Sponsor and will be re-published no later than thirty (30) calendar days following such amendment or supplement.

These Rules are published by J.P. Morgan Securities plc. (“JPMS plc”) of 25 Bank Street, London E14 5JP, UK in its capacity as Index Sponsor. A copy of the Rules is available from the Index Sponsor.

ALL PERSONS READING THIS DOCUMENT SHOULD REFER TO THE DISCLAIMERS AND CONFLICTS SECTIONS SET OUT BELOW AND CONSIDER THE INFORMATION CONTAINED IN THIS DOCUMENT IN LIGHT OF SUCH DISCLAIMERS AND CONFLICTS.

NOTHING HEREIN CONSTITUTES AN OFFER TO BUY OR SELL ANY SECURITIES, PARTICIPATE IN ANY TRANSACTION OR ADOPT ANY INVESTMENT STRATEGY OR LEGAL, TAX, REGULATORY OR ACCOUNTING ADVICE.

Each of the Index Sponsor, the Index Calculation Agent, and their affiliates may have positions or engage in transactions in securities or other financial instruments based on or indexed or otherwise related to the J.P. Morgan Contag Beta Single Commodity Indices.

3. Definitions

Capitalised terms used in this document should be interpreted according to the definitions given below. All terms listed under the Definitions section in either the Selection Methodology Document or the Beta Index Document shall be deemed to have the same meaning in this document. In the event of a conflict between the definitions used in the Selection Methodology Document, the Beta Index Document and this document, the terms used herein shall prevail.

Relevant Commodity	In respect of each J.P. Morgan Contag Beta Single Commodity Index, the Eligible Commodity to which such index takes exposure through the appropriate Contag Contract.
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4. Overview

Each J.P. Morgan Contag Beta Single Commodity Index reflects the return of synthetic exposure in an investment in a single Eligible Commodity (the “Relevant Commodity”), following the Selection Methodology described in the Selection Methodology Document to determine the Contag Contract to which the Index gains exposure. Subject to the occurrence or existence of a Market Disruption, the Index Calculation Agent shall calculate and publish the Index Level in respect of each Dealing Day in accordance with the methodology specified in the Beta Index Document.

5. Externally Specified Particulars in Common to each J.P. Morgan Contag Beta Single Commodity Index

The Externally Specified Particulars shown in Table 4 (*Externally Specified Particulars common to each J.P. Morgan Contag Beta Single Commodity Index*) below are common to each J.P. Morgan Contag Beta Single Commodity Index.

<i>Externally Specified Particular</i>	<i>Definition in respect of each J.P. Morgan Contag Beta Single Commodity Index</i>
Commodity Weights	The Commodity Weight of the Relevant Commodity is 1 and the Commodity Weight of all other Eligible Commodities is 0.
Initial Index Level	100
Roll Period Starting Day	1
Roll Period Length	10
Weights Period	There is only one Weights Period for all applicable months in connection with the calculation of the J.P. Morgan Contag Beta Single Commodity Index.

Table 4: Externally Specified Particulars common to each J.P. Morgan Contag Beta Single Commodity Index

6. Externally Specified Particulars Specific to each J.P. Morgan Contag Beta Single Commodity Index

The Externally Specified Particulars shown in Table 5: *Externally Specified Particulars specific to each J. P. Morgan Contag Beta Single Commodity Index*) below are specific to each J.P. Morgan Contag Beta Single Commodity Index.

<i>Relevant Commodity (Relevant Exchange)</i>	<i>Initial Index Day</i>	<i>Index Name</i>	<i>Index Ticker</i>
WTI Crude Oil (NYMEX)	3-Jan-1991	J.P. Morgan Contag Beta WTI Crude Oil Excess Return Index	JCTABCLE
Brent Crude Oil (ICE)	3-Jan-1991	J.P. Morgan Contag Beta Brent Crude Oil Excess Return Index	JCTABCOE
Heating Oil (NYMEX)	3-Jan-1991	J.P. Morgan Contag Beta Heating Oil Excess Return Index	JCTABHOE
Gas Oil (ICE)	3-Jan-1991	J.P. Morgan Contag Beta Gas Oil Excess Return Index	JCTABQSE
RBOB Gasoline (NYMEX)	3-Jan-1991	J.P. Morgan Contag Beta Gasoline Excess Return Index	JCTABXBE
Natural Gas (NYMEX)	3-Jan-1991	J.P. Morgan Contag Beta Natural Gas Excess Return Index	JCTABNGE
Wheat (CBOT)	3-Jan-1991	J.P. Morgan Contag Beta Wheat Excess Return Index	JCTABWE
Kansas Wheat (KCBOT)	3-Jan-1991	J.P. Morgan Contag Beta Kansas Wheat Excess Return Index	JCTABKWE
Soybeans (CBOT)	3-Jan-1991	J.P. Morgan Contag Beta Soybeans Excess Return Index	JCTABSE
Soybean Meal (CBOT)	2-Jan-1997	J.P. Morgan Contag Beta Soybean Meal Excess Return Index	JCTABSME
Soybean Oil (CBOT)	30-Dec-1994	J.P. Morgan Contag Beta Soybean Oil Excess Return Index	JCTABBOE
Corn (CBOT)	3-Jan-1991	J.P. Morgan Contag Beta Corn Excess Return Index	JCTABCE
Coffee (NYBOT)	3-Jan-1991	J.P. Morgan Contag Beta Coffee Excess Return Index	JCTABKCE
Sugar (NYBOT)	3-Jan-1991	J.P. Morgan Contag Beta Sugar Excess Return Index	JCTABSBE

Cotton (NYBOT)	3-Jan-1991	J.P. Morgan Contag Beta Cotton Excess Return Index	JCTABCTE
Cocoa (NYBOT)	3-Jan-1991	J.P. Morgan Contag Beta Cocoa Excess Return Index	JCTABCCE
Aluminium (LME)	3-Jan-1997	J.P. Morgan Contag Beta Aluminium Excess Return Index	JCTABLAE
Copper (LME)	3-Jan-1997	J.P. Morgan Contag Beta Copper Excess Return Index	JCTABLPE
Lead (LME)	3-Jan-1997	J.P. Morgan Contag Beta Lead Excess Return Index	JCTABLLE
Nickel (LME)	3-Jan-1997	J.P. Morgan Contag Beta Nickel Excess Return Index	JCTABLNE
Zinc (LME)	3-Jan-1997	J.P. Morgan Contag Beta Zinc Excess Return Index	JCTABLXE
Gold (COMEX)	3-Jan-1991	J.P. Morgan Contag Beta Gold Excess Return Index	JCTABGCE
Silver (COMEX)	3-Jan-1991	J.P. Morgan Contag Beta Silver Excess Return Index	JCTABSIE
Copper (COMEX)	30-Dec-1994	J.P. Morgan Contag Beta Comex Copper Excess Return Index	JCTABHGE
Lean Hogs (CME)	3-Jan-1991	J.P. Morgan Contag Beta Lean Hogs Excess Return Index	JCTABLHE
Live Cattle (CME)	3-Jan-1991	J.P. Morgan Contag Beta Live Cattle Excess Return Index	JCTABLCE
Feeder Cattle (CME)	3-Jan-1991	J.P. Morgan Contag Beta Feeder Cattle Excess Return Index	JCTABFCE

Table 5: Externally Specified Particulars specific to each J. P. Morgan Contag Beta Single Commodity Index

7. Responsibility of the Index Sponsor and Index Calculation Agent

The Index Sponsor's and the Index Calculation Agent's determinations in respect of the J.P. Morgan Contag Beta Single Commodity Indices and interpretation of the Rules shall be final.

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

Whilst these Rules are intended to be comprehensive, ambiguities may arise. In such circumstances the Index Calculation Agent and the Index Sponsor will resolve such ambiguities in a reasonable manner and, if necessary, amend these Rules to reflect such resolution.

None of the Index Sponsor, the Index Calculation Agent nor any of their respective affiliates or subsidiaries or any of their respective directors, officers, employees, delegates or agents (each a "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 the J.P. Morgan Contag Beta Single Commodity Indices or in respect of the publication of the Index Level (or failure to publish such level) and any use to which any person may put the J.P. Morgan Contag Beta Single Commodity Indices or the Index Levels. All determinations of the Index Calculation Agent and Index Sponsor in respect of the J.P. Morgan Contag Beta Single Commodity Indices 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 Index Calculation Agent, the Index Sponsor or any other Relevant Person in respect of the J.P. Morgan Contag Beta Single Commodity Indices, none of the Index Sponsor, the Index 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.

8. Corrections

In the event that (a) the Contract Price of any Futures Contract used to calculate the Index Level in respect of any Dealing Day is subsequently corrected and the correction is published by the Relevant Exchange before the next following Roll Period or (b) the Index Calculation Agent identifies an error or omission in any of its calculations or determinations in respect of the J.P. Morgan Contag Beta Single Commodity Indices, then the Index Calculation Agent may, if practicable and the correction is deemed material by the Index Sponsor, adjust or correct the Index Level published in respect of the relevant Dealing Day and each subsequent Dealing Day and publish such corrected Index Level(s) as soon as reasonably practicable.

9. Notices, Disclaimers and Conflicts

None of the Index Sponsor, the Index Calculation Agent nor any Relevant Person shall have any liability, contingent or otherwise, to any person or entity for the quality, accuracy, timeliness or completeness of the information or data contained in the Rules or the J.P. Morgan Contag Beta Single Commodity Indices, or for delays, omissions or interruptions in the delivery of the J.P. Morgan Contag Beta Single Commodity Indices or related data. None of the Index Sponsor, the Index Calculation Agent nor any Relevant Person makes any warranty, express or implied, as to the results to be obtained by any person or entity in connection with any use of the J.P. Morgan Contag Beta Single Commodity Indices, including but not limited to the trading of or investments in products based on or indexed or otherwise related to the J.P. Morgan Contag Beta Single Commodity Indices, any data related thereto or any components thereof. None of the Index Sponsor, the Index Calculation Agent nor any Relevant Person makes any express or implied warranties, and hereby expressly disclaims, to the fullest extent permitted by law, all warranties of merchantability or fitness for a particular purpose or use with respect to the Rules, the J.P. Morgan Contag Beta Single Commodity Indices or any data related thereto. Without limitation to any of the foregoing, in no event shall any of the Index Sponsor, the Index Calculation Agent or any Relevant Person have any liability for any special, punitive, indirect or consequential damages (including lost profits), in connection with any use by any person of the J.P. Morgan Contag Beta Single Commodity Indices or any products based on or indexed or otherwise related thereto, even if notified of the possibility of such damages.

The Index Calculation Agent is under no obligation to continue the calculation, publication and dissemination of any of the J.P. Morgan Contag Beta Single Commodity Indices or any Index Level.

During the course of their normal business, the Index Sponsor, the Index Calculation Agent or any other Relevant Person may enter into or promote, offer or sell transactions or investments (structured or otherwise) linked to the J.P. Morgan Contag Beta Single Commodity Indices and/or any of the Futures Contracts. 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 the J.P. Morgan Contag Beta Single Commodity Indices or any of the Futures Contracts, 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 Levels 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. None of the Index Sponsor, the Index 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.

It should be noted that the Rules have been developed with the possibility of the Index Sponsor, the Index Calculation Agent or any of the Relevant Persons entering into or promoting, offering or selling transactions or investments (structured or otherwise) linked to the J.P. Morgan Contag Beta Single Commodity Indices, and hedging the obligations that might arise under any such transactions or investments. Accordingly it should be assumed that these Rules have and will be analysed from this point of view.

It should be noted that the J.P. Morgan Contag Beta Single Commodity Indices are described as a notional portfolio 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. The J.P. Morgan Contag Beta Single Commodity Indices merely identify certain assets in the market, the performance of which will be used as a reference point for the purposes of calculating the Index Levels.

There is no obligation upon the Index Calculation Agent to publish the Index Levels by any alternative method if the relevant Index Ticker (as identified above) is subject to any delay in or interruptions of publication or 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 may occur or any other event beyond the control of the Index Calculation Agent.

No one may reproduce or disseminate the information contained in these Rules or the Index Levels without the prior written consent of the Index Sponsor. “J.P. Morgan Contag Beta Single Commodity Indices” and “J.P. Morgan Contag” are the intellectual property of the Index Sponsor and may only be used (as an underlying for financial products or otherwise) by third parties who have entered into a license agreement with the Index Sponsor. 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.

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

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ANNEX C

JPMorgan Commodity Curve Index Rules

J.P.Morgan

January 2013

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**Global Index Research Group,
as Index Calculation Agent**

and

**J.P. Morgan Securities plc,
as Index Sponsor**

**** Important Notice ****

This description sets out the rules for the JPMorgan Commodity Curve Index (the “**JPMCCI Index Rules**” or the “**Index Rules**”) and reflects the methodology for determining the composition and calculation of the JPMorgan Commodity Curve Index (“**JPMCCI**”). This document is published by, and is the exclusive property of, J.P. Morgan Securities plc (the “**Index Sponsor**”). Notwithstanding anything to the contrary, the Index Sponsor 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. The Index Calculation Agent is appointed by the Index Sponsor to calculate and maintain the Index from and until such time that the Index Sponsor terminates its relationship with the current Index Calculation Agent and appoints a successor index calculation agent.

ALL PERSONS READING THIS DOCUMENT SHOULD REFER TO THE DISCLAIMERS SET OUT IN THE INDEX RULES AND CONSIDER THE INFORMATION CONTAINED HEREIN IN THE LIGHT OF SUCH DISCLAIMERS.

NOTHING HEREIN CONSTITUTES AN OFFER TO BUY OR SELL ANY SECURITIES, PARTICIPATE IN ANY TRANSACTION OR ADOPT ANY INVESTMENT STRATEGY OR LEGAL, TAX, REGULATORY OR ACCOUNTING ADVICE.

The Index Calculation Agent, the Index Sponsor and their respective affiliates may have positions or engage in transactions in derivatives, securities or other financial instruments based on or indexed or otherwise related to the JPMCCI. Additionally, the Index Calculation Agent, the Index Sponsor and their respective affiliates may take positions contrary to any position references by a potential investor in a derivative, security or other financial instrument based on or indexed or otherwise related to the JPMCCI. You should carefully consider this potential conflict of interest and review the applicable offering materials or contract relating to any transaction linked to or otherwise referencing a JPMCCI Index.

Disclaimer

The Index Calculation Agent and the Index Sponsor shall have no liability, contingent or otherwise, to any person or entity for the quality, accuracy, timeliness or completeness of the information or data contained in these Index Rules or the JPMCCI, or for delays, omissions or interruptions in the delivery of the JPMCCI or related data. The Index Calculation Agent and the Index Sponsor make no warranty, express or implied, as to the results to be obtained by any person or entity in connection with any use of the JPMCCI, including but not limited to the trading of or investments in products based on or indexed or otherwise related to the JPMCCI, any data related thereto or any components thereof. The Index Calculation Agent and the Index Sponsor make no express or implied warranties, and hereby expressly disclaim all warranties of merchantability or fitness for a particular purpose or use with respect to the Index Rules, the JPMCCI or any data related thereto. Without limitation any of the foregoing, in no event shall the Index Calculation Agent or the Index Sponsor have any liability for any special, punitive, indirect or consequential damages (including lost profits), in connection with any use by any person of the JPMCCI or any products based on or indexed or otherwise related thereto, even if notified of the possibility of such damages.

Notice

These Index Rules reflect the methodology that will be utilized with respect to the determination and calculation of the JPMCCI. Prior to the end of each calendar year, the Index Calculation Agent will review the current Potential JPMCCI Exchange Commodities, and on the Exchange Commodity Determination Date, the Index Calculation Agent, subject to the review of the JPMCCI Supervisory Committee, will determine the JPMCCI Exchange Commodities based on the Index Rules set forth herein and publish such commodities within thirty (30) calendar days of such Exchange Commodity Determination Date. The “**Exchange Commodity Determination Date**” will be a date determined by the Index Calculation Agent that occurs on or before the last Scheduled Valuation Day of each calendar year.

These Index Rules will become effective and the Index Calculation Agent will begin calculating JPMCCI with the new JPMCCI Exchange Commodities set forth herein on the first Scheduled Index Valuation Day in any such

JPMorgan Commodity Curve Index: Reference Document

calendar year, which we refer to as the “**JPMCCI Annual Inception Date**”; *provided, however* that the Index Calculation Agent may postpone or reschedule such date in the event of certain market disruption events.

The Index Calculation Agent or the Index Sponsor may amend or supplement these Index Rules in the future and will publish such amendment or supplement no later than thirty (30) calendar days following such amendment or supplement. Moreover, within thirty (30) calendar days of each Exchange Commodity Determination Date, the Index Calculation Agent will supplement Sections H, I, J, K, L and M set forth herein in order to detail the new JPMCCI Exchange Commodities (if any) to be included in the JPMCCI Indices on the JPMCCI Annual Inception Date.

Global Index Research Group, a division of JPMorgan Chase Bank, National Association
New York.

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A. Introduction

A.1 About the JPMCCI

The JPMorgan Commodity Curve Index (“**JPMCCI**”) is a family of indices which aim to provide a systematic and neutral way to gain diversified exposure to commodity futures. JPMCCI is structured as a representative family of indices, reflecting the available market opportunities throughout each commodity futures curve as well as across the commodities asset class.

Used generically the “**JPMCCI Index**” refers to any or all of the “**JPMCCI Indices**” (as the context requires). “**JPMCCI**” used generically refers to characteristics of any and all the family of JPMCCI Indices.

JPMCCI consists of an open interest weighted basket of futures contracts across each futures curve to capture the available investment opportunities in the respective commodity futures markets. Monthly Contract compositions for each commodity are guided by the historical distribution of open interest of contracts across the futures curve in the same calendar month of the preceding three calendar years. You should note, however, that Section N below describes certain historical limitations on the gathering of data.

JPMCCI seeks to mitigate the front-end bias associated with commodity indices and attempts to offer substantial diversification benefits. Investing in multiple contracts per commodity should generally reduce return volatility and increase risk-adjusted returns. Moreover, the stable inter-month composition will limit the impact of monthly synthetic roll on the excess return.

It should be noted that JPMCCI is a “notional” basket of commodity futures contracts because there is no actual portfolio of assets to which any person is entitled or in which any person has any ownership interest. JPMCCI merely identifies certain assets in the market, the performance of which will be used as a reference point for the purposes of calculating the value of JPMCCI.

A.2 JPMCCI Index Types

The Index Calculation Agent will calculate and publish various aggregate JPMCCI Indices that include each of the JPMCCI Eligible Commodities (such indices, the “**JPMCCI Aggregate Indices**”). The JPMCCI Price Index measures the aggregate price levels of futures contracts included in the aggregate JPMCCI Index. The JPMCCI Excess Return Index captures the return from investing in commodity futures in the JPMCCI, taking into account the effect of monthly composition changes during the roll periods. Finally, the JPMCCI Total Return Index measures a fully collateralized investment in JPMCCI commodity futures, taking into account the monthly rolling of contracts.

In addition to the JPMCCI Aggregate Indices, the Index Calculation Agent will calculate and publish three versions of the JPMCCI Energy Light Indices (*i.e.*, a price, excess and total return version), respectively. The JPMCCI Energy Light Indices are variations on the JPMCCI Aggregate Indices, where the target dollar market weight of the JPMCCI Energy Sector Index is set to a maximum weight of 33% of such JPMCCI Energy Light Index on each Rebalancing Day. For more information the calculation of the JPMCCI Energy Light Indices, see Section G.1.

The Index Calculation Agent will also calculate and publish several types of JPMCCI Sector Indices. As of the date set forth above, the JPMCCI Sector Indices are Energy, Non-Energy, Precious Metals, Industrial Metals, All Metals, Livestock and Agriculture; *however*, the Index Calculation Agent may introduce additional JPMCCI Sector Indices on an interim basis, and such new JPMCCI Sector Index will be reviewed by the JPMCCI Supervisory Committee on or before the following Exchange Commodity Determination Date. As with the JPMCCI Aggregate Indices, Price Return, Excess Return and Total Return Indices are calculated in respect of each JPMCCI Sector Index. On each Exchange Commodity Determination Date, the Index Calculation Agent, subject to the review of the JPMCCI Supervisory Committee, will determine the JPMCCI Exchange Commodities to be included in each JPMCCI Sector Index for the following calendar year.

JPMorgan Commodity Curve Index: Reference Document

The Index Calculation Agent will also calculate and publish JPMCCI Single Commodity Indices, in relation to each JPMCCI Exchange Commodity. As described herein, Price Return, Excess Return and Total Return Indices are calculated in respect of each JPMCCI Single Commodity Index.

In addition to the JPMCCI Indices, the Index Calculation Agent will calculate and publish the JPMCCI Ex-Front Month Indices, which are variations of the corresponding JPMCCI Index with the exclusion of the first near month futures contract included in the composition of each JPMCCI Exchange Commodity; *provided* that the Composition of the JPMCCI Exchange Commodity includes at least two Monthly Contracts. For more information the calculation of the JPMCCI Ex-Front Month Indices, see section G.2.

The JPMCCI Indices and their respective Bloomberg Pages are set forth in Section L herein. The Index Levels for each of the JPMCCI Indices are published on their applicable Bloomberg Pages on each Scheduled Index Valuation Day; *provided, however* that the Index Calculation Agent will not be obliged to publish any Index Levels upon the occurrence or continuation of a Force Majeure Event.

A.3 JPMCCI Supervisory Committee

In order to maintain objectivity in the administration and execution of the JPMCCI and pursuant to the Index Rules set forth below, the Index Calculation Agent has formed the “**JPMCCI Supervisory Committee**” (whose composition will be published from time to time). The JPMCCI Supervisory Committee shall meet annually to review and approve the composition of the JPMCCI for the following calendar year and any proposed modifications to the Index Rules.

The JPMCCI Supervisory Committee shall be composed of at least three (3) voting members, each of whom will be appointed by the Index Calculation Agent. Each voting member serving on the JPMCCI Supervisory Committee shall be independent. For the purposes of determining whether a particular member of the JPMCCI Supervisory Committee is independent, “independent” means that the individual in question is either (a) an employee of the Global Index Research Group (such person, a “GIRG Member”), a “walled off”, non-broker dealer entity within JPMorgan Chase Bank, National Association or (b) not an employee, director, officer, agent or affiliate of JPMorgan Chase & Co. or any of its affiliates (such person, a “Third Party Unaffiliated Member”) and does not have a personal direct financial interest in JPMCCI or any financial product linked directly to JPMCCI while serving as a voting member of the JPMCCI Supervisory Committee. The JPMCCI Supervisory Committee must have at all times at least two Third Party Unaffiliated Members and at least one GIRG Member. Each decision made by the JPMCCI Supervisory Committee must be approved by at least one Third Party Unaffiliated Member to be effective. All voting members of the JPMCCI Supervisory Committee shall be sufficiently knowledgeable about commodity futures contracts and the commodities markets in general, as determined by the Index Calculation Agent in a good faith and commercially reasonable manner. The Index Calculation Agent may from time to time add or remove voting members of the JPMCCI Supervisory Committee; *provided* that such addition or removal is not a result of a particular vote of a specific committee member. For the avoidance of doubt, to the extent an employee of the Global Index Research Group is a member of the JPMCCI Supervisory Committee, such person will not be an employee of a broker dealer affiliated with the Index Sponsor.

Additionally, upon the occurrence of a Disrupted Day, or any other extraordinary or unanticipated market events, the Index Calculation Agent may seek the advice of the JPMCCI Supervisory Committee on the necessary adjustments, methodological amendments or data corrections that may need to be implemented to the JPMCCI.

The Index Calculation Agent will from time to time (and in any event within one month of any change in the membership of the JPMCCI Supervisory Committee) make available upon written request the names, titles and company affiliation of the individuals forming the JPMCCI Supervisory Committee.

In the event that the Global Index Research Group (a division of JPMorgan Chase Bank, National Association) ceases to act as Index Calculation Agent, the composition and role of the JPMCCI Supervisory Committee may be reviewed and amended by the successor Index Calculation Agent.

A.4 The Index Calculation Agent, the Index Sponsor and the Index Rules

The methodology employed in determining the composition and calculation of JPMCCI is set out in the calculations and procedures described in these Index Rules. The Global Index Research Group, a division of JPMorgan Chase Bank, National Association acts as “**Index Calculation Agent**” in respect of the JPMCCI as of the date of these Index Rules but may be replaced by a substitute index calculation agent at some future date (who shall be regarded for all purposes as the Index Calculation Agent). For the avoidance of doubt, the substitution of any Index Calculation Agent shall not be a deemed termination of JPMCCI or any instruments referencing the JPMCCI. Additionally, as referred to in Section A.3 above, in the event that the Global Index Research Group ceases to act as Index Calculation Agent, the composition and role of the JPMCCI Supervisory Committee may be reviewed, amended or supplemented. The Index Calculation Agent may from time to time revise, amend and/or supplement these Index Rules, and if such rules are amended or supplemented, the Index Calculation Agent shall publish such Index Rules no later than one calendar month following such amendment or supplement.

J.P. Morgan Securities plc will be the Index Sponsor. Notwithstanding anything to the contrary, the Index Sponsor 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. The Index Calculation Agent is appointed by the Index Sponsor to calculate and maintain the Index from and until such time that the Index Sponsor terminates its relationship with the current Index Calculation Agent and appoints a successor index calculation agent.

A.5 Definitions

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

Aggregate Commodity Units

means, in relation to the JPMCCI Aggregate Indices, JPMCCI Energy Light Indices, JPMCCI Ex-Front Month Indices, and JPMCCI Sector Indices, average monthly units of each JPMCCI Exchange Commodity over a three year period ending on a given calendar year corresponding to contracts outstanding, whose calculation is set out in “Calculation of Aggregate Commodity Units” in Section C below;

Average Daily

Contract Open Interest means, with respect to each Threshold Determination Date, in relation to a JPMCCI Exchange Commodity c, and each Monthly Contract, the arithmetic average of the Daily Contract Open Interest as defined in Section D, over the first ten Scheduled Trading Days as determined by the Index Calculation Agent in good faith and a commercially reasonable manner.

Composition

means in relation to each JPMCCI Exchange Commodity and each month, the portfolio of Monthly Contracts and associated Monthly Contract Weights;

Contract Discontinuation

means, with respect to any JPMCCI Exchange Commodity, the declaration, pronouncement or notice that the Relevant Exchange of such JPMCCI Exchange Commodity will discontinue the listing of, any or all, futures contracts related to such JPMCCI Exchange Commodity;

Contract Disappearance Event	shall have the meaning set out in Section B.2.1.1 below;
Daily Contract Open Interest	means, on any Scheduled Index Valuation Day, in relation to any Monthly Contract and any JPMCCI Exchange Commodity, the number of contracts expiring n months after month m outstanding on such day, as published by the Exchange as defined mathematically in Section D.3 below;
Discontinuation Event	shall have the meaning set out in Section B.2.1.1 below;
Disrupted Day	has the meaning set out in Section D.7 below;
Estimated Market Size	means, in respect of a JPMCCI Exchange Commodity, the average of the open interest figures published monthly by the Futures Industry Association during the Observation Period, multiplied by the Settlement Price of such JPMCCI Exchange Commodity's Front Month Contract prevailing on the last Scheduled Index Valuation Day of October in the year of calculation, expressed in U.S. Dollars;
Excess Return Index	means each Index which measures the return earned from investing in the Monthly Contracts and their relevant Monthly Contract Weights of the JPMCCI, taking into account the effect of monthly composition changes during Roll Dates, the calculations of whose Index Levels are set out in Section F below;
Exclusion Threshold	means, with respect to any date of determination and its respective month m , 80% of the Historical Average Daily Contract Open Interest as determined by the Index Calculation Agent in good faith and a commercially reasonable manner;
Extraordinary Event	means: (x) (i) the adoption of, or any change in, any applicable law, regulation, rule or order (including, without limitation, any tax law); or (ii) the promulgation of, or any change in, the interpretation by any court, tribunal, regulatory authority, exchange or trading facility or any other relevant entity with competent jurisdiction of any applicable law, rule, regulation, order, decision or determination (including, without limitation, as implemented by the U.S. Commodity Futures Trading Commission or any exchange or trading facility), in each case occurring on or after the Inception Date, the Index Calculation Agent determines in good faith that it is contrary (or upon adoption, it will be contrary) to such law, rule, regulation, order, decision or determination for any market participant that is a broker or financial intermediary (individually or collectively) (a) to purchase, sell, enter into, maintain, hold, acquire or dispose of (in whole or in part) any Potential JPMCCI Exchange Commodity, any JPMCCI Exchange Commodity or any transaction referencing any Potential JPMCCI Exchange Commodity and/or any JPMCCI Exchange Commodity or (b) to hold a position in any

	<p>Potential JPMCCI Exchange Commodity, any JPMCCI Exchange Commodity or any transaction referencing any Potential JPMCCI Exchange Commodity and/or any JPMCCI Exchange Commodity is (or, but for the consequent disposal or termination thereof) because the holding of such position would place any market participants that is a broker or financial intermediary (individually or collectively) under any such law, rule, regulation or order over the allowable position limit(s) in relation to such Potential JPMCCI Exchange Commodity or JPMCCI Exchange Commodity; or</p> <p>(y) the occurrence or existence of any:</p> <p>(i) suspension or limitation imposed on trading commodity futures contracts (including, without limitation, any Potential JPMCCI Exchange Commodity or any JPMCCI Exchange Commodity); or</p> <p>(ii) or any other event that causes trading in any commodity futures contracts (including, without limitation, any Potential JPMCCI Exchange Commodity or any JPMCCI Exchange Commodity) to cease;</p>
First Notice Day	<p>means the first day that a notice of intent to deliver a JPMCCI Exchange Commodity can be made by a clearinghouse to a buyer in fulfillment of a given month's futures contract;</p>
Force Majeure Event	<p>any event beyond the control of the Index 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, labor 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;</p>
Front Month Contract	<p>means, with respect to each JPMCCI Exchange Commodity, the first Monthly Contract with a strictly positive Monthly Contract Weight;</p>
Futures Industry Association (or FIA)	<p>means the association of futures commission merchants and other parties interested in the U.S. and international futures exchanges, whose current webpage is http://www.futuresindustry.org/, provided that in the event that (i) such organization ceases to exist or (ii) the Index Calculation Agent shall determine that such organization is no longer representative of the U.S. and international futures industry, such successor organization (if any) or other representative association as the Index Calculation Agent shall determine to be properly representative of the U.S. and international futures industry;</p>
Historical Average Daily Contract Open Interest	<p>with respect to a JPMCCI Exchange Commodity c and a Monthly Contract, shall have the meaning set forth in Section D.2 below;</p>

**Historical Monthly Contract
Open Interest Percentage**

means, in respect of the Monthly Contract for a given JPMCCI Exchange Commodity, the arithmetic average of the Monthly Contract Open Interest Percentage for that Monthly Contract 12, 24 and 36 months prior to the Monthly Contract in consideration, as more specifically set out mathematically in Section D.5 below;

Inception Date

means 29 December 1989, which corresponds to the date on which the Indices were set with a value of 100. Please see the section entitled Notes on Hypothetical Back-tested Historical Values on page 56 for information the dates on which the initial values of the JPMCCI Indices were published;

Index or JPMCCI Index

means each of all JPMCCI Single Commodity Indices, JPMCCI Sector Indices, JPMCCI Aggregate Indices, JPMCCI Energy Light Indices and JPMCCI Ex-Front Month Indices;

Index Calculation Agent

means (a) JPMorgan's Global Index Research Group or any successor, the employees of which perform calculations with respect to the JPMCCI Indices will be employees of JPMorgan Chase Bank, National Association or (b) any non-U.S. broker dealer, third party appointed by the Index Sponsor;

Index Level

means the level on any Scheduled Index Valuation Day of a relevant Index, whose calculation is set out in Section F below;

Index Sponsor

J.P. Morgan Securities plc or any successor or assign;

JPMCCI

means the JPMorgan Commodity Curve Indices being a family of commodity futures index calculated by the Index Calculation Agent and owned by the Index Sponsor, with the Inception Date set forth herein;

JPMCCI Exchange Commodity

has the meaning set out in Section B.1 below;

JPMCCI Sector Index

means each Index in relation to a given Sector (as set out in Table 1 in Section H below);

JPMCCI Single Commodity Index

means each Index referencing only a single JPMCCI Exchange Commodity;

Last Trading Day

means the final day on which a given Monthly Contract may trade or be closed out before delivery of the relevant JPMCCI Exchange Commodity must occur;

Limit Day

means, with respect to a JPMCCI Exchange Commodity and its Relevant Exchange, any day on which there is a limitation, or suspension of, the trading of options or futures contracts imposed by the Relevant Exchange by reason of movements exceeding "limit up" or "limit down" levels permitted by such Relevant Exchange and which has a material adverse effect on trading volumes and liquidity as compared to other Scheduled Trading Days, as determined by the Index Calculation Agent in its commercially reasonable discretion;

Limit Price	means a Settlement Price on any day which is a Limit Day;
Monthly Contract	means, in respect of a JPMCCI Exchange Commodity and a given month <i>m</i> , the contract considered most associated to that given month as determined by the Index Calculation Agent based (a) in the case of all JPMCCI Exchange Commodities other than JPMCCI Exchange Commodities which are LME industrial metals, on the contract so designated by the Relevant Exchange (being typically the contract which will expire, or in respect of which delivery or settlement will occur immediately following such given month <i>m</i>) or (b) in respect of a JPMCCI Exchange Commodity whose Relevant Exchange is the London Metals Exchange the Monthly Contract shall be the relevant contract expiring on the third Wednesday of the given month;
Monthly Contract Open Interest	has the meaning set out mathematically in “Calculation of Monthly Contract Open Interest” in Section D.3 below;
Monthly Contract Open Interest Percentage	has the meaning set out in Section D.4 below;
Monthly Contract Weight	means, with respect to any Exchange Commodity, the weighting attached in the relevant Composition to a given Monthly Contract as calculated in Section D.6;
Observation Period	means, with respect to any given year and any JPMCCI Exchange Commodity, the thirty six (36) month period ending on the date for which the latest set of complete historical Monthly Contract Open Interest figures are made available for international and U.S. commodity futures exchanges by the Futures Industry Association as of November of such year, provided that the Observation Period may be shorter in respect of JPMCCI Exchange Commodities that have a shorter trading history or as data limitations necessitate, as determined by the Index Calculation Agent in a good faith and commercially reasonable manner;
Permitted Exchange	has the meaning set out in Section B.1 below;
Portfolio Continuity Factor	means, with respect to JPMCCI Aggregate Indices, JPMCCI Energy Light Indices, JPMCCI Ex-Front Month Indices and JPMCCI Sector Indices, the factor employed to prevent discontinuities in the relevant Index when rebalancing from one set of Aggregate Commodity Units to another, as set out in Section E.2 below;
Potential JPMCCI Exchange Commodity	has the meaning set out in Section B.1 below;
Price Return Index	means each Index that measures the current aggregate Settlement Prices of JPMCCI Exchange Commodities included in the JPMCCI, the calculations of whose Index Levels are set out in Section F below;

Rebalancing Day	means each Roll Date in January of each year on which the composition of JPMCCI Exchange Commodities in the JPMCCI Aggregate Indices, the JPMCCI Energy Light Indices, the JPMCCI Ex-Front Month Indices and the JPMCCI Sector Indices, are adjusted by progressively phasing out the Aggregate Commodity Units of the previous year and phasing in the Aggregate Commodity Units of the current year;
Relevant Exchange	means, with respect to each Potential JPMCCI Exchange Commodity and each JPMCCI Exchange Commodity, the primary futures exchange on which futures contracts of that Potential JPMCCI Exchange Commodity or JPMCCI Exchange Commodity, as applicable, are traded;
Roll Date	means each of the first ten Scheduled Index Valuation Days of each calendar month, subject to the provisions of Section D.8 below. On each such day and over all such days for that month, the progressive rolling of compositions from those of the previous month to those of the current month for all JPMCCI Exchange Commodities based on Roll Weights will be effected as more specifically described in mathematical terms in Section D.8 below;
Roll Weight	means, with respect to each Roll Date, and a JPMCCI Exchange Commodity the proportion of the pre-roll monthly Composition attributable to a particular Monthly Contract and retained on that Roll Date, as more exactly and mathematically described in Section D.8 below;
Scheduled Index Valuation Day	means, with respect to any JPMCCI Index, each Scheduled Trading Day in respect of at least 50% of Exchange Commodities in the JPMCCI;
Scheduled Trading Day	means, with respect to a JPMCCI Exchange Commodity a day on which the Relevant Exchange for such JPMCCI Exchange Commodity is scheduled to be open for trading for its regular trading sessions and to publish a Settlement Price.
Settlement Price	means, with respect to each JPMCCI Exchange Commodity and a Scheduled Trading Day, the settlement price in respect of a Monthly Contract as published by the Relevant Exchange for such JPMCCI Exchange Commodity;
Sufficient Estimated Market Size	means, with respect to a Potential JPMCCI Exchange Commodity, that its Estimated Market Size is no less than USD 250,000,000 and no less than 10 basis points (0.10%) of the aggregate sum of all the Estimated Market Sizes for all of the Potential JPMCCI Exchange Commodities (“ Threshold Test ”); <i>provided, however</i> that if a Potential JPMCCI Exchange Commodity has met the Threshold Test, in the event of a decline in its Estimated Market Size it shall not cease to be a Potential JPMCCI Exchange Commodity or a JPMCCI Exchange Commodity, if applicable, until the first Exchange Commodity Determination Date on which its Estimated Market Size shall be less than USD 150,000,000 or less than 6 basis points (0.06%) of the aggregate sum of all of the Estimated Market Sizes for all Potential JPMCCI Exchange Commodities;

Threshold Determination Date	means, with respect to a Discontinuation Event, the eleventh (11 th) Scheduled Trading Day of any calendar month;
Threshold Event	shall have the meaning set out in Section B.2.1.1 below;
Total Return Index	means each Index measuring a fully collateralized investment in a JPMCCI Single Commodity Index, a JPMCCI Sector Index, a JPMCCI Aggregate Index, a JPMCCI Energy Light Index, a JPMCCI Ex - Front Month Index (taking into account the Excess Return and the U.S. Treasury Bill Return), the calculation of such Index Levels is set out in Section F below;
United States Dollars	means the lawful currency of the United States of America;
U.S. Treasury Bill Return	means, with respect to a Total Return Index, the return on U.S. treasury bills as calculated by the Index Calculation Agent as set out in Section F.3 below.

B. Exchange Commodity Inclusion

B.1 Overview and Operation of Exchange Commodity Inclusion Process

JPMCCI is intended to serve as a benchmark to measure the performance of the broader futures market, as well as a practical investment vehicle through which market participants can take a view on the commodities market. As such, a balance is struck between the need to reflect the general price movements of commodity futures broadly in the various energy, metal, agriculture and livestock markets on the one hand, and on the other to ensure that the JPMCCI includes only a practical number and types of futures contracts that are accessible to the investor community.

A two-stage process is followed by the Index Calculation Agent under the supervision of the JPMCCI Supervisory Committee to select futures contracts to be included in the JPMCCI in any given year. First, the Index Calculation Agent identifies “Potential JPMCCI Exchange Commodities” and, second, the Index Calculation Agent selects “JPMCCI Exchange Commodities” for inclusion in JPMCCI. **“Potential JPMCCI Exchange Commodity”** means each physical commodity futures contract (but in respect of which physical delivery is not a requirement for inclusion in this definition) which:

- (a) (i) is traded on a Permitted Exchange (ii) is denominated in U.S. Dollars, (iii) is of Sufficient Estimated Market Size (iv) is of Adequate Liquidity; and
- (b) is not a commodity futures contract which (i) is an Ineligible Commodity or (ii) lacks Sufficient Trading History (unless the Index Calculation Agent determines that a Sufficient Trading History Waiver is appropriate) or (c) lacks Sufficient Data,

as determined by the Index Calculation Agent, in a good faith and commercially reasonable manner, and subject to the review of the JPMCCI Supervisory Committee.

“Permitted Exchange” means, with respect of a Potential JPMCCI Exchange Commodity, the Relevant Exchange which meets the geographical or other criteria published by the Index Calculation Agent from time to time;

“Adequate Liquidity” means, with respect to a Potential JPMCCI Exchange Commodity, that such commodities futures contract is sufficiently liquid for general trading, as determined by the Index Calculation Agent, in a good faith and commercially reasonable manner, and subject to the review of the JPMCCI Supervisory Committee.

“Ineligible Commodity” means a commodity futures contract which, in the determination of the Index Calculation Agent is a “mini contract” (as defined by the Relevant Exchange), a swap contract, a basis contract, a spread contract or a weather contract.

“Sufficient Trading History” means, with respect to a Potential JPMCCI Exchange Commodity, a futures contract which has traded on the Relevant Exchange for no less than one year from the year of its inclusion; *provided, however* that the Index Calculation Agent may determine in its sole discretion that a **“Sufficient Trading History Waiver”** shall be applicable in respect of a commodity futures contract which has not so traded but is determined by the Index Calculation Agent to be a suitable futures contract for inclusion in the relevant JPMCCI Index by reason that its significance in terms of investor interest is so great that omission would in the good faith and commercially reasonable determination of the Index Calculation Agent significantly undermine the representativeness of the JPMCCI; *provided, further* that such waiver would be subject to the review of the JPMCCI Supervisory Committee.

“Sufficient Data” means in respect of a futures contract, the existence, in the determination of the Index Calculation Agent of a sufficient body of data to enable the Index Calculation Agent to determine appropriately its historical performance and analyze performance; the determination of sufficient historical data will be determined on the basis of the existence of independent historical data available to the Index Calculation Agent, but the Index Calculation Agent may determine that historical performance in respect of a futures contract may be reasonably calculated by the Index Calculation Agent in the absence of such available data (*i.e.*, see Section N herein).

“JPMCCI Exchange Commodity” means, with respect to the version of JPMCCI established in a particular calendar year (*e.g.*, the 2008 version of JPMCCI established in November 2007), each Potential JPMCCI Exchange Commodity chosen for inclusion in JPMCCI in that calendar year. The Index Calculation Agent shall select for inclusion in JPMCCI, subject to the review of the JPMCCI Supervisory Committee, each Potential JPMCCI Exchange Commodity which (a) is not related to Milk, Electricity or Coal, (b) is not Sugar #14 (traded on the NYBOT) and (b) with respect to Aluminum (*e.g.*, High Grade Primary Aluminum, Aluminum Alloy and North American Special Aluminum Alloy), the Aluminum futures contract with the highest open interest.

Within thirty (30) calendar days of each Exchange Commodity Determination Date, the Index Calculation Agent shall publish the JPMCCI Exchange Commodities for inclusion in the JPMCCI for the following calendar year. Additionally, the JPMCCI Sector Indices will consist initially of seven commodity sectors: Energy, Non-Energy, Precious Metals, Industrial Metals, All Metals, Livestock and Agriculture. The constituents of the JPMCCI Sector Indices are determined by the Index Calculation Agent on each Exchange Commodity Determination Date, subject to the review and approval of the JPMCCI Supervisory Committee. The Index Calculation Agent may introduce additional JPMCCI Sector Indices on any future date.

B.2 Rules for Exclusion and/or Substitution of a JPMCCI Exchange Commodity and Cancellation of any JPMCCI Index

B.2.1 Rules for the Exclusion of a JPMCCI Exchange Commodity and the Modification of certain JPMCCI Indices upon the announcement of a Contract Discontinuation by a Relevant Exchange

B.2.1.1 JPMCCI Aggregate Index, JPMCCI Energy Light Index, JPMCCI Ex-Front Month Index and JPMCCI Sector Indices

With respect to any JPMCCI Exchange Commodity and any Monthly Contract to be referenced by the applicable JPMCCI Index, upon the announcement of a Contract Discontinuation by a Relevant Exchange, the Index Calculation Agent may exclude an affected JPMCCI Exchange Commodity from any JPMCCI Aggregate Index, JPMCCI Energy Light Index, JPMCCI Ex-Front Month Index or JPMCCI Sector Index.

In order to make its determination, the Index Calculation Agent will determine whether a Discontinuation Event has occurred.

A “**Discontinuation Event**” is either (a) a Contract Disappearance Event or (b) a Threshold Event, where:

“**Contract Disappearance Event**” means, with respect to any Threshold Determination Date and any applicable Monthly Contract, the applicable Monthly Contract does not exist or will not exist on each Roll Date during immediately following two calendar months.

“**Threshold Event**” means, with respect to any Threshold Determination Date, the Average Daily Contract Open Interest is less than or equal to the Exclusion Threshold for any such Monthly Contract.

If a Discontinuation Event is deemed to have occurred, the Index Calculation Agent will exclude the applicable JPMCCI Exchange Commodity for each Roll Date in the calendar month immediately following such Threshold Determination Date, by assigning the Aggregate Commodity Unit (“ACU”) equal to zero (0) for that affected JPMCCI Exchange Commodity in each JPMCCI Aggregate Index, JPMCCI Energy Light Index, JPMCCI Ex-Front Month Index and JPMCCI Sector Index and recalculate the Portfolio Continuity Factor in accordance with Section E of these Index Rules.

B.2.1.2 JPMCCI Single Commodity Indices

With respect to any JPMCCI Single Commodity Index, upon the announcement of a Contract Discontinuation by a Relevant Exchange and the occurrence of a Threshold Event, the Index Calculation Agent will modify the relevant JPMCCI Single Commodity Index so that such Index only references the Front Month Contract for such JPMCCI Exchange Commodity and such synthetic exposure will be applied on each Roll Dates following the Threshold Determination Date.

If a Contract Disappearance Event has occurred, the Index Calculation Agent will cease to calculate the relevant single commodity indices, unless the JPMCCI Supervisory Committee determines there is a natural, liquid replacement for the commodity in which case, from the following Roll Date, the Index Calculation Agent may begin calculating a JPMCCI Index for such successor commodity in accordance with the JPMCCI methodology using such natural liquid replacement, as determined by the JPMCCI Supervisory Committee.

B.2.2 Rules for Exclusion and/or Substitution of a JPMCCI Exchange Commodity and the Cancellation of any JPMCCI Index upon the occurrence of an Extraordinary Event

If the Index Calculation Agent determines, in good faith and a commercially reasonable manner, that the occurrence or existence of an Extraordinary Event affects a JPMCCI Index (an “Affected Index”), then the Index Calculation Agent may take the following action with the aim of maintaining the objective of the Affected Index: (i) the Index Calculation Agent may replace one or more JPMCCI Exchange Commodities in the Affected Index with other Potential JPMCCI Exchange Commodities that it determines, in good faith and a commercially reasonable manner, are natural substitutes for the JPMCCI Exchange Commodities being replaced, or (ii) the Index Calculation Agent may exclude one or more JPMCCI Exchange Commodities from the Affected Index and recalculate the weight of the JPMCCI Exchange Commodities remaining in the Affected Index so that the aggregate weight of all such JPMCCI Exchange Commodities sum to 100%. With respect to the replacement of one or more JPMCCI Exchange Commodities, the weight assigned to each Potential JPMCCI Exchange Commodity will generally be equal to the weight of the JPMCCI Exchange Commodity that it is replacing, however, the Index Calculation Agent may assign a different weight to a Potential JPMCCI Exchange Commodity if it determines, in good faith and a commercially reasonable manner, that this is appropriate to maintain the objective of the Affected Index. With respect to the exclusion of one or more JPMCCI Exchange Commodities, the weight of the Affected Index’s remaining JPMCCI Exchange Commodities will be adjusted accordingly so that the aggregate weight of all components sum to 100%. The Index Calculation Agent shall endeavor to effect any replacement and re-weighting (if any) or exclusion and re-weighting (if any) as soon as practicable in light of the prevailing circumstances and if possible during the immediately following set of Roll Dates. In making the calculation of Aggregate Commodity Units and Monthly Contract Weights upon any such replacement and re-weighting (if any) or exclusion and re-weighting (if any), the Index Calculation Agent shall rely on a combination of data based on the JPMCCI Exchange Commodity(ies) being removed and the Potential JPMCCI Exchange Commodity(ies) that will be introduced as a result of the Index Calculation Agent’s determination. The methodology by which this substitution will be effected shall be announced

by the Index Calculation Agent as soon as reasonably practicable in the circumstances then prevailing at www.jpmorgan.com/jpmcci. Notwithstanding anything to the contrary, the Index Calculation Agent shall obtain the approval of the JPMCCI Supervisory Committee prior to making any replacement and re-weighting or exclusion and re-weighting or any other changes pursuant to this Rule B.2.2.

The Index Calculation Agent is under no obligation to continue the calculation and publication of any JPMCCI Index and upon the occurrence or existence of an Extraordinary Event, the Index Calculation Agent or the Index Sponsor may decide to cancel any JPMCCI Index if it determines, acting in good faith, that the objective of the relevant JPMCCI Index can no longer be achieved.

B.3 Representation of Exchange Commodities and Monthly Contract Open Interest

When there is more than one Potential JPMCCI Exchange Commodity relating to a particular underlying physical commodity, the Index Calculation Agent may, where deemed appropriate and subject to the approval of the JPMCCI Supervisory Committee, aggregate the Monthly Contract Open Interest of similar non-selected Potential JPMCCI Exchange Commodities with those of the relevant JPMCCI Exchange Commodity. This combination will effectively increase the number of Aggregate Commodity Units for the relevant JPMCCI Exchange Commodity, thereby more accurately reflecting the significance of the relevant JPMCCI Exchange Commodity. As at the date of these Index Rules, the Monthly Contracts affected by such combinations are set out in Table 2 in Section H. The Index Calculation Agent shall publish any changes to or additions to the combinations set forth in Table 2 in Section H on or before the effective date of any changes and/or additions.

B.4 Final Inclusion Determination and Rebalancing Announcement

The Index Calculation Agent will present to the JPMCCI Supervisory Committee for review the JPMCCI Exchange Commodities for any given year after the completion of the procedures set forth above.

The Index Calculation Agent shall publish the determination of the JPMCCI Exchange Commodities for a given year within thirty (30) calendar days of the relevant Exchange Commodity Determination Date.

C. Aggregate Commodity Units

C.1 Open Interest Commodity Weighting Scheme

JPMCCI is designed to be a representative index synthetically reflecting the available market opportunities in a given commodity asset class. The amount of investment opportunity available in each JPMCCI Exchange Commodity can be estimated from historical open interest, which is analogous to face amount outstanding in bond markets or shares outstanding in equity markets. Therefore JPMCCI uses historical open interest as the basis for determining the nominal weights for JPMCCI Exchange Commodities in the JPMCCI Aggregate Indices and JPMCCI Sector Indices.

C.2 Annual Calculation of Aggregate Commodity Units: JPMCCI Aggregate and JPMCCI Sector Indices only

The number of **Aggregate Commodity Units** ACU_y^c for JPMCCI Exchange Commodity c for year y , denominated in physical units, is:

$$ACU_y^c = \frac{F^c \times \sum_{i \in M_y} COI_i^c}{|M_y|} \quad \text{where:}$$

COI_i^c	is the Monthly Contract Open Interest reported by the Futures Industry Association for JPMCCI Exchange Commodity c in month i .
F^c	is number of physical units underlying JPMCCI Exchange Commodity c represented by one contract, given the contract specification (<i>e.g.</i> number of barrels represented by one crude oil contract)
M_y	is the set of all months in the Observation Period
$ M_y $	is the number of months in the Observation Period

D. Monthly calculation of Monthly Contract Weights

D.1 Open Interest Monthly Contract Weighting: calculated in respect of each JPMCCI Exchange Commodity and each JPMCCI Single Commodity Index

Just as historical open interest guides the allocation of weights among different JPMCCI Exchange Commodities through the Aggregate Commodity Units, the Composition and Monthly Contract Weights each month for each JPMCCI Exchange Commodity are guided by the historical distribution of open interest across the commodity's futures curve.

Each JPMCCI Single Commodity Index and each JPMCCI Exchange Commodity in relation to a JPMCCI Sector Index or JPMCCI Aggregate Index (as the case may be) includes one or more Monthly Contracts of the same JPMCCI Exchange Commodity (except in circumstances of substitution of contracts, where the Monthly Contracts may be of different Exchange Commodities).

The Composition for a particular month is derived by averaging the distribution of Monthly Contract Open Interest in the same calendar month of the previous three years, in order to capture shifts of open interest along the curve as set out in greater detail and mathematically in Section D.3-D.6 below. (As an example only, the composition for the month of January 2007 is based on the average of the distribution of open interest of contracts along the curve in January 2006, January 2005 and January 2004).

D.2 Calculation of the Historical Average Daily Contract Open Interest

The “**Average Daily Contract Open Interest**” for a month m $ADCOI_{m,n}^c$ in month m , denominated in physical units, for the JPMCCI Exchange Commodity c Monthly Contract expiring n months after month m , is calculated as follows:

$$ADCOI_{m,n}^c = F^c \times \frac{\sum_{d \in D_m^c} DCOI_{d,m,n}^c}{|D_m^c|}$$

where:

$DCOI_{d,m,n}^c$ is the Daily Contract Open Interest on day d of month m , denominated in number of contracts, for JPMCCI Exchange Commodity c Monthly Contract expiring n months after the month m

D_m^c is the set of all days from and including the first calendar day of the month to but excluding the Threshold Determination Date in month m for which open interest data for one or more Monthly Contracts of JPMCCI Exchange Commodity c is obtainable by the Index Calculation Agent from the relevant exchange

$|D_m^c|$ is the number of days within D_m^c

(As an example only, if m corresponds to March 2000 and $n = 14$, the Monthly Contract being referred to is the May 2001 contract.)

The “**Historical Average Daily Contract Open Interest**” is calculated as the

$$HADCOI_{y,n}^c = average_{i=12,24,36} \left(ADCOI_{m-i,n}^c \right)$$

D.3 Calculation of the Monthly Contract Open Interest

“**Monthly Contract Open Interest**” $MCOI_{m,n}^c$ in month m , denominated in physical units, for the JPMCCI Exchange Commodity c Monthly Contract expiring n months after month m , is:

$$MCOI_{m,n}^c = F^c \times \sum_{d \in D_m^c} DCOI_{d,m,n}^c$$

where:

$DCOI_{d,m,n}^c$ is the Daily Contract Open Interest on day d on month m , denominated in number of contracts, for JPMCCI Exchange Commodity c Monthly Contract expiring n months after the month m

D_m^c is the set of all days in month m for which open interest data for one or more Monthly Contracts of JPMCCI Exchange Commodity c is obtainable by the Index Calculation Agent from the relevant information source.

(As an example only, if m corresponds to March 2000 and $n = 14$, the Monthly Contract being referred to is the May 2001 contract.)

D.4 Calculation of the Monthly Contract Open Interest Percentage

“**Monthly Contract Open Interest Percentage**” $MCOIP_{m,n}^c$ in month m , for JPMCCI Exchange Commodity c Monthly Contract expiring n months after month m , is:

$$MCOIP_{m,n}^c = \frac{MCOI_{m,n}^c}{\sum_i MCOI_{m,i}^c}$$

D.5 Monthly Calculation of the Historical Monthly Contract Open Interest Percentage

The “**Historical Monthly Contract Open Interest Percentage**” $HMCOIP_{m,n}^c$ in month m , for the JPMCCI Exchange Commodity c Monthly Contract expiring n months after month m , is:

$$HMCOIP_{m,n}^c = \underset{i=12,24,36}{average}(MCOIP_{m-i,n}^c)$$

(As an example, the HMCOIP for the NYMEX Crude Oil May-2000 contract in January 2000 is the arithmetic average of:

- (a) the MCOIP for the NYMEX Crude Oil May-1997 contract in January 1997;
- (b) the MCOIP for the NYMEX Crude Oil May-1998 contract in January 1998;
- (c) the MCOIP for the NYMEX Crude Oil May-1999 contract in January 1999.)

D.6 Monthly Contract Weight

In the determination of the Monthly Contract Weights and Composition for each JPMCCI Exchange Commodity and each JPMCCI Single Commodity Index of any commodity and any month in which Composition is reviewed, the following Monthly Contracts are excluded:

- (a) Monthly Contracts with a Historical Monthly Contract Open Interest Percentage of less than 3%;
- (b) Monthly Contracts due to expire, in respect of which there will be a Last Trading Day or First Notice Day prior to the last anticipated Roll Date or, in the case of Monthly Contracts whose Relevant Exchange is the London Metals Exchange, Monthly Contracts in respect of which there will be a Last Trading Day in the month in which the last anticipated Roll Date falls;

(As an example, for the January 2007 composition of NYMEX Brent Crude, only the Apr-2007 and longer dated Monthly Contracts are eligible for inclusion. The Mar-2007 contract has a last trade date of February 13, 2007; the contract ceases to trade before it can be completely phased out during the February roll, and therefore cannot be included in the January 2007 composition.)

The “**Monthly Contract Weight**” $CW_{m,n}^c$ in month m for JPMCCI Exchange Commodity c Monthly Contract expiring n months after month m is:

$$CW_{m,n}^c = \frac{HMCOIP_{m,n}^c}{\sum_{i \in N_m^c} HMCOIP_{m,i}^c}$$

where:

N_m^c is the set of all Monthly Contracts for JPMCCI Exchange Commodity c in month m

For Monthly Contracts which are excluded by the exclusion rules above, $CW_{m,n}^c = 0$.

D.7 Disruptions

A “**Disrupted Day**” means in respect of a JPMCCI Exchange Commodity a Scheduled Trading Day on which:

- (a) the Settlement Price for any Monthly Contract in respect of the relevant JPMCCI Exchange Commodity is not obtainable;
 - (b) the Settlement Price for any Monthly Contract in respect of the relevant JPMCCI Exchange Commodity is a Limit Price (a Limit Day);
- (thus, for the avoidance of doubt, in respect of a JPMCCI Single Commodity Index, only disruption as set out in (a) and (b) in respect of the JPMCCI Exchange Commodity, constituting such JPMCCI Single Commodity Index shall be relevant in the determination of a Disrupted Day)

Disruption and Calculation and Publication of Indices

Index Levels will be published on each Scheduled Index Valuation Day even if such day is a Limit Day for a given JPMCCI Exchange Commodity; *provided, however* that the Index Calculation Agent will not be obliged to publish any Index Level upon the occurrence or continuation of a Force Majeure Event. If for any reason a Settlement Price is not obtainable in respect of a given JPMCCI Exchange Commodity and Monthly Contract, then the Settlement Price last previously obtainable (which shall usually be the Settlement Price in respect of the previous Scheduled Index Valuation Day) will be used for calculation of the relevant Index Level. If the Settlement Price is a Limit Price, the Limit Price will be used in the calculation of the relevant Index Level.

Disruption and Roll Dates

If any Roll Date is a Disrupted Day, then the roll for the affected Exchange Commodity is postponed as set out below.

D.8 Roll Weights

In respect of each JPMCCI Exchange Commodity, on each Roll Date of the relevant month, the Composition will be amended by the phased removal from the Composition of one tenth of the Composition of the previous month and the replacement of it by one tenth of the current month; provided that if in respect of the relevant JPMCCI Exchange Commodity that scheduled Roll Date is a Disrupted Day, then (i) the Composition shall not be amended on that day and (ii) the portion of the Composition which would have been amended on that day shall be amended on the next following Scheduled Index Valuation Day which is not a Disrupted Day.

The “**Roll Weight**” RW_d^c of the pre-roll Composition of JPMCCI Exchange Commodity c at the close of Scheduled Index Valuation Day d is:

A. If d is the first anticipated Roll Date but is a Disrupted Day, then

$$RW_d^c = 1$$

B. If d is an anticipated Roll Date other than the first anticipated Roll Date but is a Disrupted Day;

$$RW_d^c = RW_{d-1}^c$$

C. If d is any anticipated Roll Date which is not a Disrupted Day;

$$RW_d^c = 1 - \frac{\text{Min}(10, IVD_d)}{10}$$

where: IVD_d is the number of Scheduled Index Valuation Days since the beginning of the month, as of Scheduled Index Valuation Day d .

E. Annual Calculation and Use of the Portfolio Continuity Factor¹

E.1 Purpose of the Portfolio Continuity Factor

Portfolio Continuity Factors are introduced to prevent discontinuities in the JPMCCI Aggregate Indices and the JPMCCI Sector Indices when rebalancing from one set of Aggregate Commodity Units, which are denominated in physical units, to the next set of Aggregate Commodity Units.

E.2 Calculation of Portfolio Continuity Factor for the JPMCCI Aggregate Index

The “Portfolio Continuity Factor” PCF_y for period y is:

$$PCF_y = PCF_{y-1} \times \frac{\sum_c ACU_y^c \times \sum_n CW_{m_{y-1}^*, n}^c \times CP_{d_{y-1}^*, m_{y-1}^*, n}^c}{\sum_c ACU_{y-1}^c \times \sum_n CW_{m_{y-1}^*, n}^c \times CP_{d_{y-1}^*, m_{y-1}^*, n}^c}$$

where:

m_{y-1}^* means December in period $y-1$, unless the PCF_y is being calculated in accordance with a Discontinuation Event, in which case, m_{y-1}^* means the calendar month during which a Discontinuation Event occurred.

d_{y-1}^* means the last Scheduled Index Valuation Day in period $y-1$, unless the PCF_y is being calculated in accordance with a Discontinuation Event, in which case, d_{y-1}^* means the last Scheduled Index Valuation Day of the calendar month during which a Discontinuation Event occurred.

¹ To the extent a Discontinuation Event has occurred, the Index Calculation Agent shall calculate the Portfolio Continuity Factor for application the Roll Dates immediately following the Threshold Determination Date on which the Average Monthly Contract Open Interest is less than the Exclusion Threshold.

$CP_{d,m,n}^c$ means the Settlement Price denominated in U.S. dollars per physical unit of the commodity underlying the JPMCCI Exchange Commodity as of day d , for the JPMCCI Exchange Commodity c Monthly Contract expiring n months after month m

At inception $PCF_{inception}$ is set so that $JPMCCIPR_d^c$ (see below) is equal to 100.

E.3 Portfolio Continuity Factors for JPMCCI Sector Indices

Portfolio Continuity Factors for JPMCCI Sector Indices are calculated in the same manner as for the JPMCCI Aggregate Index, except that only the Aggregate Commodity Units of the JPMCCI Exchange Commodities relevant to the JPMCCI Sector Index in question will be used in the calculations.

F. Index Calculations

All Index Levels calculated (Price Index, Excess Return Index, and Total Return Index) are rounded to the nearest fifth decimal.

F.1 JPMCCI Single Commodity Price Index

The JPMCCI Single Commodity Price Index Level $JPMCCIPR_d^c$ for JPMCCI Exchange Commodity c on Scheduled Index Valuation Day d is:

$$JPMCCIPR_d^c = RW_d^c \times \sum_n CW_{m_d-1,n}^c \times CP_{d,m_d-1,n}^c + (1 - RW_d^c) \times \sum_n CW_{m_d,n}^c \times CP_{d,m_d,n}^c$$

where:

m_d is the month on which Scheduled Index Valuation Day d falls

F.2 JPMCCI Single Commodity Excess Return Index

The JPMCCI Single Commodity Excess Return Index Level $JPMCCIER_d^c$ for JPMCCI Exchange Commodity c on Scheduled Index Valuation Day d is:

$$JPMCCIER_d^c = JPMCCIER_{d-1}^c \times (1 + CDER_d^c)$$

where

$CDER_d^c$ for JPMCCI Exchange Commodity c on Scheduled Index Valuation Day d means the following:

$$CDER_d^c = \frac{RW_{d-1}^c \times \sum_n CW_{m_{d-1}-1,n}^c \times CP_{d,m_{d-1}-1,n}^c + (1 - RW_{d-1}^c) \times \sum_n CW_{m_{d-1},n}^c \times CP_{d,m_{d-1},n}^c}{RW_{d-1}^c \times \sum_n CW_{m_{d-1}-1,n}^c \times CP_{d-1,m_{d-1}-1,n}^c + (1 - RW_{d-1}^c) \times \sum_n CW_{m_{d-1},n}^c \times CP_{d-1,m_{d-1},n}^c} - 1$$

On the **Inception Date**, each JPMCCI Single Commodity Excess Return Index Level or $JPMCCIER_{inception}^c = 100$.

F.3 JPMCCI Single Commodity Total Return Index

The JPMCCI Single Commodity Total Return Index Level or $JPMCCITR_d^c$ for JPMCCI Exchange Commodity c on Scheduled Index Valuation Day d is:

$$JPMACCITR_d^c = JPMACCITR_{d-1}^c \times (1 + CDER_d^c + TBR_d) \times \prod_{a \in A} (1 + TBR_a)$$

where:

TBR_d is the “U.S. Treasury Bill Return” on calendar day d , calculated as follows:

$$TBR_d = \left(\frac{1}{1 - \frac{91}{360} \times TBRATE_{d-1}} \right)^{\frac{1}{91}} - 1$$

$TBRATE_{d-1}$ is the 91-day auction high rate for U.S. Treasury Bills on the most recent weekly auction date available on the calendar day immediately preceding the calendar day d

A is the set of calendar days in between the immediately preceding Scheduled Index Valuation Day and the Scheduled Index Valuation Day d (exclusive)

On the **Inception Date**, JPMCCI Single Commodity Total Return Index Level or $JPMCCITR_{inception}^c = 100$.

F.4 JPMCCI Aggregate Price Index

The JPMCCI Aggregate Price Index Level or $JPMACCIPR_d$ on Scheduled Index Valuation Day d is:

$$JPMACCIPR_d = \frac{1}{PCF_{y_{m_d}-1}} \times \sum_c ACU_{y_{m_d}-1}^c \times RW_d^c \times \sum_n CW_{m_d-1,n}^c \times CP_{d,m_d-1,n}^c \\ + \frac{1}{PCF_{y_{m_d}}} \times \sum_c ACU_{y_{m_d}}^c \times (1 - RW_d^c) \times \sum_n CW_{m_d,n}^c \times CP_{d,m_d,n}^c$$

where:

y_{m_d} is the year in which month m_d falls

On the Inception Date, the JPMCCI Aggregate Price Index Level or $JPMCCIPR_{inception} = 100$

F.5 JPMCCI Aggregate Excess Return Index

The JPMCCI Aggregate Excess Return Index Level or $JPMACCIER_d$ on Scheduled Index Valuation Day d , is:

$$JPMACCIER_d = JPMACCIER_{d-1} \times (1 + ADER_d)$$

where the “Aggregate Daily Excess Return” $ADER_d$ for Scheduled Index Valuation Day d is:

$$ADER_d = \frac{A}{B} - 1$$

where:

$$A = \left\{ \frac{1}{PCF_{y_{m_{d-1}-1}}} \times \sum_c ACU_{y_{m_{d-1}-1}}^c \times RW_{d-1}^c \times \sum_n CW_{m_{d-1}-1,n}^c \times CP_{d,m_{d-1}-1,n}^c \right. \\ \left. + \frac{1}{PCF_{y_{m_{d-1}}}} \times \sum_c ACU_{y_{m_{d-1}}}^c \times (1 - RW_{d-1}^c) \times \sum_n CW_{m_{d-1},n}^c \times CP_{d,m_{d-1},n}^c \right\}$$

$$B = \left\{ \frac{1}{PCF_{y_{m_{d-1}-1}}} \times \sum_c ACU_{y_{m_{d-1}-1}}^c \times RW_{d-1}^c \times \sum_n CW_{m_{d-1}-1,n}^c \times CP_{d-1,m_{d-1}-1,n}^c \right. \\ \left. + \frac{1}{PCF_{y_{m_{d-1}}}} \times \sum_c ACU_{y_{m_{d-1}}}^c \times (1 - RW_{d-1}^c) \times \sum_n CW_{m_{d-1},n}^c \times CP_{d-1,m_{d-1},n}^c \right\}$$

On the Inception Date, the JPMCCI Aggregate Excess Return Index Level $JPMACCIER_{inception} = 100$.

F.6 JPMCCI Aggregate Total Return Index

The JPMCCI Aggregate Total Return Index Level or $JPMACCITR_d$ on Scheduled Index Valuation Day d , is:

$$JPMACCITR_d = JPMACCITR_{d-1} \times (1 + ADER_d + TBR_d) \times \prod_{a \in A} (1 + TBR_a)$$

On the Inception Date, JPMCCI Aggregate Total Return Index Level or $JPMACCITR_{inception} = 100$.

F.7 JPMCCI Sector Index Calculations

JPMCCI Sector Price Indices, JPMCCI Excess Return Sector Indices and JPMCCI Total Return Sector Indices are calculated in the same manner as for the JPMCCI Aggregate Indices, except that only the Aggregate Commodity Units of those JPMCCI Exchange Commodities included in the relevant JPMCCI Sector Index are used in the calculations.

F.8 Publication of corrected Index Levels

In the event that a Settlement Price used to calculate any Index Level is subsequently corrected and the correction is published by the Relevant Exchange before the next following Rebalancing Day, or any other element used in the calculation of any index level is determined by the Index Calculation Agent prior to the next following Rebalancing Day to have been incorrect, then the Index Calculation Agent may, if practicable and the correction is deemed material by the Index Calculation Agent, adjust or correct the relevant Index Level published on any relevant Scheduled Index Valuation Day and publish such corrected Index Level as soon as it is reasonably practicable.

G. Variations on the JPMCCI Indices

G.1 JPMCCI Energy Light Indices (JPMCCI EL)

The JPMCCI Energy Light Indices are variations on the JPMCCI Aggregate Indices where the target dollar market weight of the JPMCCI Energy Sector Index is set to a maximum weight of 33% on the last Rebalancing Day.

First, the Index Calculation Agent will calculate the Estimated Post-Rebalance Market Capitalization $EPRMC_y^{c_e}$ for each of the JPMCCI Exchange Commodities in the JPMCCI Energy Sector Index c_e , denominated in USD, calculated on the first Rebalancing Day:

$$EPRMC_y^{c_e} = \sum_{c_e} ACU_y^{c_e} \times \sum_n CW_{m_{y-1},n}^{c_e} \times CP_{d_{y-1},m_{y-1},n}^{c_e}$$

where

$ACU_y^{c_e}$ is the ACU of JPMCCI Exchange Commodity c in JPMCCI Energy Sector Index e

Second, the Index Calculation Agent will determine if the $ACU_y^{c_e}$ adjustment is necessary and is calculated as follows:

- If $\frac{\sum_{c_e} EPRMC_y^{c_e}}{\sum_c EPRMC_y^c} \leq 33\%$, then the $ACU_y^{c_e}$ will remain unchanged;

- If $\frac{\sum_{c_e} EPRMC_y^{c_e}}{\sum_c EPRMC_y^c} > 33\%$, then the $ACU_y^{c_e}$ will be adjusted to a new $ACU_y^{c_{eL}}$, such that

$$\frac{\sum_{c_{eL}} EPRMC_y^{c_{eL}}}{\sum_c EPRMC_y^c} = 33\%, \text{ while maintaining their original } ACU_y^{c_e} \text{ proportion.}$$

Once $ACU_y^{c_{eL}}$ are calculated, they will be set for the remainder of the year, consistent with the methodology of the JPMCCI Aggregate Index. The levels of the JPMCCI Energy Light Index will float according to the market price of

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the underlying monthly contracts, with the possibility that the market weight of the JPMCCI Energy Sector Index may exceed 33%.

The target market weights, as well as the ACUs and PCFs, of the JPMCCI Energy Light Index are available on www.jpmorgan.com/jpmcci.

G.2 JPMCCI Ex-Front Month Indices

The JPMCCI Ex - Front Month Indices (each a “JPMCCI ExFM Index” and collectively, the “JPMCCI ExFM Indices”) are variations on the JPMCCI Indices (including, but not limited to, variations on the JPMCCI Energy Light Indices), the variation being the exclusion of the first near month futures contract included in the composition of each JPMCCI Exchange Commodity; provided that the Composition of the JPMCCI Exchange Commodity includes at least two Monthly Contracts. The rules with respect to the JPMCCI Aggregate, Energy Light, Sector, and Single Commodity Index apply to the JPMCCI ExFM Aggregate, Energy Light, Sector, and Single Commodity Indices with the following modification set forth below.

In respect of the JPMCCI Ex-Front Month Energy Light Indices, due to the exclusion of the first near month futures contract and the reallocation of such exposure along the futures curve, the target dollar market weight of the Energy Sector on the last Rebalancing Day of each JPMCCI Ex-Front Month Energy Light Index may be greater or less than 33%. For example, the target dollar market weight of the JPMCCI Ex-Front Month Energy Sector Indices within the JPMCCI Ex-Front Month Energy Light Indices was as follows:

Ex-FM Energy Light					
Commodity	Weight the last Rebalancing Day in January of				
	2007	2008	2009	2010	2011
NYMEX Crude Oil	12.592%	14.216%	14.900%	16.090%	15.699%
NYMEX Gasoline	2.306%	1.992%	1.462%	1.881%	2.215%
NYMEX Heating Oil	2.765%	2.551%	2.144%	2.302%	2.694%
NYMEX Natural Gas	7.895%	6.354%	7.912%	4.936%	3.357%
ICE Brent Crude	5.369%	5.202%	5.054%	5.427%	5.971%
ICE Gas Oil	2.444%	2.492%	2.173%	2.618%	3.358%
CBOT Ethanol	0.000%	0.000%	0.000%	0.000%	0.032%
Total	33.371%	32.807%	33.643%	33.254%	33.326%

The levels of the JPMCCI Ex-Front Month Energy Light Index will float according to the market price of the underlying monthly contracts, hence the market weight of the JPMCCI Ex-Front Month Energy Sector Index may differ from the weight calculated as of the last Rebalancing Day.

The monthly contract composition of the JPMCCI ExFM Indices are identical to that of the JPMCCI Indices, **with the exclusion of the first nearby Monthly Contract that has a strictly positive weight within each given JPMCCI Exchange Commodity**, provided that the Composition of the JPMCCI Exchange Commodity includes at least two Monthly Contracts.

The JPMCCI ExFM “Monthly Contract Weight” $CW_{ExFM,m,n}^c$ in month m for JPMCCI Exchange Commodity c , Monthly Contract expiring n months after month m is as follows:

- If there exist an n_1 and n_2 , with $n_1 \neq n_2$, such that $CW_{m,n_1}^c > 0$ and $CW_{m,n_2}^c > 0$, then:
 - if $n = n'$, then $CW_{ExFM,m,n'}^c = 0$,
 - otherwise, $CW_{ExFM,m,n}^c = \frac{CW_{m,n}^c}{1 - CW_{m,n'}^c}$;
- Otherwise:
$$CW_{ExFM,m,n}^c = CW_{m,n}^c.$$

Where $n' = \min(n)$ such that $CW_{m,n}^c > 0$

The JPMCCI ExFM Portfolio Continuity Factors $PCF_{ExFM,y}$, and the JPMCCI ExFM Indices are each calculated in the same manner as the JPMCCI Indices, except $CW_{m,n}^c$ is replaced by $CW_{ExFM,m,n}^c$ for all relevant JPMCCI Exchange Commodities.

For the avoidance of doubt, a Disrupted Day for a JPMCCI Index will also be a Disrupted Day for a JPMCCI ExFM Index. For example, on a Scheduled Trading Day, if the Settlement Price for the first nearby NYMEX Crude Oil Monthly Contract included in the JPMCCI is a Limit Price, then such Scheduled Trading Day would be a Disrupted Day for the JPMCCI NYMEX Crude Oil Index and it would also be a Disrupted Day for the JPMCCI ExFM NYMEX Crude Oil Index; notwithstanding the fact that the JPMCCI ExFM NYMEX Crude Oil Index does not reference the front Monthly Contract of NYMEX Crude Oil.

The PCFs of the JPMCCI Ex-Front Month Index are available on www.jpmorgan.com/jpmcci.

H. JPMCCI Exchange Commodities included in the JPMCCI Aggregate Indices, JPMCCI Energy Light Indices, JPMCCI Sector Indices and their corresponding JPMCCI Ex-FM variations in 2013

Table 1

Table 1 below shows the JPMCCI and the JPMCCI Ex-FM Sector Indices for 2013 and the JPMCCI Exchange Commodities included in each. The JPMCCI and JPMCCI Ex-FM Aggregate Indices and the JPMCCI and JPMCCI Ex-FM Energy Light Indices each include all 35 JPMCCI Exchange Commodities set out below.

Energy		Agriculture	
NYMEX	Crude Oil	CBOT	Corn
NYMEX	Gasoline	CBOT	Soybeans
NYMEX	Heating Oil	CBOT	Soybean Meal
NYMEX	Natural Gas	CBOT	Soybean Oil
ICE	Brent Crude	CBOT	Rough Rice
ICE	Gas Oil	CBOT	Wheat
CBOT	Ethanol	KCBOT	Winter Wheat
		MGE	Spring Wheat
		NYBOT	Cocoa
		NYBOT	Coffee
		NYBOT	Cotton
		NYBOT	Sugar
		LIFFE	Robusta Coffee
		LIFFE	White Sugar
Precious Metals		Livestock	
COMEX	Gold	CME	Feeder Cattle
COMEX	Silver	CME	Lean Hogs
NYMEX	Palladium	CME	Live Cattle
NYMEX	Platinum		
Industrial Metals			
LME	Aluminum		
LME	Copper		
LME	Lead		
LME	Nickel		
LME	Tin		
LME	Zinc		
COMEX	Copper		

Heating Oil was removed from the aggregate and energy light indices in May 2012 following the rules in section B.2. Heating Oil reentered the aggregate and energy light indices from January 2013.
Orange Juice was removed from the aggregate and energy light indices in January 2013.

Table 2

Table 2 sets out a chart below detailing the combined exchanges of the relevant JPMCCI Single Commodity Indices.

For WTI Crude Oil and Heating Oil, the open interest for the NYMEX and ICE contracts were combined starting with the February 2006 contract for WTI Crude Oil, and the April 2006 contract for Heating Oil. For Gold and Silver, the open interest for the COMEX and CBOT contracts were combined starting with the October 2004 contract for both Gold and Silver. For Gasoline, the open interest for the phased out NYMEX Unleaded Gasoline and successor NYMEX RBOB Gasoline contracts were combined, when the NYMEX Unleaded Gasoline contracts were phased out in July 2006. For Robusta Coffee, the open interest for the phased out Liffe Robusta Coffee and successor Liffe Robusta Coffee 10 were combined when the Liffe Robusta Coffee contracts were phased out in January 2009.

Open Interest for:	Combined for Exchange Commodity	since
ICE Crude Oil	NYMEX Crude Oil	Feb-2006
ICE Heating Oil	NYMEX Heating Oil	Apr-2006
CBOT Gold	COMEX Gold	Oct-2004
CBOT Silver	COMEX Silver	Oct-2004
NYMEX Unleaded Gasoline	NYMEX RBOB Gasoline	July 2006
LIFFE Robusta Coffee	LIFFE Robusta Coffee 10	Jan 2009

The latest estimated post-rebalance weights for the JPMCCI Aggregate Index, the JPMCCI Sector Indices, and JPMCCI Energy Light Index calculated using the latest Aggregate Commodity Units are available on www.jpmorgan.com/jpmcci.

I. Commodity Inclusion Process

The latest list of futures markets which were reviewed for inclusion in JPMCCI is available on www.jpmorgan.com/jpmcci.

J. Aggregate Commodity Units and Portfolio Continuity Factors for JPMCCI from 1989 to current**J.1 Aggregate Commodity Units for JPMCCI Aggregate Index**

These are available on www.jpmorgan.com/jpmcci.

J.2 Portfolio Continuity Factors for the JPMCCI Aggregate Index and JPMCCI Ex-Front Month Index from 1989 to current.

These are available on www.jpmorgan.com/jpmcci.

J.3 Aggregate Commodity Units (ACU) and Portfolio Continuity Factors (PCF) for JPMCCI Energy Light Index and for the JPMCCI Ex-Front Month Energy Light Index

These are available on www.jpmorgan.com/jpmcci.

K. Market Sizes 1990 to current

These are available on www.jpmorgan.com/jpmcci.

L. JPMCCI Index Bloomberg Tickers

Bloomberg Tickers for JPMCCI Index and JPMCCI Energy Light Index						
	Price Index	Excess Return Index	Total Return Index	Weight	Energy Light Weights	Remaining Maturity
Aggregate	JMCXPI	JMCXER	JMCXTR			JMCXD
Energy Light	JMCXELPI	JMCXELER	JMCXELTR			JMCXELD
Energy	JMCXENPI	JMCXENER	JMCXENTR	JMCXENW	JMCXEENW	JMCXEND
Non-Energy	JMCXNEPI	JMCXNEER	JMCXNETR	JMCXNEW	JMCXENEW	JMCXNED
Industrial Metals	JMCXIMPI	JMCXIMER	JMCXIMTR	JMCXIMW	JMCXEIMW	JMCXIMD
Precious Metals	JMCXPMPI	JMCXPMER	JMCXPMTR	JMCXPMW	JMCXEPMW	JMCXPMD
All Metals	JMCXMEPI	JMCXMEER	JMCXMETR	JMCXMEW	JMCXEMEW	JMCXMED
Agriculture	JMCXAGPI	JMCXAGER	JMCXAGTR	JMCXAGW	JMCXEAGW	JMCXAGD
Livestock	JMCXLIPI	JMCXLIER	JMCXLITR	JMCXLIW	JMCXELIW	JMCXLID
NYMEX Crude Oil	JMCXCLPI	JMCXCLER	JMCXCLTR	JMCXCLW	JMCXECLW	JMCXCLD
NYMEX Gasoline	JMCXXBPI	JMCXXBER	JMCXXBTR	JMCXXBW	JMCXEXBW	JMCXXBD
NYMEX Heating Oil	JMCXHOPI	JMCXHOER	JMCXHOTR	JMCXHOW	JMCXEHOW	JMCXHOD
NYMEX Natural Gas	JMCXNGPI	JMCXNGER	JMCXNGTR	JMCXNGW	JMCXENGW	JMCXNGD
ICE Brent Crude	JMCXCOPI	JMCXCOER	JMCXCOTR	JMCXCOW	JMCXECOW	JMCXCOD
ICE Gas Oil	JMCXQSPI	JMCXQSER	JMCXQSTR	JMCXQSW	JMCXEQSW	JMCXQSD
CBOT Ethanol	JMCXDLPI	JMCXDLER	JMCXDLTR	JMCXDLW	JMCXEDLW	JMCXDLD
COMEX Gold	JMCXGCPI	JMCXGCER	JMCXGCTR	JMCXGCW	JMCXEGCW	JMCXGCD
COMEX Silver	JMCXSIPI	JMCXSIER	JMCXSITR	JMCXSIW	JMCXESIW	JMCXSID
NYMEX Palladium	JMCXPAPI	JMCXPAER	JMCXPATR	JMCXPAW	JMCXEPAW	JMCXPAD
NYMEX Platinum	JMCXPLPI	JMCXPLER	JMCXPLTR	JMCXPLW	JMCXEPLW	JMCXPLD
LME Aluminum	JMCXLAPI	JMCXLAER	JMCXLATR	JMCXLAW	JMCXELAW	JMCXLAD
LME Copper	JMCXLPPI	JMCXLPER	JMCXLPTR	JMCXLPW	JMCXELPW	JMCXLPD
LME Lead	JMCXLLPI	JMCXLLER	JMCXLLTR	JMCXLLW	JMCXELLW	JMCXLLD
LME Nickel	JMCXLNPI	JMCXLNER	JMCXLNTR	JMCXLNW	JMCXELNW	JMCXLND
LME Zinc	JMCXLXPI	JMCXLXER	JMCXLXTR	JMCXLXW	JMCXELXW	JMCXLXD
LME Tin	JMCXLTPPI	JMCXLTER	JMCXLTTR	JMCXLTW	JMCXELTW	JMCXLTD
COMEX Copper	JMCXHGPPI	JMCXHGER	JMCXHGTR	JMCXHGW	JMCXEHGW	JMCXHGD
CBOT Corn	JMCXCPI	JMCXCER	JMCXCTR	JMCXCW	JMCXECW	JMCXCD
CBOT Soybeans	JMCXSPI	JMCXSER	JMCXSTR	JMCXSW	JMCXESW	JMCXSD
CBOT Soybean Meal	JMCXSMPI	JMCXSMER	JMCXSMTR	JMCXSMW	JMCXESMW	JMCXSMD
CBOT Soybean Oil	JMCXBOPI	JMCXBOER	JMCXBOTR	JMCXBOW	JMCXEBOW	JMCXBOD
CBOT Wheat	JMCXWPI	JMCXWER	JMCXWTR	JMCXWW	JMCXEW	JMCXWD
CBOT Rough Rice	JMCXRRPI	JMCXRRER	JMCXRRTR	JMCXRRW	JMCXERRW	JMCXRRD
KCBOT Winter Wheat	JMCXKWP I	JMCXKWE R	JMCXKWT R	JMCXKW W	JMCXEKW W	JMCXKW D
MGE Spring Wheat	JMCXMWP I	JMCXMWE R	JMCXMWT R	JMCXMW W	JMCXEMW W	JMCXMW D
NYBOT Cocoa	JMCXCCPI	JMCXCCER	JMCXCCTR	JMCXCCW	JMCXECCW	JMCXCCD
NYBOT Coffee	JMCXKCPI	JMCXKCER	JMCXKCTR	JMCXKCW	JMCXEKCW	JMCXKCD
NYBOT Cotton	JMCXCTPI	JMCXCTER	JMCXCTTR	JMCXCTW	JMCXECTW	JMCXCTD
NYBOT Orange	JMCXJOPI	JMCXJOER	JMCXJOTR	JMCXJOW	JMCXEJOW	JMCXJOD

JPMorgan Commodity Curve Index: Reference Document

Juice	JMCXSBPI	JMCXSBER	JMCXSBTR	JMCXSBW	JMCXESBW	JMCXSBD
NYBOT Sugar						
LIFFE Robusta	JMCXCFPI	JMCXCFER	JMCXCFTR	JMCXCFW	JMCXECFW	JMCXCFD
Coffee	JMCXQWP	JMCXQWE	JMCXQWT	JMCXQW	JMCXEQW	JMCXQW
LIFFE White	I	R	R	W	W	D
Sugar						
CME Feeder	JMCXFCPI	JMCXFCER	JMCXFCTR	JMCXFCW	JMCXEFCW	JMCXFCD
Cattle	JMCXLHPI	JMCXLHER	JMCXLHTR	JMCXLHW	JMCXELHW	JMCXLHD
CME Lean Hogs	JMCXLCPI	JMCXLCER	JMCXLCTR	JMCXLCW	JMCXELCW	JMCXLCD
CME Live Cattle						

Bloomberg Tickers for JPMCCI Ex-FM Index and JPMCCI Ex-FM Energy Light Index						
	Price Index	Excess Return Index	Total Return Index	Weight	Energy Light Weights	Remaining Maturity
Ex-FM Aggregate	JMCXEXPI	JMCXEXE R	JMCXEXT R			JMCXEXD
Ex-FM Energy Light	JMCXXEL P	JMCXXEL E	JMCXXEL T			JMCXLEN D
Ex-FM Energy	JMCXXEN P	JMCXXEN E	JMCXXEN T	JMCXXEN W	JMCXLFE W	JMCXXEN D
Ex-FM Non-Energy	JMCXXNE P	JMCXXNE E	JMCXXNE T	JMCXXNE W	JMCXLFN W	JMCXXNE D
Ex-FM Industrial Metals	JMCXXIM P	JMCXXIM E	JMCXXIM T	JMCXXIM W	JMCXLFIW	JMCXXIM D
Ex-FM Precious Metals	JMCXXPM P	JMCXXPM E	JMCXXPM T	JMCXXPM W	JMCXLFT W	JMCXXPM D
Ex-FM All Metals	JMCXXME P	JMCXXME E	JMCXXME T	JMCXXME W	JMCXLFM W	JMCXXME D
Ex-FM Agriculture	JMCXXAG P	JMCXXAG E	JMCXXAG T	JMCXXAG W	JMCXLFA W	JMCXXAG D
Ex-FM Livestock	JMCXXLIP	JMCXXLIE	JMCXXLIT	JMCXXLIW	JMCXLFL W	JMCXXLID
Ex-FM NYMEX Crude Oil	JMCXXCL P	JMCXXCL E	JMCXXCL T	JMCXXCL W	JMCXLCL W	JMCXXCL D
Ex-FM NYMEX Gasoline	JMCXXXB P	JMCXXXB E	JMCXXXB T	JMCXXXB W	JMCXLBW	JMCXXXB D
Ex-FM NYMEX Heating Oil	JMCXXHO P	JMCXXHO E	JMCXXHO T	JMCXXHO W	JMCXLHO W	JMCXXHO D
Ex-FM NYMEX Natural Gas	JMCXXNG P	JMCXXNG E	JMCXXNG T	JMCXXNG W	JMCXNGW	JMCXXNG D
Ex-FM ICE Brent Crude	JMCXXCO P	JMCXXCO E	JMCXXCO T	JMCXXCO W	JMCXLCO W	JMCXXCO D
Ex-FM ICE Gas Oil	JMCXXQS P	JMCXXQS E	JMCXXQS T	JMCXXQS W	JMCXLQS W	JMCXXQS D
Ex-FM CBOT Ethanol	JMCXXDL P	JMCXXDL E	JMCXXDL T	JMCXXDL W	JMCXLDL W	JMCXXDL D
Ex-FM COMEX Gold	JMCXXGC P	JMCXXGC E	JMCXXGC T	JMCXXGC W	JMCXLGC W	JMCXXGC D
Ex-FM COMEX Silver	JMCXXSIP	JMCXXSIE	JMCXXSIT	JMCXXSIW	JMCXLSIW	JMCXXSID
Ex-FM NYMEX Palladium	JMCXXPA P	JMCXXPA E	JMCXXPA T	JMCXXPA W	JMCXLNG W	JMCXXPA D
Ex-FM NYMEX Platinum	JMCXXPL P	JMCXXPL E	JMCXXPL T	JMCXXPL W	JMCXLPL W	JMCXXPL D

JPMorgan Commodity Curve Index: Reference Document

Ex-FM LME Aluminum	JMCXXLA P	JMCXXLA E	JMCXXLA T	JMCXXLA W	JMCXLLA W	JMCXXLA D
Ex-FM LME Copper	JMCXXLP P	JMCXXLP E	JMCXXLP T	JMCXXLP W	JMCXLLP W	JMCXXLP D
Ex-FM LME Lead	JMCXXLL P	JMCXXLL E	JMCXXLL T	JMCXXLL W	JMCXLLL W	JMCXXLL D
Ex-FM LME Nickel	JMCXXLN P	JMCXXLN E	JMCXXLN T	JMCXXLN W	JMCXLLN W	JMCXXLN D
Ex-FM LME Zinc	JMCXXLX P	JMCXXLX E	JMCXXLX T	JMCXXLX W	JMCXLLX W	JMCXXLX D
Ex-FM LME Tin	JMCXXLT P	JMCXXLT E	JMCXXLT T	JMCXXLT W	JMCXLLT W	JMCXXLT D
Ex-FM COMEX Copper	JMCXXHG P	JMCXXHG E	JMCXXHG T	JMCXXHG W	JMCXLHG W	JMCXXHG D
Ex-FM CBOT Corn	JMCXXCP	JMCXXCE	JMCXXCT	JMCXXCW	JMCXLYC W	JMCXXCD
Ex-FM CBOT Soybeans	JMCXXSP	JMCXXSE	JMCXXST	JMCXXSW	JMCXLSW	JMCXXSD
Ex-FM CBOT Soybean Meal	JMCXXSM P	JMCXXSM E	JMCXXSM T	JMCXXSM W	JMCXLSM W	JMCXXSM D
Ex-FM CBOT Soybean Oil	JMCXXBO P	JMCXXBO E	JMCXXBO T	JMCXXBO W	JMCXLBO W	JMCXXBO D
Ex-FM CBOT Wheat	JMCXXWP	JMCXXWE	JMCXXWT	JMCXXWW	JMCXLWW	JMCXXWD
Ex-FM CBOT Rough Rice	JMCXXRR P	JMCXXRR E	JMCXXRR T	JMCXXRR W	JMCXLRR W	JMCXXRR D
Ex-FM KCBOT Winter Wheat	JMCXXK WP	JMCXXK WE	JMCXXK WT	JMCXXKW W	JMCXLKW W	JMCXXKW D
Ex-FM MGE Spring Wheat	JMCXXM WP	JMCXXM WE	JMCXXM WT	JMCXXMW W	JMCXLMW W	JMCXXM WD
Ex-FM NYBOT Cocoa	JMCXXCC P	JMCXXCC E	JMCXXCC T	JMCXXCC W	JMCXLCC W	JMCXXCC D
Ex-FM NYBOT Coffee	JMCXXKC P	JMCXXKC E	JMCXXKC T	JMCXXKC W	JMCXLKC W	JMCXXKC D
Ex-FM NYBOT Cotton	JMCXXCT P	JMCXXCT E	JMCXXCT T	JMCXXCT W	JMCXLCT W	JMCXXCT D
Ex-FM NYBOT Orange Juice	JMCXXJO P	JMCXXJO E	JMCXXJO T	JMCXXJO W	JMCXLJO W	JMCXXJO D
Ex-FM NYBOT Sugar	JMCXXSB P	JMCXXSB E	JMCXXSB T	JMCXXSB W	JMCXLSB W	JMCXXSB D
Ex-FM LIFFE Robusta Coffee	JMCXXCF P	JMCXXCF E	JMCXXCF T	JMCXXCF W	JMCXLCF W	JMCXXCF D
Ex-FM LIFFE White Sugar	JMCXXQ WP	JMCXXQ WE	JMCXXQ WT	JMCXXQW W	JMCXLQW W	JMCXXQW D
Ex-FM CME Feeder Cattle	JMCXXFC P	JMCXXFC E	JMCXXFC T	JMCXXFC W	JMCXLFC W	JMCXXFC D
Ex-FM CME Lean Hogs	JMCXXLH P	JMCXXLH E	JMCXXLH T	JMCXXLH W	JMCXLLH W	JMCXXLH D
Ex-FM CME Live Cattle	JMCXXLC P	JMCXXLC E	JMCXXLC T	JMCXXLC W	JMCXLLC W	JMCXXLC D

M. Table (for indicative purposes only) of days anticipated not to be Scheduled Trading Days in respect of Relevant Exchanges for the current year

These are available on www.jpmorgan.com/jpmcci.

N. Note on Hypothetical Back-tested Historical Calculations

The hypothetical back-tested historical values of the JPMCCI Index should not be taken as an indication of future performance, and no assurance can be given as to the values of the JPMCCI Index on a future date. The hypothetical back-tested historical values of the JPMCCI Index were calculated on materially the same basis on which the JPMCCI Index is now calculated; however, certain historical information used in calculating the JPMCCI Index was not available to the Index Calculation Agent in determining hypothetical back-tested historical values. Below are the material variations and assumptions used in calculating the hypothetical back-tested historical values prior to initial published values of the JPMCCI Indices (other than the JPMCCI Energy Light and JPMCCI Ex – Front Month Indices) on November 9, 2007. The JPMCCI Energy Light, the JPMCCI Ex – Front Month Indices with the exception of the JPMCCI Ex-Front Energy Light Month Indices were first published on June 11, 2008, November 14, 2008 respectively. The JPMCCI Ex-Front Month Energy Light Indices were first published on 30 August 2011.

The Index Calculation Agent and the Index Sponsor expressly disclaim any responsibility for (i) any errors or omissions in calculating the back-tested information and (ii) any uses to which the back-tested information may be put by any person.

Aggregate Commodity Units Prior to 2003

Prior to 2003, certain open interest information was not published by the Futures Industries Association for periods prior to November 1999. The first reliable Observation Period spanned from November 1999 to October 2002. Therefore, the Aggregate Commodity Units were set to equal to the Aggregate Commodity Units based on figures calculated in 2003.

Data unavailability with regard to Historical Monthly Contract Interest Percentages

Historically, in any year during which any HMCOIP cannot be calculated due to missing MCOIP data, all the HMCOIPs of that year were set to the HMCOIPs of the following year for which complete MCOIP data was available. For example, if reliable open interest data was not available prior to 1997 (included), then all the HMCOIPs for 1998 to 2000, all of which rely on MCOIPs of 1997, would have been set to the HMCOIPs of 2001, assuming that MCOIPs for 1998, 1999 and 2000 were intact.

ANNEX D

J.P. Morgan Single Commodity Indices Standard Terms

J.P.Morgan

Last Amended September 22, 2009

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1. General

1.1. Introduction

The J.P. Morgan Single Commodity Indices are a family of Excess Return Indices and Total Return Indices that each provide exposure to a single Exchange Commodity. This document sets forth the standard terms applicable to each J.P. Morgan Single Commodity Index and represents the basic methodology for each J.P. Morgan Single Commodity Index. We refer to this document as the “**Standard Terms**”. In addition to these Standard Terms, a separate index supplement (“**Index Supplement**” and together with the Standard Terms, the “**Index Rules**”) will provide specific information with respect to one or more Indices. These Standard Terms, together with the applicable Index Supplement, outline the mechanisms for constructing and calculating each J.P. Morgan Single Commodity Index.

1.2. Methodology Construction and Documentation Architecture

These Standard Terms serve as the framework for each J.P. Morgan Single Commodity Index and are supplemented by an Index Supplement, which relates to one or more J.P. Morgan Single Commodity Indices. Each Index Supplement will be substantially in the form of Annex A attached hereto. Notwithstanding anything to the contrary, each Index Supplement will constitute a stand alone index methodology with respect to the one or more Indices described therein; provided, that a hyperlink is included to these Standard Terms.

These Standard Terms should be read in conjunction with the Index Supplement with respect to each J.P. Morgan Single Commodity Index. To the extent that the Standard Terms conflicts with the Index Supplement, the Index Supplement will govern the construction and calculation of the applicable J.P. Morgan Single Commodity Index. In certain instances, the Index Supplement may explicitly override and/or supplement these Standard Terms, and such new provisions will apply to the Index or Indices documented in that Index Supplement.

1.3. Amendments

The Index Calculation Agent may amend these Standard Terms and any accompanying Index Supplement from time to time at its sole and absolute discretion. After the amendment of these Standard Terms or any Index Supplement, the Index Calculation Agent will promptly notify any licensee of such amendments prior to any adjustments to the construction and calculation of an Index Level.

1.4. Notices; Disclaimers and Potential Conflicts of Interest

You should carefully review the Notices, Disclaimers and Potential Conflicts of Interests set forth in Section 12 herein.

1.5. No Offer or Solicitation of an Offer to Purchase Financial Instruments

These Standard Terms are not, and should not be construed to be, an offer to sell, or a solicitation of an offer to buy, any securities or other financial instruments offered or issued by JPMorgan Chase & Co. or any of its affiliates.

1.6. Copyright; All Rights Reserved

These Standard Terms, and each Index Supplement, is published by J.P. Morgan Securities Ltd. (“**JPMSL**”) of 125 London Wall, London EC2Y 5AJ. JPMSL reserves all rights with respect to the Indices, the Rules and any information (“**Information**”) derived or determined by the Index Calculation Agent, including but not limited to the Index Levels. Copyright 2009 J.P. Morgan Securities Ltd. All rights reserved ©.

2. Definitions

Capitalized terms set forth herein and not otherwise defined will have the meaning set forth below.

“Change in Law” means:

- (a) due to:
 - (i) the adoption of, or any change in, any applicable law, regulation, rule or order (including, without limitation, any tax law); or
 - (ii) the promulgation of, or any change in, the interpretation, application, exercise or operation by any court, tribunal, regulatory authority, exchange or trading facility or any other relevant entity with competent jurisdiction of any applicable law, rule, regulation, order, decision or determination (including, without limitation, as implemented by the Commodity Futures Trading Commission or exchange or trading facility), in each case occurring on or after the Inception Date,

in each case, the Index Calculation Agent determines in good faith that it is contrary (or, upon adoption, it will be contrary) to such law, rule, regulation, order, decision or determination for any market participants that are brokers or financial intermediaries (individually or collectively) to purchase, sell, enter into, maintain, hold, acquire or dispose of any Monthly Contracts or any transaction referencing any Monthly Contract (in whole or in part) (in the aggregate on a portfolio basis or incrementally on a trade by trade basis) including (without limitation) if such Monthly Contract (in whole or in part) are (or, but for the consequent disposal 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) in relation to any Monthly Contract traded on any exchange(s) or other trading facility; or

- (b) the occurrence or existence of any:
 - (i) suspension or limitation imposed on trading commodities futures contracts (including, without limitation the Monthly Contracts); or
 - (ii) any other event that causes trading in commodity futures contracts (including, without limitation Monthly Contracts) to cease.

“Composition” means, with respect to any Index, the portfolio of Monthly Contracts associated with such Index.

“Contract at Month Start” means, with respect to a calendar month, the Monthly Contract to which the applicable Index will be exposed to on the first Index Publication Day of that calendar month. The Contract at Month Start is determined by reference to the Roll Schedule as set forth in the Index Supplement.

“Contract Price” means, with respect to any Monthly Contract on Index Publication Day d, the Settlement Price in U.S. dollars of that exchange traded futures contract as published by the Relevant Exchange for that exchange traded futures contract in respect of such Index Publication Day d.

“Contract Year” shall have the meaning set forth in Section 6 of these Standard Terms.

“Disrupted Day” means, with respect to a Monthly Contract, an Index Publication Day on which:

- (a) the Settlement Price for such Monthly Contract is not published by the Relevant Exchange in respect of such Index Publication Day; or
- (b) the Settlement Price for such Monthly Contract in respect of such Index Publication Day is a Limit Price.

“Excess Return Index” means an Index that captures the price return from investing in commodity exchanged traded futures contracts and the yield (positive or negative) associated with rolling the Composition of such Index.

“Exchange Commodity” means, with respect to any Index, the Underlying Commodity that trades on the Underlying Relevant Exchange as specified in the applicable Index Supplement. The relevant Exchange Commodity for the Index will be specified by the combination of the Underlying Commodity and the Underlying Relevant Exchange. To the extent that the same commodity is traded on two different exchanges e.g. Copper (LME) and Copper (COMEX), each will be considered a distinct Exchange Commodity.

“Force Majeure Event” means any event beyond the control of the Index 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.

“Inception Date” means, with respect to an Index, the first date in respect of which the Index Calculation Agent publishes an Index Level for the applicable Index. The Inception Date will be set forth in the Index Supplement related to such Index.

“Inception Level” means the Index Level on the Inception Date. The Inception Level will be set forth in the Index Supplement related to such Index.

“Index Name” means the name set forth in the Index Supplement for such Index.

“Incoming Contract” means with respect to a calendar month, the Contract at Month Start for the Index for the immediately following month.

“Index” means the particular instance of a J.P. Morgan Single Commodity Index under consideration.

“Index Calculation Agent” means J.P. Morgan Securities Ltd. or any successor thereto. Notwithstanding anything to the contrary, J.P. Morgan Securities Ltd. may assign its rights and responsibilities set forth herein and in any Index Supplement to any of its affiliates without the prior written consent or notice to any index licensee or interested person. Each such index licensee or interested person acknowledges such right of assignment at the time in which he or she enters into a license agreement or obtains an interest in an Index.

“Index Publication Day” means a day on which the NYSE Euronext is scheduled to be open for trading for its regular trading session. Throughout this Standard Terms, arithmetic operations applied to Index Publication Days are taken to count only Index Publication Days e.g. where “d” refers to an Index Publication Day, d – 1 shall mean the Index Publication Day immediately preceding d.

“Index Level” means, with respect to any Index Publication Day, the level of the Index as determined by the Index Calculation Agent on such Index Publication Day.

“Index Supplement” means a document that supplements these Standard Terms with values, parameters or definitions that are specific to a particular J.P. Morgan Single Commodity Index.

“Limit Day” means, with respect to an Exchange Commodity and its Relevant Exchange, any day on which there is a limitation on, or suspension of, the trading of options or futures contracts imposed by the Relevant Exchange by reason of movements exceeding “limit up” or “limit down” levels permitted by such Relevant Exchange..

“Limit Price” means a Settlement Price in respect of any scheduled Index Publication Day that is a Limit Day.

“Monthly Contract” means, with respect to an Exchange Commodity and a given month, the exchange traded futures contract considered most associated to that given month as determined by the Index Calculation Agent based (a) in the case of all Exchange Commodities other than Exchange Commodities traded on the London Metals Exchange, the exchange traded futures contract so designated by the Relevant Exchange (being typically the

contract that will expire in that given month with delivery or settlement specified to occur in the immediately following such given calendar month) or (b) with respect to an Exchange Commodity whose Relevant Exchange is the London Metals Exchange, the Monthly Contract shall be the relevant contract expiring on the third Wednesday of the given month..

“Outgoing Contract” means with respect to a calendar month, the Contract at Month Start for the Index for that month.

“Relevant Exchange” means, with respect to each Exchange Commodity the primary futures exchange on which futures contracts of that Exchange Commodity are traded.

“Relevant Person” 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).

“Roll Period” means, with respect to any Index, the set of Index Publication Days of each month over which the exposure of the applicable Index is scheduled to be rolled from the Outgoing Contract to the Incoming Contract. The Roll Period is the period from and including the Roll Period Starting Day through and including the Roll Period Ending Day, each of which will be set forth in the applicable Index Supplement. For more information on Roll Period, see *“Roll Weights”* as set forth herein.

“Roll Period Ending Day” means, with respect to any Index, the n th Index Publication Day of any calendar month on which the Roll Period is scheduled to end. The Roll Period Ending Day is defined to be the sum of the Roll Period Starting Day and the Roll Period Length minus one.

“Roll Period Length” means an integer indicating the scheduled length of the Roll Period in terms of Index Publication Days.

“Roll Period Starting Day” means, with respect to any Index, the n th Index Publication Day of any calendar month on which the Roll Period is scheduled to begin, unless otherwise specified in the Index Supplement. The Roll Period Starting Days (and the applicable n th Index Publication Day) will be specified in the relevant Index Supplement.

“Roll Schedule” means a list of twelve Monthly Contracts which will be the Contract at Month Start for each of the months January through December. See the section *Roll Schedule* below for more details.

“Roll Weight Incoming” shall have the meaning set forth in Section 5 of these Standard Terms.

“Roll Weight Outgoing” shall have the meaning set forth in Section 5 of these Standard Terms.

“Scheduled Roll Day” shall have the meaning set forth in Section 5 of these Standard Terms.

“Scheduled Trading Day” means, with respect to an Exchange Commodity, a day on which the Relevant Exchange for such Exchange Commodity is scheduled to be open for trading for its regular trading sessions.

“Settlement Price” means, with respect to each Exchange Commodity, the settlement price in respect of a Monthly Contract as published by the Relevant Exchange for such Exchange Commodity on any Index Publication Day.

“Ticker” means, with respect to any Index, the Bloomberg™ ticker on which the Index Calculation Agent will publish the Index Level for any Index on each Index Publication Day.

“Total Return Index” means an Index that measures the fully collateralized investment in an Exchange Commodity as calculated by the Index Calculation Agent in accordance with the formula set forth in Section 4 of these Standard Terms.

“Underlying Commodity” means, with respect to any Index and any Exchange Commodity, the commodity to which the Index will be exposed.

“**Underlying Relevant Exchange**” means, with respect to any Index and any Exchange Commodity, the primary futures exchange on which futures contracts of the Underlying Commodity are traded.

“**U.S. Treasury Bill Return**” shall have the meaning set forth in Section 4.2 herein.

3. Calculation Agent

3.1. Identity

JPMSL will act as calculation agent in connection with the Index (the “**Index Calculation Agent**”). Notwithstanding anything to the contrary, J.P. Morgan Securities Ltd. may assign its rights and responsibilities set forth herein and in any Index Supplement to any of its affiliate without the prior written consent or notice to any index licensee or interested person. Each such index licensee or interested person acknowledge such right of assignment at the time in which he or she enters into a license agreement or obtains an interest in an Index.

3.2. Calculation Agent Determinations

All determinations of the Index Calculation Agent and interpretation of the Index 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 Index Calculation Agent or any other Relevant Person with respect to any aspect of the applicable Index, neither the Index 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.

4. Calculation of the Index Level

On the Inception Date, the Index Calculation Agent will set the Index Level equal to the Inception Level. The Inception Date and the Inception Level will set forth in the Index Supplement for the applicable Index.

4.1. Calculation of the Index Level for an Excess Return Index

With respect to any Excess Return Index, for each Index Publication Day d following the Inception Date, the Index Level in respect of d (which we refer to as $Index_d$) will be calculated as:

$$Index_d = Index_{d-1} \times (1 + IR_d)$$

where IR_d is the Investment Return for Index Publication Day d , defined as

$$IR_d = \frac{RWO_{d-1} \times CPO_{d,m_{d-1}} + RWI_{d-1} \times CPI_{d,m_{d-1}}}{RWO_{d-1} \times CPO_{d-1,m_{d-1}} + RWI_{d-1} \times CPI_{d-1,m_{d-1}}} - 1$$

where:

RWO_{d-1} is the Roll Weight Outgoing of the applicable Index in respect of Index Publication Day d_{-1} . For more information, see “Roll Weight Outgoing” as defined in Section 5 of these Standard Terms.

RWI_{d-1}	is the Roll Weight Incoming of the Index in respect of Index Publication Day _{d-1} . For more information, see “Roll Weight Outgoing” as defined in Section 5 of these Standard Terms.
$CPO_{d,m_{d-1}}$	is the Contract Price of the Outgoing Contract for month m_{d-1} in respect of Index Publication Day d .
$CPI_{d,m_{d-1}}$	is the Contract Price of the Incoming Contract for month m_{d-1} in respect of Index Publication Day d .
m_{d-1}	is calendar month in which Index Publication Day _{d-1} falls.

4.2. Calculation of the Index Level for a Total Return Index

With respect to any Excess Return Index, for each Index Publication Day d following the Inception Date, the Index Level on d (which we refer to as Index _{d}) will be calculated as:

$$Index_d = Index_{d-1} \times (1 + IR_d + TBR_d) \times \prod_{a \in A} (1 + TBR_a)$$

where:

IR_d is determined in accordance with Section 4.2 herein;

TBR_d is the “U.S. Treasury Bill Return” on calendar day d , calculated as follows:

$$TBR_d = \left(\frac{1}{1 - \frac{91}{360} \times TBRATE_{d-1}} \right)^{1/91} - 1$$

$TBRATE_{d-1}$ is the 91-day auction high rate for U.S. Treasury Bills on the most recent weekly auction date available on the calendar day immediately preceding the calendar day d

A is the set of calendar days in between the immediately preceding Index Publication Day and the Index Publication Day d (exclusive)

5. Roll Weights

In order to minimise market impact of rolling from the Outgoing Contract to the Incoming Contract, the Index will roll the exposure in equal portions over the Roll Period. For any month where the Outgoing Contract and the Incoming Contract are the same, the roll will have no effect.

The “**Roll Weight Outgoing**” on a given Index Publication Day represents the portion of exposure the Index has to the Outgoing Contract. Similarly the “**Roll Weight Incoming**” on a given Index Publication Day represents the portion of exposure the Index has to the Incoming Contract.

The Roll Period is a period of consecutive Index Publication Days during each calendar month starting on and including the Roll Period Starting Day and ending on and including the Roll Period Ending Day.

During the Roll Period, the Roll Weights in respect of the i-th Index Publication Day of the Roll Period are calculated as follows:

$$RWI_{d_i} = \frac{i}{\text{Roll Period Length}}$$

$$RWO_{d_i} = 1 - \frac{i}{\text{Roll Period Length}}$$

where d_i means the i-th Index Publication Day of the Roll Period. Roll Period Length will be set forth in the applicable Index Supplement.

On any Index Publication Day outside of the Roll Period, the Roll Weights are determined as follows:

- For any Index Publication Day d of a calendar month prior to the Roll Period Starting Day RWI_d is 0.0 and RWO_d is 1.0.
- For any Index Publication Day d of a calendar month after the last Index Publication Day of the Roll Period, RWI_d is 1.0 and RWO_d is 0.0.

The effect of this calculation is that, on each Index Publication Day during the Roll Period (each such day, a “**Scheduled Roll Day**”), the Composition will be amended by the phased removal from the Composition of (1/Roll Period Length) of the exposure to the Outgoing Contract and the replacement of it by (1/Roll Period Length) of the Incoming Contract; provided, however that if the Scheduled Roll Day is a Disrupted Day with respect to the Underlying Exchange Commodity, then (a) the Composition will not be amended on that day and (b) the portion of the Composition which would have been amended on that day shall be amended on the next following Index Publication Day which is not a Disrupted Day.

6. Roll Schedule

The Roll Schedule for any Index is a list of twelve Monthly Contracts which will be the Contract at Month Start for each of the months January through December. The Contract at Month Start will be indicated with an upper case letter, which corresponds to the expiration month of the applicable Monthly Contract, together with a subscript numeral, which corresponds to the calendar year of the applicable Monthly Contract.

The letter refers to the standard nomenclature for the delivery months of exchange traded futures contracts. Table 1 below sets out the delivery months for each letter.

The subscript numeral indicates the year of the Contract at Month Start expressed as an offset from the year of the current calendar month (such subscript, the “**Contract Year**”). For example, the subscript 0 indicates that the delivery month of the Contract at Month Start falls in the same calendar year as the current month. Similarly the subscript 1 indicates that the delivery month of the Contract at Month Start falls in the calendar year immediately following the calendar year of the current month.

Table 1

Calendar 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

7. Note on Hypothetical Back-tested Historical Calculations

The hypothetical back-tested historical values of any Index should not be taken as an indication of future performance, and no assurance can be given as to the values of the Index on a future date. Any hypothetical back-tested historical values related to any Index may not been verified by an independent third party, and such results have inherent limitations. For example, Limit Days are generally ignored when calculating hypothetical back-tested historical values. Back-tested results are achieved by means of a retroactive application of a back-tested model designed with the benefit of hindsight. No representation is made that any investment in an Index will or is likely to achieve returns similar to any results shared with any counterparty. Alternative modelling techniques or assumptions might provide significantly different results and prove to be more appropriate. Finally, past hypothetical back-tested performance results are neither an indicator nor a guarantee of future returns. Actual results will vary, potentially materially, from the analysis.

8. Publication; Disruption Events and Force Majeure Events

8.1. Publication Source

The Index Level shall be published on the Ticker specified in the Index Supplement.

8.2. Impact of Force Majeure Events on Publication Source

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

8.3. Publication on Disrupted Days or Limit Days

If for any reason a Settlement Price is not obtainable in respect of a given Exchange Commodity and Monthly Contract, then the Settlement Price last previously obtainable (which shall usually be the Settlement Price in respect of the previous Index Publication Day) will be used for calculation of the relevant Index Level.

If the Settlement Price is a Limit Price, the Limit Price will be used in the calculation of the relevant Index Level.

8.4. 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 Publication Day.

9. Successor Exchange Commodity; Change in Law

9.1. Successor Exchange Commodity

If:

- (a) the Settlement Price relating to a Monthly Contract of any Exchange Commodity is not calculated and announced by the Relevant Exchange but is calculated and announced by a successor exchange (the **“Successor Exchange”**) acceptable to the Calculation Agent;
- (b) a futures exchange announces futures contracts on the Underlying Commodity of an Index and, in the determination of the Calculation Agent, the contract specifications of such futures contracts on such Underlying Commodity are the same or substantially similar to the Monthly Contracts of any Monthly Contract;

then in each case, the Index Calculation Agent may elect to replace the Exchange Commodity with a successor exchange commodity relating to the same Underlying Commodity (the **“Successor Exchange Commodity”**) by making such adjustment to these Index Rules, as the Index Calculation Agent determines in good faith is appropriate, to account for such change. Notwithstanding anything to the contrary, the Index Calculation Agent may declare a Substitute Exchange Commodity.

9.2. Change in Law

The Index Calculation Agent is under no obligation to continue the calculation and publication of any Index upon the occurrence or existence of a Change in Law; and the Calculation Agent may decide to cancel any Index if it determines, acting in good faith, that the objective of the relevant Index can no longer be achieved. For the avoidance of doubt, a stated objective of any Index includes the objective of having an index that is liquid and representative of the commodities markets that exist as of the date of these Standard Terms.

10. Corrections

If:

- (a) the Settlement Price of any Monthly Contract used to calculate the Index Level on any Index Publication Day is subsequently corrected and the correction is published by the Relevant Exchange; 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 adjust or correct the published Index Level for such day and each subsequent Index Publication Day and publish such corrected Index Level(s) as soon as reasonably practicable.

11. Responsibilities

11.1. Calculation Agent Standards

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

11.2. Ambiguities in the Rules

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

11.3. 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 any Index 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 any Index or the Index Levels.

12. Notices, Disclaimers and Potential Conflicts of Interest

These Standard Terms 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 Standard Terms 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 Standard Terms or any Index.

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 Index 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 any Index and/or any of the Exchange Commodity. 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 any Index or any Exchange Commodity, 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 Standard Terms should be aware that a conflict of interest could arise where anyone is acting in more than one capacity.

Neither the Index 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 Index Rules have been developed with the possibility of the Index Calculation Agent or any of the Relevant Persons entering into or promoting, offering or selling transactions or investments (structured or otherwise) linked to any Index, and hedging the obligations that might arise under any such transactions or investments.

The Index provides only a notional exposure to an Exchange Commodity because there is no actual portfolio of assets to which any person is entitled or in which any person has any ownership interest. An Index 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 Index Calculation Agent need not publish the Index Level by any alternative method if the relevant Ticker 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 Standard Terms or the Index Level without the prior written consent of the Index Calculation Agent. Each Index is the intellectual property of the Index 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 Index Calculation Agent. These Standard Terms 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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ANNEX A

Form of Index Supplement

The following document constitutes an Index Supplement to the J.P. Morgan Single Commodity Indices Standard Terms. This Index Supplement should be read in conjunction with the Standard Terms and applies to each of the Indices set forth herein. To the extent that the Standard Terms conflicts with the Index Supplement, the Index Supplement will govern the construction and calculation of the applicable J.P. Morgan Single Commodity Index.

Index Information:

Index Name:

Inception Date:

Inception Level:

Underlying Commodity:

Underlying Relevant Exchange:

Roll Period Length:

Roll Period Starting Day:

Roll Period Ending Day:

Roll Schedule:

Risk Factors:

Additional Disclaimers:

Notes

**Index Supplement to
J.P. Morgan Single Commodity Indices
Standard Terms
Dated November 20, 2012**

The following document constitutes an Index Supplement to the J.P. Morgan Single Commodity Indices Standard Terms. This Index Supplement should be read in conjunction with the Standard Terms and applies to each of the Indices set forth herein. To the extent that the Standard Terms conflicts with the Index Supplement, this Index Supplement will govern the construction and calculation of the applicable J.P. Morgan Single Commodity Index. This Index Supplement is with respect to each of the Indices set forth under “Index Name” in Table 1 herein.

Incorporation of the J.P. Morgan Single Commodity Indices Standard Terms

The following Index Supplement incorporates by reference the J.P. Morgan Single Commodity Indices Standard Terms, which is available at the following hyperlink:

http://www.jpmmorgan.com/directdoc/JPM_Single_Cmdty_Indices_Standard_Terms_9_22_09.pdf

Index Information:

The following table sets forth the Index Name, the Underlying Commodity, the Ticker and the Underlying Relevant Exchange for each of the Indices described herein.

Table 1

Index Name	Underlying Commodity	Ticker	Underlying Relevant Exchange
JPMorgan Seasonal Custom Roll 2 Wheat Index—Excess Return	Wheat	JMC1SWP Index	CBOT
JPMorgan Seasonal Custom Roll 2 Corn Index—Excess Return	Corn	JMC1SCP Index	CBOT
JPMorgan Seasonal Custom Roll 2 Soybean Index—Excess Return	Soybean	JMC1SSP Index	CBOT
JPMorgan Seasonal Custom Roll 2 Sugar Index—Excess Return	Sugar	JMC1SSBP Index	ICE
JPMorgan Seasonal Custom Roll 2 Kansas Wheat Index—Excess Return	Kansas Wheat	JMC1SKWP Index	KBOT
JPMorgan Seasonal Custom Roll 2 Cotton Index—Excess Return	Cotton	JMC1SCTP Index	ICE
JPMorgan Seasonal Custom Roll 2 Coffee Index—Excess Return	Coffee	JMC1SKCP Index	ICE
JPMorgan Seasonal Custom Roll 2 Cocoa Index—Excess Return	Cocoa	JMC1SCCP Index	ICE
JPMorgan Seasonal Custom Roll 2 Soybean Oil Index—Excess Return	Soybean Oil	JMC1SBOP Index	CBOT
JPMorgan Seasonal Custom Roll 2 Soybean Meal Index—Excess Return	Soybean Meal	JMC1SSMP Index	CBOT
JPMorgan Seasonal Custom Roll 2 Lean Hogs Index—Excess Return	Lean Hogs	JMC1SLHP Index	CME
JPMorgan Seasonal Custom Roll 2 Live Cattle Index—Excess Return	Live Cattle	JMC1SLCP Index	CME

With respect to each of the Indices set forth above, the following information with respect to the Inception Date, the Inception Level, the Roll Period Length and the Roll Period Starting Day will apply to each of the Indices.

Inception Date:	December 31, 1997
Inception Level:	100
Roll Period Length:	10
Roll Period Starting Day:	1

Table 2: Roll Schedule

The following table sets forth the applicable roll schedule for each of the Indices.

Index	Contract at Month Start											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
JPMorgan Seasonal Custom Roll 2 Wheat Index—Excess Return	Z ₀	Z ₀	Z ₀	Z ₀	Z ₀	Z ₀	Z ₀	Z ₀	Z ₀	Z ₀	Z ₁	Z ₁
JPMorgan Seasonal Custom Roll 2 Corn Index—Excess Return	N ₀	N ₀	N ₀	N ₀	N ₁	N ₁	N ₁	N ₁	N ₁	N ₁	N ₁	N ₁
JPMorgan Seasonal Custom Roll 2 Soybean Index—Excess Return	N ₀	N ₀	N ₀	N ₀	N ₀	N ₁	N ₁	N ₁	N ₁	N ₁	N ₁	N ₁
JPMorgan Seasonal Custom Roll 2 Sugar Index—Excess Return	H ₀	H ₁	H ₁	H ₁	H ₁	H ₁	H ₁	H ₁	H ₁	H ₁	H ₁	H ₁
JPMorgan Seasonal Custom Roll 2 Kansas Wheat Index—Excess Return	Z ₀	Z ₀	Z ₀	Z ₀	Z ₀	Z ₀	Z ₀	Z ₀	Z ₀	Z ₀	Z ₁	Z ₁
JPMorgan Seasonal Custom Roll 2 Cotton Index—Excess Return	H ₀	H ₁	H ₁	H ₁	H ₁	H ₁	H ₁	H ₁	H ₁	H ₁	H ₁	H ₁
JPMorgan Seasonal Custom Roll 2 Coffee Index—Excess Return	K ₀	K ₀	K ₀	K ₁	K ₁	K ₁	K ₁	K ₁	K ₁	K ₁	K ₁	K ₁
JPMorgan Seasonal Custom Roll 2 Cocoa Index—Excess Return	H ₀	H ₁	H ₁	H ₁	H ₁	H ₁	H ₁	H ₁	H ₁	H ₁	H ₁	H ₁
JPMorgan Seasonal Custom Roll 2 Soybean Oil Index—Excess Return	N ₀	N ₀	N ₀	N ₀	Z ₀	Z ₀	Z ₀	Z ₀	Z ₀	N ₁	N ₁	N ₁
JPMorgan Seasonal Custom Roll 2 Soybean Meal Index—Excess Return	N ₀	N ₀	N ₀	N ₀	Z ₀	Z ₀	Z ₀	Z ₀	Z ₀	N ₁	N ₁	N ₁
JPMorgan Seasonal Custom Roll 2 Lean Hog Index—Excess Return	J ₀	J ₀	Q ₀	Q ₀	Q ₀	Q ₀	J ₁	J ₁	J ₁	J ₁	J ₁	J ₁
JPMorgan Seasonal Custom Roll 2 Live Cattle Index—Excess Return	J ₀	J ₀	V ₀	V ₀	V ₀	V ₀	V ₀	V ₀	J ₁	J ₁	J ₁	J ₁