

# JPMORGAN CHASE & CO.

## *Daily Liquidity Notes Linked to a J.P. Morgan Bespoke Commodity Index*

### General

- You may request that we repurchase your notes on a daily basis in a minimum denomination equal to the Principal Amount, subject to compliance with the procedural requirements described set forth below.
- **We may call, at our sole discretion, all of the issued and outstanding notes for redemption on any business day on or after the Initial Redemption Date specified in the relevant terms supplement, subject to the notification procedures set forth under "Description of Notes — Payment upon Optional Redemption."**
- JPMorgan Chase & Co. may from time to time offer and sell daily liquidity notes linked to a commodity index governed by the standard terms of the J.P. Morgan Bespoke Commodity Index Series, which we refer to as the Standard Terms. We refer to the relevant commodity index to which the notes are linked as the Index. This product supplement no. 200-A-III describes terms that will apply generally to the notes, and supplements the terms described in the accompanying prospectus supplement and 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 such term sheets and pricing supplements generally as terms supplements. The relevant terms supplement or a separate underlying supplement will describe the specific terms of the commodity index governed by the Standard Terms to which the notes are linked. If the terms described in the relevant terms supplement are inconsistent with those described herein or in any related underlying supplement or in the accompanying prospectus supplement or prospectus, the terms described in the relevant terms supplement will control.
- The notes are senior unsecured obligations of JPMorgan Chase & Co. Any payment on the notes is subject to the credit risk of JPMorgan Chase & Co.
- Payment is linked to a commodity index governed by the Standard Terms as described below. The notes do not pay interest and do not guarantee any return of principal at maturity or upon early repurchase or redemption. The payment at maturity or upon early repurchase or redemption is linked to the performance of the Index minus the Investor Fee, which is deducted on each Valuation Date, and, if applicable, the Repurchase Fee Amount as of the relevant Valuation Date.
- For important information about tax consequences, see "Certain U.S. Federal Income Tax Consequences" beginning on page PS-70 of this product supplement.
- The notes will be sold in minimum denominations as specified in the relevant terms supplement, and integral multiples thereof, unless otherwise specified in the relevant terms supplement.
- 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 Constituents or any futures contracts or exchange-traded or over-the-counter instruments based on, or other instruments linked to, the Index or the Index Constituents.
- The market disruption events applicable to a commodity index are different from the market disruption events that may be applicable to an equity index. For more information about the impact of market disruption events (including the early acceleration of the amounts due and payable under the terms of the notes), please see "Description of Notes — Postponement of a Valuation Date," "General Terms of Notes — Market Disruption Events" and "General Terms of Notes — Consequences of a Commodity Hedging Disruption Event."
- **The notes will not be listed on any securities exchange, unless otherwise specified in the relevant terms supplement. Other than pursuant to the early repurchase and optional redemption rights set forth below, we and our affiliates will not purchase notes in the secondary market.**

### Key Terms

Index:	The relevant terms supplement will specify the commodity index governed by the Standard Terms to which the notes will be linked (the "Index"). Unless otherwise specified in the relevant terms supplement, the Index will be composed of one or more components (each, an "Index Component," and collectively, the "Index Components"), and each Index Component will consist of a single commodity index or two commodity indices (each such commodity index, an "Index Constituent" and, collectively, the "Index Constituents").  For a description of general terms relating to commodity indices governed by the Standard Terms, see "The J.P. Morgan Bespoke Commodity Index Series." The relevant terms supplement or a separate underlying supplement will describe the specific terms that apply to the Index.
Principal Amount:	As specified in the relevant terms supplement

*(continued on next page)*

**Investing in the daily liquidity notes involves a number of risks. See "Risk Factors" beginning on page PS-8.**

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 this product supplement no. 200-A-III, the accompanying prospectus supplement and prospectus, or any related underlying supplement or terms supplement. Any representation to the contrary is a criminal offense.

***The notes are not bank deposits and are not insured or guaranteed by the Federal Deposit Insurance Corporation or any other governmental agency, nor are they obligations of, or guaranteed by, a bank.***

J.P.Morgan

## Key Terms (Continued)

Payment at Maturity:	<p>Subject to the impact of a market disruption event (including the early acceleration of the amounts due and payable under the terms of the notes), unless otherwise specified in the relevant terms supplement, for each note, unless earlier repurchased or redeemed, you will receive at maturity a cash payment equal to the Indicative Note Value as of the Final Valuation Date.</p> <p><b><i>You may lose some or all of your investment at maturity. The Investor Fee, which is deducted from the Indicative Note Value on each Valuation Date, will reduce your payment at maturity. Accordingly, you will lose some or all of your investment at maturity if the level of the Index decreases or does not increase sufficiently to offset the cumulative effect of the Investor Fee, which is deducted on each Valuation Date.</i></b></p> <p>For more information about the impact of market disruption events (including the early acceleration of the amounts due and payable under the terms of the notes), please see "Description of Notes — Postponement of a Review Date," "General Terms of Notes — Market Disruption Events" and "General Terms of Notes — Consequences of a Commodity Hedging Disruption Event."</p>
Indicative Note Value:	<p>Unless otherwise specified in the relevant terms supplement, the Indicative Note Value on the Inception Date will be equal to the Principal Amount. On each subsequent Valuation Date, the Indicative Note Value will be equal to</p> <p>(a) (i) the Indicative Note Value as of the immediately preceding Valuation Date <i>multiplied by</i> (ii) the Index Factor as of such Valuation Date <i>minus</i></p> <p>(b) the Investor Fee as of such Valuation Date.</p> <p>If the amount calculated above is less than zero, the Indicative Note Value on such Valuation Date will be \$0.</p>
Investor Fee:	<p>Unless otherwise specified in the relevant terms supplement, on any Valuation Date, the product of:</p> <p>(a) the Indicative Note Value as of the immediately preceding Valuation Date,</p> <p>(b) the Investor Fee Percentage and</p> <p>(c) (i) the number of calendar days from and including the immediately preceding Valuation Date to and excluding such Valuation Date <i>divided by</i> (ii) 360.</p>
Investor Fee Percentage:	<p>An annual fee expressed as a percentage that will be specified in the relevant terms supplement</p>
Index Factor:	<p>Unless otherwise specified in the relevant terms supplement, on any Valuation Date,</p> <p>(a) the Index closing level on such Valuation Date <i>divided by</i></p> <p>(b) the Index closing level on the immediately preceding Valuation Date</p>
Inception Date:	<p>As specified in the relevant terms supplement</p>
Valuation Date(s):	<p>Each business day from and including the Inception Date to and including the Final Valuation Date. Valuation Dates are subject to postponement in the event of certain market disruption events and as described under "Description of Notes — Postponement of a Valuation Date."</p>
Final Valuation Date:	<p>As specified in the relevant terms supplement. The Final Valuation Date is subject to postponement in the event of certain market disruption events and as described under "Description of Notes — Postponement of a Valuation Date."</p>
Maturity Date:	<p>As specified in the relevant terms supplement. The maturity date of the notes is subject to the impact of certain market disruption events (including the early acceleration of the amounts due and payable under the terms of the notes) and as described under "Description of Notes — Postponement of a Valuation Date", "General Terms of Notes — Market Disruption Events" and "General Terms of Notes — Consequences of a Commodity Hedging Disruption Event."</p>
Payment upon Early Repurchase:	<p>Unless otherwise specified in the relevant terms supplement, subject to your compliance with the procedures described under "Description of Notes — Early Repurchase at the Option of the Holders" and the potential postponements and adjustments as described under "Description of Notes — Postponement of a Valuation Date," you may request that we repurchase your notes on any Repurchase Date during the term of the notes.</p> <p>Upon early repurchase, you will receive for each note a cash payment on the relevant Repurchase Date equal to</p> <p>(a) the Indicative Note Value as of the relevant Valuation Date <i>minus</i></p> <p>(b) the Repurchase Fee Amount as of the relevant Valuation Date.</p> <p>If the amount calculated above is less than zero, the payment upon early repurchase will be \$0.</p> <p><b><i>You may lose some or all of your investment upon early repurchase. The Investor Fee, which is deducted from the Indicative Note Value on each Valuation Date, and, if applicable, the Repurchase Fee Amount will reduce your payment upon early repurchase. Accordingly, you will lose some or all of your investment upon early repurchase if the level of the Index decreases or does not increase sufficiently to offset the cumulative effect of the Investor Fee, which is deducted on each Valuation Date, and, if applicable, the Repurchase Fee Amount.</i></b></p>
Early Repurchase Mechanics:	<p>In order to request that we repurchase your notes on any Repurchase Date, you must deliver a Repurchase Notice to us via email at <a href="mailto:dl_norepurchas@jpmchase.com">dl_norepurchas@jpmchase.com</a> by no later than 4:00 p.m., New York City time, on the business day prior to the relevant Valuation Date and follow the procedures described under "Description of Notes — Early Repurchase at the Option of the Holders." If you fail to comply with these procedures, your notice will be deemed ineffective.</p>

(continued on next page)

**Key Terms (Continued)**

Repurchase Fee Amount:	If applicable, unless otherwise specified in the relevant terms supplement, for any Repurchase Date, an amount in cash per note equal to (a) the Indicative Note Value as of the relevant Valuation Date <i>multiplied by</i> (b) the Repurchase Fee.
Repurchase Fee:	If applicable, a percentage as specified in the relevant terms supplement
Repurchase Date:	The third business day following each Valuation Date
Repurchase Notice:	The form of Repurchase Notice attached as Annex A to the relevant terms supplement
Payment upon Optional Redemption:	We may, at our sole discretion, call all, but not fewer than all, issued and outstanding notes for redemption on any business day on or after the Initial Redemption Date. Upon redemption, you will receive for each note a cash payment on the relevant Redemption Date equal to the Indicative Note Value as of the relevant Valuation Date. <b><i>You may lose some or all of your investment upon redemption. The Investor Fee, which is deducted from the Indicative Note Value on each Valuation Date, will reduce your payment upon redemption. Accordingly, you will lose some or all of your investment upon redemption if the level of the Index decreases or does not increase sufficiently to offset the cumulative effect of the Investor Fee, which is deducted on each Valuation Date.</i></b>
Optional Redemption Mechanics:	If we exercise our right to redeem your notes on a Redemption Date, we will deliver an irrevocable redemption notice to the Depository Trust Company ("DTC") (the holder of the global note). The Valuation Date for such redemption will be specified in the irrevocable redemption notice delivered to DTC and will be no fewer than five business days and no more than ten business days after the date such notice is delivered, subject to the potential postponements and adjustments as described under "Description of Notes — Postponement of a Valuation Date." Accordingly, we must provide at least five business days' notice prior to the Valuation Date for such redemption.
Initial Redemption Date:	A business day as specified in the relevant terms supplement
Redemption Date:	The third business day following the relevant Valuation Date
Note Calculation Agent:	J.P. Morgan Securities LLC ("JPMS")

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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, any related underlying supplement, this product supplement no. 200-A-III and the accompanying prospectus supplement and prospectus with respect to the notes offered by the relevant terms supplement, any related underlying supplement, and this product supplement no. 200-A-III 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. This product supplement no. 200-A-III, together with the relevant terms supplement, any related underlying supplement and the accompanying prospectus and prospectus supplement, contains the terms of the notes and supersedes 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 the relevant terms supplement, any related underlying supplement, this product supplement no. 200-A-III and the accompanying prospectus supplement and prospectus may only be accurate as of the dates of each of these documents, respectively.

The notes described in the relevant terms supplement and this product supplement no. 200-A-III are not appropriate for all investors, and involve important legal and tax consequences and investment risks, which should be discussed with your professional advisers. You should be aware that the regulations of the Financial Industry Regulatory Authority, 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, any related underlying supplement, this product supplement no. 200-A-III and the accompanying prospectus supplement and prospectus do not constitute an offer to sell or a solicitation of an offer to buy the notes in any circumstances in which such offer or solicitation is unlawful.

In this product supplement no. 200-A-III, any related underlying supplement, the relevant terms supplement and the accompanying prospectus supplement and prospectus, "we," "us" and "our" refer to JPMorgan Chase & Co., unless the context requires otherwise.

## DESCRIPTION OF NOTES

*The following description of the terms of the notes supplements the description of the general terms of the debt securities set forth under the headings "Description of Notes" in the accompanying prospectus supplement and "Description of Debt Securities" in the accompanying prospectus. A separate terms supplement will describe the terms that apply to specific issuances of the notes, including any changes to the terms specified below. The relevant terms supplement or a separate underlying supplement will describe the specific terms of the commodity index governed by the Standard Terms to which the notes are linked. Capitalized terms used but not defined in this product supplement no. 200-A-III have the meanings assigned in the accompanying prospectus supplement, prospectus, the relevant terms supplement and any related underlying supplement. The term "note" refers to each Principal Amount of our Daily Liquidity Notes Linked to a J.P. Morgan Bespoke Commodity Index.*

### General

The Daily Liquidity Notes are senior unsecured obligations of JPMorgan Chase & Co. that are linked to a commodity index governed by the standard terms of the J.P. Morgan Bespoke Commodity Index Series (the "**Standard Terms**"), which we refer to as the Index. Unless otherwise specified in the relevant terms supplement, the Index will be composed of one or more components (each, an "**Index Component**," and collectively, the "**Index Components**"), and each Index Component will consist of a single commodity index or two commodity indices (each such commodity index, an "**Index Constituent**" and, collectively, the "**Index Constituents**"). The notes are a series of debt securities referred to in the accompanying prospectus supplement, prospectus and the relevant terms supplement, as well as any related underlying supplement. The notes will be issued by JPMorgan Chase & Co. under an indenture dated May 25, 2001, as may be amended or supplemented from time to time, between us and Deutsche Bank Trust Company Americas (formerly Bankers Trust Company), as trustee.

The "**Principal Amount**" of each note will be an amount as specified in the relevant terms supplement.

The notes do not pay interest and do not guarantee any return of principal at maturity or upon early repurchase or redemption. Instead, at maturity or upon our exercise of our optional redemption right, you will receive a cash payment the amount of that will vary depending on the performance of the Index and that will be reduced by the Investor Fee, which is deducted on each Valuation Date. If you exercise your right to have us repurchase your notes, for each note you will receive a cash payment, the amount of which will vary depending on the performance of the Index and will be reduced by the Investor Fee, which is deducted on each Valuation Date, and, if applicable, further reduced by the Repurchase Fee Amount as of the relevant Valuation Date.

The notes are not bank deposits and are not insured or guaranteed by the Federal Deposit Insurance Corporation or by any other governmental agency, nor are they obligations of, or guaranteed by, a bank.

The notes are our unsecured and unsubordinated obligations and will rank *pari passu* with all of our other unsecured and unsubordinated obligations.

Subject to your compliance with the procedures described under "Description of Notes — Early Repurchase at the Option of the Holders" and the potential postponements and adjustments as described under "General Terms of Notes — Market Disruption Events" in this product supplement, you may request that we repurchase your notes on any Repurchase Date during the term of the notes.

Holders who validly requested an early repurchase will receive payment for their notes on the third business day following the relevant Valuation Date.

Unless otherwise specified in the relevant terms supplement, we may, at our sole discretion, call all, but not fewer than all, issued and outstanding notes for redemption on any business day on or after the Initial Redemption Date. Unless otherwise specified in the relevant terms supplement, we must provide at least five business days notice prior to the Valuation Date for such redemption. If the notes are redeemed, holders will receive payment for their notes on the third business following the relevant Valuation Date.

The notes will be issued in denominations as specified in the relevant terms supplement. The notes will be represented by one or more permanent global notes registered in the name of The Depository Trust Company (“DTC”) or its nominee, as described under “Description of Notes — Forms of Notes” in the accompanying prospectus supplement and “Forms of Securities — Global Securities” in the accompanying prospectus.

The specific terms of the notes will be described in the relevant terms supplement accompanying this product supplement no. 200-A-III and any related underlying supplement. The terms described in that document supplement those described herein and in any related underlying supplement, the accompanying prospectus and prospectus supplement. If the terms described in the relevant terms supplement are inconsistent with those described herein or in any related underlying supplement, the accompanying prospectus or prospectus supplement, the terms described in the relevant terms supplement will control.

The notes will not be listed on any securities exchange, unless otherwise specified in the relevant terms supplement. Other than pursuant to the early repurchase and optional redemption rights set forth below, JPMS will not purchase notes in the secondary market.

### **Payment at Maturity**

Subject to the impact of a market disruption event (including the early acceleration of the amounts due and payable under the terms of the notes), unless otherwise specified in the relevant terms supplement, for each note, unless earlier repurchased or redeemed, you will receive at maturity a cash payment equal to the Indicative Note Value as of the Final Valuation Date.

***You may lose some or all of your investment at maturity. The Investor Fee, which is deducted from the Indicative Note Value on each Valuation Date, will reduce your payment at maturity. Accordingly, you will lose some or all of your investment at maturity if the level of the Index decreases or does not increase sufficiently to offset the cumulative effect of the Investor Fee, which is deducted on each Valuation Date.***

Unless otherwise specified in the relevant terms supplement, the “**Indicative Note Value**” on the Inception Date will be equal to the Principal Amount. On each subsequent Valuation Date, the Indicative Note Value will be equal to (a)(i) the Indicative Note Value as of the immediately preceding Valuation Date *multiplied by* (ii) the Index Factor as of such Valuation Date *minus* (b) the Investor Fee as of such Valuation Date.

If the amount calculated above is less than zero, the Indicative Note Value on such Valuation Date will be \$0.

Unless otherwise specified in the relevant terms supplement, the “**Investor Fee**” on any Valuation Date will be equal to the product of (a) the Indicative Note Value as of the immediately preceding Valuation Date, (b) the Investor Fee Percentage and (c) (i) the number of calendar days from and

including the immediately preceding Valuation Date to and excluding such Valuation Date *divided by* (ii) 360.

Unless otherwise specified in the relevant terms supplement, the “**Investor Fee Percentage**” is an annual fee expressed as a percentage that will be specified in the relevant terms supplement.

Unless otherwise specified in the relevant terms supplement, on any Valuation Date, the “**Index Factor**” will be equal to (a) the Index closing level on such Valuation Date *divided by* (b) the Index closing level on the immediately preceding Valuation Date.

The “**Inception Date**” will be specified in the relevant terms supplement.

Unless otherwise specified in the relevant terms supplement, the “**Valuation Dates**” will be each business day from and including the Inception Date to and including the Final Valuation Date. Valuation Dates are subject to postponement in the event of certain market disruption events and as described under “Description of Notes — Postponement of a Valuation Date.”

The “**Final Valuation Date**” will be specified in the relevant terms supplement. The Final Valuation Date is subject to postponement in the event of certain market disruption events and as described under “Description of Notes — Postponement of a Valuation Date.”

The “**Index closing level**” on any Index Business Day will equal the official index level of the Index or any successor index thereto (as described under any related underlying supplement or below under “General Terms of Notes — Discontinuation of the Index; Alteration of Method of Calculation”) published with respect to such Index Business Day. In certain circumstances, the Index closing level will be based on the alternative calculation of the Index described under any related underlying supplement or below under “— Postponement of a Valuation Date” or “General Terms of Notes — Discontinuation of the Index; Alteration of Method of Calculation.”

An “**Index Business Day**” is, unless otherwise specified in the relevant terms supplement, a day, as determined by the Note 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.

The “**maturity date**” will be specified in the relevant terms supplement. If the scheduled maturity date (as specified in the relevant terms supplement) is not a business day, then the maturity date will be the next succeeding business day following such scheduled maturity date. If, due to a market disruption event or otherwise, the Final Valuation Date is postponed so that it falls less than three business days prior to the scheduled maturity date, the maturity date will be the third business day following the Final Valuation Date, as postponed, unless otherwise specified in the relevant terms supplement. We describe market disruption events under “General Terms of Notes — Market Disruption Events.” In addition, the maturity date may be accelerated if there is a commodity hedging disruption event or an event of default. See “General Terms of Notes – Consequences of a Commodity Hedging Disruption Event” and “General Terms of Notes – Payment upon an Event of Default.”

We will irrevocably deposit with DTC no later than the opening of business on the applicable date or dates funds sufficient to make payments of the amount payable, if any, with respect to the notes on such date. We will give DTC irrevocable instructions and authority to pay such amount to the holders of the notes entitled thereto.

A “**business day**” is, unless otherwise specified in the relevant terms supplement, any day other than a day on which banking institutions in The City of New York are authorized or required by law, regulation or executive order to close or a day on which transactions in U.S. dollars are not conducted.

## Early Repurchase at the Option of the Holders

Unless otherwise specified in the relevant terms supplement, subject to your compliance with the procedures described below and the potential postponements and adjustments as described under “— Postponement of a Valuation Date” below, you may submit a request no later than 4:00 p.m., New York City time, on the business day prior to the relevant Valuation Date to have us repurchase your notes on any Repurchase Date. The notes will be repurchased and the holders will receive payment for their notes on the third business day following the relevant Valuation Date (the “**Repurchase Date**”).

If you exercise your right to have us repurchase your notes, subject to your compliance with the procedures described under “— Repurchase Requirements,” for each applicable note you will receive a cash payment on the relevant Repurchase Date equal to (a) the Indicative Note Value as of the relevant Valuation Date *minus* (b) the Repurchase Fee Amount as of the relevant Valuation Date. If the amount calculated above is less than zero, the payment upon early repurchase will be \$0.

***You may lose some or all of your investment upon early repurchase. The Investor Fee, which is deducted from the Indicative Note Value on each Valuation Date, and, if applicable, the Repurchase Fee Amount will reduce your payment upon early repurchase. Accordingly, you will lose some or all of your investment upon early repurchase if the level of the Index decreases or does not increase sufficiently to offset the cumulative effect of the Investor Fee, which is deducted on each Valuation Date, and, if applicable, the Repurchase Fee Amount.***

If applicable, unless otherwise specified in the relevant terms supplement, for any Repurchase Date, the “**Repurchase Fee Amount**” will be an amount in cash per note equal to (a) the Indicative Note Value as of the relevant Valuation Date *multiplied by* (b) the Repurchase Fee.

If applicable, unless otherwise specified in the relevant terms supplement, the “**Repurchase Fee**” is a percentage as specified in the relevant terms supplement.

### *Repurchase Requirements*

To exercise the right to have us repurchase your notes, you must instruct your broker or other person through whom you hold your notes to take the following steps:

- Send a notice of repurchase, substantially in the form attached as Annex A to the relevant terms supplement (a “**Repurchase Notice**”), to us via email at [dln\\_repurchase@jpmchase.com](mailto:dln_repurchase@jpmchase.com) by no later than 4:00 p.m., New York City time on the business day prior to the relevant Valuation Date. The subject line of the email should include the title of the notes and the CUSIP for such notes. We or our affiliate must acknowledge receipt of the Repurchase Notice on the same business day for it to be effective;
- Instruct your DTC custodian to book a delivery versus payment trade with respect to your notes on the relevant Valuation Date at a price equal to the amount payable upon early repurchase of the notes; and
- Cause your DTC custodian to deliver the trade as booked for settlement via DTC at or prior to 10:00 a.m., New York City time, on the relevant Repurchase Date.



Different brokerage firms may have different deadlines for accepting instructions from their customers. Accordingly, you should consult the brokerage firm through which you own your interest in the offered notes in respect of such deadlines. If we do not receive your Repurchase Notice by 4:00 p.m. on the business day prior to the relevant Valuation Date OR we (or our affiliate) do not acknowledge receipt of the Repurchase Notice on the same day, your Repurchase Notice will not be effective and we will not repurchase your notes on the relevant Repurchase Date.

The Note Calculation Agent will, in its sole discretion, resolve any questions that may arise as to the validity of a Repurchase Notice and the timing of receipt of a Repurchase Notice or as to whether and when the required deliveries have been made. Once given, a Repurchase Notice may not be revoked. Questions about the repurchase requirements should be directed to the email address included in the form of Repurchase Notice attached to the relevant terms supplement.

#### *Expiration of Repurchase Rights*

If we do not receive your Repurchase Notice by 4:00 p.m., New York City time (as described under the first bullet point in “— Repurchase Requirements” above), on the business day prior to the relevant Valuation Date OR we (or our affiliate) do not acknowledge receipt of the Repurchase Notice on the same day, your Repurchase Notice will not be effective and we will not repurchase your notes on the relevant Repurchase Date. Any Repurchase Notice for which we (or our affiliate) acknowledge receipt of in accordance with the procedures described above will be irrevocable.

#### **Payment upon Optional Redemption**

We may, at our sole discretion, call all, but not fewer than all, issued and outstanding notes for redemption on any business day on or after the Initial Redemption Date. The notes will be redeemed and the holders will receive payment for their notes on the third business day following the relevant Valuation Date (the “**Redemption Date**”). If we exercise our right to redeem your notes prior to maturity, for each applicable note you will receive a cash payment on the relevant Redemption Date equal to the Indicative Note Value as of the relevant Valuation Date.

***You may lose some or all of your investment upon redemption. The Investor Fee, which is deducted from the Indicative Note Value on each Valuation Date, will reduce your payment upon redemption. Accordingly, you will lose some or all of your investment upon redemption if the level of the Index decreases or does not increase sufficiently to offset the cumulative effect of the Investor Fee, which is deducted on each Valuation Date.***

#### *Optional Redemption Requirements*

If we exercise our right to redeem your notes on the Redemption Date, we will deliver an irrevocable redemption notice to DTC (the holder of the global note). The Valuation Date for such redemption will be specified in the irrevocable redemption notice delivered to DTC and will be no fewer than five business days and no more than ten business days after the date such notice is delivered, subject to the potential postponements and adjustments as described under “Description of Notes — Postponement of a Valuation Date.” Accordingly, we must provide at least five business days’ notice prior to the Valuation Date for such redemption.

#### **Postponement of a Valuation Date**

If a Valuation Date is not an Index Business Day, or if there is a market disruption event on any Valuation Date (such day, a “**Disrupted Day**”), the applicable Valuation Date will be postponed to the immediately succeeding Index Business Day that is not a Disrupted Day; *provided* that the Index closing level on such Valuation Date, as postponed, will be determined by the Note Calculation Agent and will be either:

- (a) calculated in accordance with the formula for and method of calculating the Index closing level last in effect prior to such Disrupted Day, using:
  - (i) with respect to each futures contract underlying an Index Constituent included in an Index Component that is not affected by such Disrupted Day (an “**Unaffected Contract**”), the official settlement price or fixing level, as applicable (such price or level, the “**Contract Price**”), as of the originally scheduled Valuation Date (including any delayed publication of the Contract Price for the originally scheduled Valuation Date that occurred on or prior to the determination of the postponed Valuation Date); and
  - (ii) with respect to each futures contract underlying an Index Constituent included in an Index Component that is affected by such Disrupted Day (an “**Affected Contract**”), the Contract Price for such Affected Contract as of the immediately succeeding Index Business Day that is not a Disrupted Day; or
- (b) the Adjusted Index Level with respect to the applicable Valuation Date calculated on such succeeding Index Business Day as provided by the Index Calculation Agent to the Note Calculation Agent. See “The J.P. Morgan Bespoke Commodity Index Series — Publication of the Index Level” for a description of how the Adjusted Index Level is calculated.

Any Valuation Date may be postponed as described above up to five Index Business Days following the date originally scheduled to be such Valuation Date. On the fifth Index Business Day following the originally scheduled Valuation Date, if the Contract Price with respect to any Affected Contract (a “**Final Affected Contract**”) has not been determined in accordance with the immediately preceding paragraph, the Note Calculation Agent will determine the Index closing level for such Valuation Date on such fifth Index Business Day following the originally scheduled Valuation Date and such Index closing level will be either:

- (a) calculated in accordance with the formula for and method of calculating the Index closing level last in effect prior to the applicable Disrupted Day, using:
  - (i) with respect to each Unaffected Contract, the applicable Contract Price as of the originally scheduled Valuation Date (including any delayed publication as described above);
  - (ii) with respect to each Affected Contract (other than any Final Affected Contract), the applicable Contract Price for such Affected Contract determined in the manner described in the immediately preceding paragraph; and
  - (iii) with respect to each Final Affected Contract, the Note Calculation Agent’s good faith estimate of the applicable Contract Price for such Final Affected Contract on such fifth Index Business Day that would have prevailed but for such Disrupted Day; or
- (b) the Adjusted Index Level with respect to the applicable Valuation Date calculated on such fifth Index Business Day as provided by the Index Calculation Agent to the Note Calculation Agent.

### Indicative Note Value

At any time during the term of the notes, a holder of the notes can contact us via email at [dln\\_repurchase@jpmchase.com](mailto:dln_repurchase@jpmchase.com) to obtain the Indicative Note Value as of the close of any business day. The subject line of the email should include the title of the notes, the CUSIP for such notes and “Indicative Note Value.” We will endeavor to respond to your request for the daily Indicative Note Value by the close of business on the following business day; *provided* that if we receive your request on a day that is a Disrupted Day, we will respond by close of business on the immediately succeeding Index Business Day that is not a Disrupted Day.

The Indicative Note Value is meant to approximate the intrinsic economic value of the notes. The Indicative Note Value does not, however, reflect any Repurchase Fee. The Indicative Note Value calculation will be provided for reference purposes only. It is not intended as a price or quotation, or as an offer to solicitation for the purpose, sale, or termination of your notes, nor will it reflect hedging or other transactional costs, credit considerations, market liquidity or bid-offer spreads. The levels of the Index provided by the Index Sponsor will not necessarily reflect the depth and liquidity of the Index Constituents. For this reason and others, the actual trading price of the notes may be different from the Indicative Note Value.

The calculation of the Indicative Note Value shall not constitute a recommendation or solicitation to conclude a transaction at the level stated, and should not be treated as giving investment advice. Any transaction between you and us will be subject to the details of the terms supplements relating to that transaction.

The Indicative Note Value calculations will have been prepared as of a particular date and time and will therefore not reflect subsequent changes in market values or prices or in any other factors relevant to their determination.

## RISK FACTORS

*Your investment in the notes will involve certain risks. The notes do not pay interest or guarantee any return of principal at, or prior to, maturity or upon early repurchase or redemption. 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 Constituents or any futures contracts or exchange-traded or over-the-counter instruments based on, or other instruments linked to, the Index or the Index Constituents. In addition, your investment in the notes entails other risks not associated with an investment in conventional debt securities. You should consider carefully the following discussion of risks before you decide that an investment in the notes is suitable for you.*

### Risks Relating to the Notes Generally

#### **The notes do not pay interest or guarantee the return of your investment.**

The notes do not pay interest and may not return any of your investment. The amount payable, if any, at maturity or upon early repurchase or redemption will reflect the performance of the Index *minus* the Investor Fee, which is deducted on each Valuation Date, and, in the case of an early repurchase, the Repurchase Fee Amount, if applicable. These amounts will be determined pursuant to the terms described in this product supplement no. 200-A-III and the relevant terms supplement. The Investor Fee, which is deducted on each Valuation Date, and the Repurchase Fee Amount, if applicable, will reduce your final payment. Accordingly, you will lose some or all of your investment at maturity or upon early repurchase or redemption of your notes if the level of the Index decreases or does not increase sufficiently to offset the cumulative effect of the aggregate Investor Fee plus any Repurchase Fee Amount.

#### **The notes are subject to the credit risk of JPMorgan Chase & Co.**

The notes are subject to the credit risk of JPMorgan Chase & Co., and our credit ratings and credit spreads may adversely affect the market value of the notes. Investors are dependent on JPMorgan Chase & Co.'s ability to pay all amounts due on the notes at maturity or upon early repurchase or redemption, and therefore investors are subject to our credit risk and to changes in the market's view of our creditworthiness. Any decline in our credit ratings or increase in the credit spreads charged by the market for taking our credit risk is likely to affect adversely the value of the notes.

#### **Even if the level of the Index increases, you may receive less than the Principal Amount of your notes due to the Investor Fee and/or the Repurchase Fee Amount.**

Because the Investor Fee, which is deducted on each Valuation Date, will reduce the payment, if any, you will receive at maturity or upon early repurchase or redemption, the level of the Index on the relevant Valuation Date must increase sufficiently to offset the Investor Fee in order for you to receive at least the Principal Amount of your notes at maturity or upon early repurchase or redemption. In addition, if you request that we repurchase your notes prior to maturity, you may be charged a Repurchase Fee Amount, which will further reduce the amount you will receive upon early repurchase. Furthermore, because the Investor Fee is deducted on each Valuation Date, the longer your notes have been outstanding, the higher the cumulative effect of the aggregate Investor Fee for your notes will be. If the level of the Index decreases or does not increase sufficiently to offset the cumulative effect of the aggregate Investor Fee plus any Repurchase Fee Amount, you will lose some or all of your investment at maturity or upon early repurchase or redemption.

**Potential conflicts of interest exist because we are the issuer of the notes, our affiliate, JPMS, is the Note Calculation Agent and, unless otherwise specified in the relevant terms supplement, our affiliate, JPMSL, is the Index Calculation Agent and sponsor of the Index.**

JPMorgan Chase & Co. is the issuer of the notes and one of our affiliates, J.P. Morgan Securities LLC ("JPMS"), is the calculation agent for the notes (the "Note Calculation Agent") and will determine the Indicative Note Value used to determine your payment at maturity or upon early repurchase or redemption. Unless otherwise specified in the relevant terms supplement, another of our affiliates, J.P. Morgan Securities Ltd. ("JPMSL"), is the calculation agent for and sponsor of the Index (the "Index Calculation Agent"). JPMSL, as Index Calculation Agent, will determine whether there has been a market disruption event with respect to the Index. In the event of any such market disruption event, JPMSL may use an alternate method to calculate the Index. While we and our affiliates will act in good faith in making all determinations with respect to the notes and the Index, there can be no assurance that any determinations made by JPMorgan Chase & Co., JPMS or JPMSL in these various capacities will not affect the value of the notes or the level of the Index. Because determinations made by JPMS as the Note Calculation Agent and JPMSL as the Index Calculation Agent and sponsor of the Index may affect the amount you receive at maturity or upon early repurchase or redemption, potential conflicts of interest may exist between JPMorgan Chase & Co., JPMS, JPMSL, on the one hand, and you, as a holder of the notes, on the other. See also "— We or our affiliates may have adverse economic interests to the holders of the notes."

**The Index Calculation Agent has discretion in relation to the Index and is under no obligation to consider your interests as holder of the notes.**

Unless otherwise specified in the relevant terms supplement, JPMSL, one of our affiliates, acts as the Index Calculation Agent and sponsor of the Index and is responsible for calculating and maintaining the Index and developing the guidelines and policies governing its composition and calculation. JPMSL is entitled to exercise discretion in relation to the Index, including but not limited to, the determination of the level to be used in the event of market disruptions that affect its ability to calculate and publish the Index and the interpretation of rules governing the Index. In addition, JPMSL has discretion, acting in good faith and in a commercially reasonable manner, to include, exclude or substitute any Index Constituent or to amend the rules governing the Index upon the occurrence of certain extraordinary events. Unlike other indices, the maintenance of the Index is not governed by an independent committee. Although judgments, policies and determinations concerning the Index are made by JPMSL, JPMorgan Chase & Co., as the parent company of JPMSL, ultimately controls JPMSL.

Although JPMSL will make all determinations and take all action in relation to the Index acting in good faith, it should be noted that such discretion could have an impact, positive or negative, on the level of the Index and the value of your notes. JPMSL is under no obligation to consider your interests as a holder of the notes in taking any actions that might affect the value of your notes. Furthermore, the inclusion of the Index Constituents in the Index is not an investment recommendation by us or JPMSL of the Index Constituents or the futures contracts underlying the Index Constituents.

**JPMS and its affiliates may publish research, express opinions or provide recommendations that are inconsistent with investing in or holding the notes. Any such research, opinions or recommendations could affect the value of the Index and therefore the market value of the notes.**

JPMS and its affiliates publish research from time to time on commodities markets and other matters that may influence the value of the notes or express opinions or provide recommendations that are inconsistent with purchasing or holding the notes. JPMS and its affiliates may have published or may publish research or other opinions that call into question the investment view implicit in an investment in the notes and JPMS. Any research, opinions or recommendations expressed by JPMS or its affiliates may not be consistent with each other and may be modified from time to time without notice. Investors should make their own independent investigation of the merits of investing in the notes and the Index to which the notes are linked.

**We or our affiliates may have adverse economic interests to the holders of the notes.**

JPMS and other affiliates of ours trade the futures contracts that underlie the Index Constituents, options on such futures contracts, the commodities underlying such contracts and other financial instruments related to the Index, the Index Constituents and their component futures contracts, or such options and commodities underlying such contracts on a regular basis, for their accounts and for other accounts under their management. JPMS and these affiliates may also issue or underwrite or assist unaffiliated entities in the issuance or underwriting of other securities or financial instruments with returns linked to the Index or the Index Constituents. To the extent that we or one of our affiliates serves as issuer, agent or underwriter for such securities or financial instruments, our or their interests with respect to such products may be adverse to those of the holders of the notes. Any of these trading activities could potentially affect the level of the Index and, accordingly, could affect the value of the notes and the amount payable to you at maturity, if any.

In the course of our business, we or our affiliates may acquire non-public information about the Index, the Index Constituents, the futures contracts underlying the Index Constituents and the commodities underlying these contracts, and we will not disclose any such information to you. In addition, one or more of our affiliates may publish research reports or otherwise express views about the Index, the Index Constituents, the futures contracts underlying the Index Constituents or the commodities underlying these futures contracts. Any prospective purchaser of notes should undertake an independent investigation of the Index, the Index Constituents, the futures contracts underlying the Index Constituents and the commodities underlying these contracts as in its judgment is appropriate to make an informed decision with respect to an investment in the notes.

Additionally, we or one of our affiliates may serve as issuer, agent or underwriter for additional issuances of notes with returns linked or related to changes in the level of the Index, the Index Constituents, the futures contracts underlying the Index Constituents or the commodities underlying these contracts. By introducing competing products into the marketplace in this manner, we or one or more of our affiliates could adversely affect the value of the notes.

We may hedge our obligations under the notes through certain affiliates or unaffiliated counterparties, who would expect to make a profit on such hedge. Because hedging our obligations entails risk and may be influenced by market forces beyond our control, such hedging may result in a profit that is more or less than expected, or it may result in a loss.

JPMS, one of our affiliates, will act as the Note Calculation Agent. The Note Calculation Agent will determine, among other things, the Index Factor on each Valuation Date, the Investor Fee on each Valuation Date, the Indicative Note Value on each Valuation Date, the Repurchase Fee Amount, if applicable, and the amount, if any, that we will pay you at maturity or upon early repurchase or redemption. The Note Calculation Agent will also be responsible for determining whether a market disruption event has occurred, whether the Index has been discontinued, the amount payable to you in the event of an early acceleration of the notes due to a commodity hedging disruption event and whether there has been a material change in the method of calculation of the Index so that the Index does not, in the opinion of the Note Calculation Agent, fairly represent the level of the Index (or relevant successor index, if applicable) had those modifications not been made. In performing these duties, JPMS may have interests adverse to the interests of the holders of the notes, which may affect your return on the notes, particularly where JPMS, as the Note Calculation Agent, is entitled to exercise discretion.

**If a commodity hedging disruption event occurs, we may accelerate the payment on your notes.**

Upon the occurrence of legal or regulatory changes that the Note Calculation Agent determines have interfered with our or our affiliates' ability to hedge our obligations under the notes, or if for any other reason we or our affiliates are unable to enter into or maintain hedge positions the Note Calculation Agent deems necessary to hedge our obligations under the notes, we may, in our sole and

absolute discretion, accelerate the payment on your notes early and pay you an amount determined in good faith and in a commercially reasonable manner by the Note Calculation Agent. If the payment on your notes is accelerated, your investment may result in a loss and you may not be able to reinvest your money in a comparable investment. See "General Terms of Notes — Consequences of a Commodity Hedging Disruption Event."

**The commodity futures contracts underlying the Index Constituents are subject to legal and regulatory regimes that may change in ways that could affect our ability to hedge our obligations under the notes and/or could lead to the early acceleration of your notes.**

Futures contracts and options on futures contracts markets, including those future contracts related to Index Constituents, are subject to extensive statutes, regulations and margin requirements. The CFTC and the exchanges on which such 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 fluctuations in futures contract prices that may occur during a single five-minute trading period. These limits could adversely affect the market prices of relevant futures contracts and forward contracts. The regulation of commodity transactions in the U.S. is subject to ongoing modification by government and judicial action. In addition, various national 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.

For example, the Dodd-Frank Act, which was enacted on July 21, 2010, requires the CFTC, with respect to physical commodities other than excluded commodities as defined by the CFTC, to establish limits on the amount of positions, other than bona fide hedge positions, that may be held by any person in futures contracts, options on futures contracts or on commodities traded on or subject to the rules of a designated contract market, or any swaps that are economically equivalent to such contracts or options. The Dodd-Frank Act also requires the CFTC to establish limits for each month, including related hedge exemption positions, on the aggregate number or amount of positions in contracts based upon the same underlying commodity, as defined by the CFTC, that may be held by any person, including any group or class of traders. In addition, designated contract markets and swap execution facilities, as defined in the Dodd-Frank Act, are required to establish and enforce position limits or position accountability requirements on their own markets or facilities.

In addition, upon the occurrence of legal or regulatory changes that the Note Calculation Agent determines have interfered with our or our affiliates' ability to hedge our obligations under the notes, or if for any other reason we or our affiliates are unable to enter into or maintain hedge positions the Note Calculation Agent deems necessary to hedge our obligations under the notes, we may, in our sole and absolute discretion, accelerate the payment on your notes early and pay you an amount determined in good faith and in a commercially reasonable manner by the Note Calculation Agent. See "— If a commodity hedging disruption event occurs, we may accelerate the payment on your notes" above.

**Market disruptions may adversely affect your return and, in the case of a commodity hedging disruption event, may result in the early acceleration of your notes.**

The Note Calculation Agent may, in its sole discretion, determine that the markets have been affected in a manner that prevents the Note Calculation Agent from properly determining the Index Factor on any Valuation Date and prevents the Note Calculation Agent from calculating the amount that we are required to pay you, if any, at maturity or upon early repurchase or redemption. These events may include disruptions or suspensions of trading in the markets as a whole. If the Note

Calculation Agent, in its sole discretion, determines that any of these events prevents us or any of our affiliates from properly hedging our obligations under the notes, it is possible that the relevant Valuation Date will be postponed and your return will be adversely affected. See "General Terms of Notes — Market Disruption Events." In the event of such a postponement, the Index closing level for the relevant Valuation Date may not be the official closing level of the Index published on that date, but may be determined by the Note Calculation Agent in the manner described under "Description of Notes — Postponement of a Valuation Date," which may adversely affect the return on your investment in the notes. In addition, if we or our affiliates are unable to effect transactions necessary to hedge our obligations under the notes, we have the right, but not the obligation, to accelerate the payment on your notes and pay you an amount determined in good faith in a commercially reasonable manner by the Note Calculation Agent. See "— If a commodity hedging disruption event occurs, we may accelerate the payment on your notes" above.

**An investment in the notes does not offer direct exposure to physical commodities.**

The Index reflects the return on the commodity futures contracts underlying the Index, not the return on the physical commodities underlying such 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, the notes may underperform a similar investment that reflects the return on physical commodities.

**The Index closing level on the relevant Valuation Date may be less than the Index closing level on the maturity date, a Repurchase Date, a Redemption Date or at other times during the term of the notes.**

The Index closing level on the maturity date, a Repurchase Date, a Redemption Date or at other times during the term of the notes, including dates near a relevant Valuation Date, could be higher than the Index closing level on the relevant Valuation Date. This difference could be particularly large if there is a significant increase in the level of the Index after the relevant Valuation Date, if there is a significant decrease in the level of the Index prior to the relevant Valuation Date or if there is significant volatility in the Index at any time during the term of the notes. Under these circumstances, you may receive a lower payment at maturity or upon early repurchase or redemption than you would have received if you had invested directly (or taken a short position) in the Index, the Index Constituents or in the commodities futures contracts underlying the Index Constituents.

**If we exercise our right to redeem the notes, the cash payment you will receive upon redemption may be less than that which you might have received if you held the notes to maturity or disposed of them at a time of your choosing.**

We have the right to call all, but not fewer than all, issued and outstanding notes for redemption on any business day on or after the Initial Redemption Date. If we exercise our right to redeem the notes, you will receive a cash payment per note in an amount equal to the Indicative Note Value as of the relevant Valuation Date. We may elect to redeem your notes at a time when the Indicative Note Value is relatively low. As a result, the amount you will receive upon a redemption by us may be substantially less than the amount you initially invested, the amount you could have received on your investment at maturity if the notes had not been redeemed or the amount you could have received if you had elected to have us (or our affiliates) repurchase your notes at the time of your choosing.



**If the notes are redeemed, you will be exposed to reinvestment risk.**

If the notes are redeemed by us, the holding period could be significantly less than the full term of the notes. There is no guarantee that you would be able to reinvest the proceeds from an investment in the notes in an investment with similar characteristics or a comparable return profile with a similar level of risk.

**JPMS may charge a fee to investors who purchase the notes, which we expect would not exceed 0.25% of the principal amount per note.**

Accordingly for investors who are subject to this purchase fee, if the level of the Index decreases or does not increase sufficiently to offset the purchase fee, you will lose some or all of your investment at maturity or upon early repurchase. We will specify any purchase fee in the relevant terms supplement.

**There are restrictions on your ability to request that we repurchase your notes.**

If you elect to exercise your right to have us repurchase your notes, your request is only valid if we receive your Repurchase Notice by no later than 4:00 p.m., New York City time, on the business day prior to the relevant Valuation Date and we (or our affiliates) acknowledge receipt of your Repurchase Notice that same day. If we do not receive such notice and confirmation, your repurchase request will not be effective and we will not repurchase your notes on the corresponding Repurchase Date.

Because of the timing requirements of the Repurchase Notice (and our acknowledgement of receipt), settlement of the repurchase will be prolonged when compared to a sale and settlement in the secondary market. As your request that we repurchase your notes is irrevocable, this will subject you to market risk in the event the market fluctuates after we receive your request. Furthermore, our obligation to repurchase the notes prior to maturity may be postponed upon the occurrence of a market disruption event.

**You will not know the amount you will receive upon an early repurchase at the time you elect to request that we repurchase your notes.**

You will not know the amount payable upon early repurchase at the time you elect to request that we repurchase your notes. Your notice to us to repurchase your notes is irrevocable and must be received by us no later than 4:00 p.m., New York City time, on the business day prior to the relevant Valuation Date and we (or our affiliates) must acknowledge receipt of such notice on the same day. As a result, you will be exposed to market risk in the event the market fluctuates after we confirm the validity of your notice of election to exercise your rights to have us repurchase your notes, and prior to the relevant Repurchase Date.

**Secondary trading may be limited and the liquidity of the market for the notes will be limited to the early repurchase right.**

Unless otherwise specified in the relevant terms supplement, the notes will not be listed on a securities exchange. There may be little or no secondary market for the notes. Even if there is a secondary market, it may not provide enough liquidity to allow you to trade or sell the notes easily.

Other than pursuant to the early repurchase and optional redemption rights, JPMS will not purchase notes in the secondary market. Also, the number of notes outstanding or held by persons other than our affiliates could be reduced at any time due to early repurchases of the notes. Accordingly, the liquidity of the market for the notes could vary materially over the term of the notes and the price at which you may be able to trade your notes is likely to depend on the payment upon early repurchase. Furthermore, on or after the Initial Redemption Date, at our sole discretion, we may redeem all, but not fewer than all, issued and outstanding notes.

**Prior to maturity, the value of the notes will be influenced by many unpredictable factors.**

Many economic and market factors will influence the value of the notes. We expect that, generally, the level of the Index on any day will affect the value of the notes more than any other single factor. However, you should not expect the value of the notes in the secondary market to vary in proportion to changes in the level of the Index. The value of the notes will be affected by a number of other factors that may either offset or magnify each other, including, but not limited to:

- the volatility, frequency and magnitude of changes in the level of the Index and the Index Constituents;
- whether we are expected to redeem the notes;
- the time to maturity of the notes;
- supply and demand trends at any time for the commodities upon which the futures contracts that compose the Index Constituents or the exchange-traded futures contracts on such commodities;
- the amount of the Investor Fee on the relevant Valuation Date;
- the market price of the commodities upon which the futures contracts that compose the Index Constituents are based or the exchange-traded futures contracts on such commodities;
- interest and yield rates in the market generally;
- economic, financial, political and regulatory, geographical, meteorological or judicial events that affect commodities markets generally or the futures contracts underlying the Index Constituents, and which may affect the Index closing level on any Valuation Date; and
- our creditworthiness, including actual or anticipated downgrades in our credit ratings.

Some or all of these factors will influence the price you will receive if you choose to sell your notes prior to maturity. The impact of any of the factors set forth above may enhance or offset some or all of any change resulting from another factor or factors.

You cannot predict the future performance of the Index based on its historical performance. The value of the Index may decrease such that you may not receive any return of your investment. The notes are not principally protected and you may lose some or all of your investment at maturity or upon early repurchase or redemption.

**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 commodities 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, options on futures contracts or 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 Commodity Futures Trading Commission, commonly referred to as the "CFTC." 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. 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 be registered with and 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 regulatory protections afforded to persons who invest in regulated commodity pools.

**The tax consequences of an investment in the notes are unclear.**

There is no direct legal authority as to the proper U.S. federal income tax characterization of the notes, and we do not intend to request a ruling from the Internal Revenue Service (the "IRS") regarding the notes. The IRS might not accept, and a court might not uphold, the characterization and tax treatment of the notes described in "Certain U.S. Federal Income Tax Consequences." If the IRS were successful in asserting an alternative characterization or treatment for the notes, the timing and character of income on the notes could differ materially and adversely from our description herein. In addition, in 2007 Treasury and the IRS released a notice requesting comments on the U.S. federal income tax treatment of "prepaid forward contracts" and similar instruments, which might include the notes. The notice focuses in particular on whether to require holders of these instruments to accrue income over the term of their investment. It also asks for comments on a number of related topics, including the character of income or loss with respect to these instruments; the relevance of factors such as the nature of the underlying property to which the instruments are linked; the degree, if any, to which income (including any mandated accruals) realized by Non-U.S. Holders should be subject to withholding tax; and whether these instruments are or should be subject to the "constructive ownership" regime, which very generally can operate to recharacterize certain long-term capital gain as ordinary income and impose an interest charge. While the notice requests comments on appropriate transition rules and effective dates, any Treasury regulations or other guidance promulgated after consideration of these issues could materially and adversely affect the tax consequences of an investment in the notes, possibly with retroactive effect. Both U.S. and Non-U.S. Holders should review carefully the section entitled "Certain U.S. Federal Income Tax Consequences" in this product supplement no. 200-A-III and consult their tax advisers regarding the U.S. federal income tax consequences of an investment in the notes, including possible alternative treatments and the issues presented by this notice. Non-U.S. Holders should also note that they may be withheld upon unless they have submitted a properly completed IRS Form W-8BEN or otherwise satisfied the applicable documentation requirements.

**JPMorgan Chase & Co. employees holding the notes must comply with policies that limit their ability to trade the notes and may affect the value of their notes.**

If you are an employee of JPMorgan Chase & Co. or one of its affiliates, you may acquire the notes only for investment purposes and you must comply with all of our internal policies and procedures. Because these policies and procedures limit the dates and times that you may transact in the notes, you may not be able to purchase any notes described in the relevant terms supplement from us and your ability to trade or sell any such notes in the secondary market may be limited.

**Risks Relating to the Index**

**The Index comprises notional assets.**

The exposures to the commodity futures contracts underlying the Index Constituents are purely notional and will exist solely in the records maintained by or on behalf of the Note 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 commodity futures contracts underlying the Index Constituents.

**The Index may not be successful and may not outperform any alternative strategy that might be employed with respect to the commodity futures contracts underlying the Index Constituents.**

The Index will follow a proprietary strategy that operates on the basis of pre-determined rules. No assurance can be given that the investment strategy on which the Index is based will be successful or that the Index will outperform any alternative strategy that might be employed with respect to the commodity futures contracts underlying the Index Constituents.

**The Index may have a limited operating history and may perform in unanticipated ways.**

The Index may have limited historical performance. The relevant terms supplement will specify the date on which the Index was established. Any back-testing or similar analysis in respect of the 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 the Index. Past performance should not be considered indicative of future performance.

**The reported level of the Index may include the deduction of an adjustment factor.**

One way in which the Index may differ from a typical index is that its daily reported level may include a deduction from the aggregate performance of the Index Component of an adjustment factor assessed at an annual rate specified in the relevant terms supplement. If applicable, this adjustment factor will be deducted daily and calculated based on an actual/360 accrual basis. As a result of the deduction of this amount, the level of the Index will trail the value of a hypothetical identically constituted synthetic portfolio from which no such amount is deducted.

**The Index Constituents may be changed in certain extraordinary events.**

Following the occurrence of certain extraordinary events with respect to an Index Constituent as described under "The J.P. Morgan Bespoke Commodity Index Series — Extraordinary Events Affecting the Index Constituents," the affected Index Constituent may be excluded or replaced by a substitute index. You should realize that the changing of an Index Constituent may affect the performance of the Index, and therefore, the return on the notes, as the replacement index may perform significantly better or worse than the affected Index Constituent.

**The notes may be subject to increased volatility due to the use of leverage.**

The Index and some Index Components may use leverage to increase or decrease the volatility of the Index or a short Index Constituent included in an Index Component, as applicable. Where the Index or an Index Constituent is leveraged, any price movements in the Index or Index Constituent, as applicable, may result in greater changes in the level of the Index or Index Constituent, as applicable, than if leverage was not used. In particular, the use of leverage will magnify any negative performance of the Index or Index Constituents, as applicable, which in turn could cause you to receive a lower payment at maturity or upon early repurchase or redemption than you would otherwise receive.

**If the Index employs a volatility targeting strategy, the volatility targeting strategy may not achieve its intended results.**

Volatility targeting is a mechanism that adjusts the overall leverage of an index in order to target a certain level of realized volatility of the index. If the Index employs a volatility targeting strategy, no assurance can be given that the strategy will be successful or that the Index will outperform any alternative strategy that might be employed. Furthermore, no assurance can be given that the Index will achieve its target volatility. The actual realized volatility of the Index may be greater or less than the target volatility.

**For any Index Components that employ a long-short strategy, your payment at maturity depends on the net performance of the applicable Index Constituents, not on the absolute performance of such Index Constituents.**

An Index Component may consist of the net return of a synthetic long position in one Index Constituent and a synthetic short position in a different Index Constituent. This technique is generally known as a “long-short” strategy. Your return on the notes attributable to any Index Components that employ a long-short strategy is dependent on the performance of the Index Constituent that has a notional long position (*i.e.*, to which the relevant Index Component has long exposure) minus the performance of the Index Constituent that has a notional short position (*i.e.*, to which such Index Constituent has short exposure). The absolute performance of the levels of the long and short Index Constituents is not relevant to the return on your notes.

**If the Index employs a volatility matching strategy with respect to long-short Index Components, the volatility matching strategy may not achieve its intended results.**

The Index may employ a volatility matching strategy with respect to long-short Index Components in order to limit realized volatility. Volatility matching attempts to match the volatility of the short Index Constituent to the volatility of the long Index Constituent by adjusting the leverage of the short Index Constituent to reduce exposure to the short Index Constituent where the volatility of the short Index Constituent is greater than the volatility of the long Index Constituent based on their past historical realized volatility and by adjusting the leverage of the short Index Constituent to increase exposure to the short Index Constituent where the volatility of the short Index Constituent is less than the volatility of the long Index Constituent based on their past historical realized volatility. The Index may also include a minimum and/or maximum leverage for the short Index Constituent. The volatility matching mechanism seeks to maximize the offsetting effect of the long Index Constituent and the short Index Constituent. Because the long Index Constituent and the short Index Constituent may not be sufficiently correlated to achieve the desired offsetting effect and because past historical realized volatility may not be a good estimate of future realized volatility, there can be no guarantee that the volatility matching mechanism will achieve its intended results.

**For any Index Component that includes a synthetic short position on an Index Constituent, there is unlimited loss exposure to the short Index Constituent, and that exposure may result in a significant drop in the level of that Index Component.**

Any Index Component that includes a synthetic short position on an Index Constituent will suffer from a positive return in the short Index Constituent when the level of the short Index Constituent increases. The maximum increase of the value of any short exposure is limited to the loss of the entire value of the short Index Constituent, and the maximum decrease in value of such short exposure is unlimited. Because there is no limit to possible increases in the level of the short Index Constituent, the losses that may result from short exposure are potentially unlimited.

**The Index may not be a fully diversified portfolio.**

Diversification is generally considered to reduce the amount of risk associated with generating returns. The Index will be concentrated in commodities generally and may be concentrated in a few particular commodities only. There can be no assurance that the Index will be sufficiently diversified at any time.

**Suspension or disruptions of market trading in the 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 an Index Business 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 in 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 the Index and, therefore, the value of your notes.

**You will not have rights in the exchange-traded futures contracts on the commodities underlying the Index Constituents.**

As an owner of the notes, you will not have rights that holders of exchange-traded futures contracts on the commodities underlying the Index Constituents may have.

**Owning the notes is not the same as owning the commodity futures contracts that compose the Index Constituents, or certain other commodity-related contracts, directly.**

The return on your notes will not reflect the return you would realize if you actually purchased the commodities upon which the futures contracts that compose the Index Constituents are based, or exchange-traded or over-the-counter instruments based on the Index or the Index Constituents. You will not have any rights that holders of such assets or instruments have.

**Higher future prices of commodities included in the Index Constituents relative to their current prices may lead to a decrease in the payment, if any, at maturity or upon early repurchase or redemption of the notes.**

The Index is composed of futures contracts on physical commodities. As the contracts that underlie the Index Constituents 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 these 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." Moreover, many commodities have historically exhibited contango markets. The presence of contango in the commodity markets could adversely affect the value of the Index and, accordingly, the amount payable at maturity or upon early repurchase or redemption of the notes.

**Some of the Index Constituents 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 aberrational liquidity or pricing around the maturity date of a commodity futures contract is greater than in the case of other futures contracts because (among other factors) a number of market participants take delivery of the underlying commodities. In respect of any Index Constituents that represent 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 the Index and your payout at maturity, upon early repurchase, if any, or redemption.

**Commodity prices are characterized by high and unpredictable volatility, which could lead to high and unpredictable volatility in the Index.**

Market prices of the commodity futures contracts underlying the Index Constituents 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. 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. 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 level of the Index in varying ways, and different factors may cause the value of different commodities futures contracts included in the Index to move in inconsistent directions at inconsistent rates. This, in turn, will affect the value of the notes linked to the Index.

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.

**The notes may be linked to an excess return index, and not a total return index.**

The notes may be linked to an excess return index and not a total return index. An excess return index reflects the returns that are potentially available through an unleveraged investment in the contracts composing such index. By contrast, "total return" indices are indices that, in addition to reflecting those returns, also reflect interest that could be earned on funds committed to the trading of the underlying futures contracts. The relevant terms supplement will indicate whether the Index is an excess return index or a total return index.

**Historical performance of the Index should not be taken as an indication of the future performance of the Index during the term of the notes.**

The actual performance of the Index over the term of the notes, as well as the amount payable at maturity or upon early repurchase or redemption, may bear little relation to the historical performance of the Index. The trading prices of exchange-traded futures contracts underlying the Index Components will determine the level of the Index. As a result, it is impossible to predict whether the level of the Index will rise or fall.

**Prices for the physical commodities upon which the futures contracts that compose the Index Constituents are based may change unpredictably and affect the value of the notes in unanticipated ways.**

A decrease in the price of any of the commodities upon which the futures contracts that compose the Index Constituents are based may have a material adverse effect on the value of the notes and your return on an investment in the notes. The prices of such commodities are affected by numerous factors, including: changes in supply and demand relationships, governmental programs and policies, national and international political and economic events, changes in interest and exchange rates, speculation and trading activities in commodities and related contracts, general weather conditions,

and trade, fiscal, monetary and exchange control policies. Many commodities are also highly cyclical. These factors, some of which are specific to the market for each such commodity, as discussed below, may cause the value of the different commodities upon which the futures contracts that compose the Index Constituents are based, as well as the futures contracts themselves, to move in inconsistent directions at inconsistent rates. This, in turn, will affect the value of the notes linked to the Index. It is not possible to predict the aggregate effect of all or any combination of these factors. The relevant terms supplement may provide additional risk factors relating to the Index.

#### *Agricultural Sector*

Global prices of agricultural commodities, including cocoa, coffee, corn, cotton, soybeans, sugar and 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 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 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 commodities 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 subject to dislocation than 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 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, general weather



conditions, 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, silver and platinum, 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. 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.

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 the United Mexican States and the Republic of 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 silver commodities market.

Platinum prices are primarily affected by the global demand for and supply of platinum. However, since the platinum supply is very limited, any disruptions in platinum supply tend to have an exaggerated effect on the price of platinum. Key factors that may influence prices are the policies in or political stability of the most important producing countries, in particular, Russia and South Africa (which together account for over 90% of production), the size and availability of the Russian platinum stockpiles, as well as the economic situation of the main consuming countries. Platinum is used in a variety of industries and the automotive industry. Demand for platinum from the automotive industry which uses platinum as a catalytic converter, accounts for approximately 80% of the industrial use of platinum. Platinum is also used in the chemical industry, the electronics industry and the dental industry. The primary non-industrial use of platinum is jewelry, which accounts for approximately 40% of the overall demand for platinum.

**For notes linked to an Index that includes the sub-indices of the S&P GSCI™ or the single-commodity sub-indices of the Dow Jones-UBS Commodity Index<sup>SM</sup>, any such index may be more volatile and susceptible to price fluctuations of commodities than a broader commodities index.**

Each of the S&P GSCI™ Agriculture Index, the S&P GSCI™ Energy Index, the S&P GSCI™ Industrial Metals Index, the S&P GSCI™ Livestock Index and the S&P GSCI™ Precious Metals Index (each a “GSCI Sector Index,” and collectively, the “GSCI Sector Indices”) and the GSCI single commodity component sub-indices of the S&P GSCI™ (each a “GSCI Single Component Index,” and collectively, the “GSCI Single Component Indices”) and each of the single-commodity sub-indices of the Dow Jones-UBS Commodity Index<sup>SM</sup> may be more volatile and susceptible to price fluctuations than a broader commodities index, such as the S&P GSCI™ or the Dow Jones-UBS Commodity Index<sup>SM</sup>. In contrast to the S&P GSCI™ and Dow Jones-UBS Commodity Index<sup>SM</sup>, which include contracts on the principal physical commodities that are actively traded, each of the GSCI Sector Indices, each of the GSCI Single Component Indices and each of the single-commodity sub-indices of the Dow Jones-UBS Commodity Index<sup>SM</sup> is composed of contracts on only a portion of such physical commodities. As a result, price volatility in the contracts included in the S&P GSCI™ or the Dow Jones-UBS Commodity Index<sup>SM</sup> will likely have a greater impact on each GSCI Sector Index, GSCI Single Component Index or single-commodity sub-index of the Dow Jones-UBS Commodity Index<sup>SM</sup> than it would on the broader S&P GSCI™ or Dow Jones-UBS Commodity Index<sup>SM</sup>, and each GSCI Sector Index, each GSCI Single Component Index and each single-commodity sub-index of the Dow Jones-UBS Commodity Index<sup>SM</sup> individually will be more susceptible to fluctuations and declines in value of the physical commodities included in such index. In addition, because each of the GSCI Sector Indices omits principal market sectors composing the S&P GSCI™ and because each of the GSCI Single Component Indices and each of the single-commodity sub-indices of the Dow Jones-UBS Commodity Index<sup>SM</sup> reference futures contracts on a single commodity, such indices may be less representative of the economy and commodity markets as a whole and might therefore not serve as a reliable benchmark for commodity market performance generally.

**For notes linked to an Index that includes a S&P GSCI Index, changes in the composition and valuation of the S&P GSCI™ may adversely affect the market value and/or the payment at maturity or upon early repurchase or redemption of the notes.**

The composition of the S&P GSCI™, the GSCI Sector Indices and the GSCI Single Component Indices (collectively, the “S&P GSCI Indices”) may change over time, as additional futures contracts satisfy the eligibility criteria of the S&P GSCI™ or futures contracts currently included in the S&P GSCI™ fail to satisfy such criteria. Those changes could impact the composition and valuation of the S&P GSCI Indices. The weighting factors applied to each commodity included in each of the GSCI Sector Indices change annually, based on changes in commodity production statistics. In addition, Standard & Poor’s, a division of The McGraw-Hill Companies (“S&P”), in consultation with its Index Committee, may modify the methodology for determining the composition and weighting of the S&P GSCI Indices and for calculating their value in order to assure that the S&P GSCI™ represents a measure of the performance over time of the markets for the underlying commodities represented by the S&P GSCI

Indices. A number of modifications to the methodology for determining the contracts to be included in each S&P GSCI Index, and for valuing each S&P GSCI Index, have been made in the past several years and further modifications may be made in the future. Such changes could adversely affect the market value and/or the payment at maturity or upon early repurchase or redemption of the notes.

**We and our affiliates have no affiliation with S&P, UBS Securities LLC (“UBS”) or CME Group Index Services LLC (“CME Indexes”) and are not responsible for their public disclosure of information.**

We and our affiliates are not affiliated with S&P, UBS or CME Indexes in any way (except for arrangements discussed below in “Background on the S&P GSCI Indices — License Agreement with Standard & Poor’s” and “Background on the DJ-UBS Commodity Indices — License Agreement”) and have no ability to control S&P, UBS or CME Indexes, including any errors in or discontinuation of disclosure regarding its methods or policies relating to the calculation of the Dow Jones-UBS Commodity Index<sup>SM</sup>, its single-commodity sub-indices or the forward-month versions of Dow Jones-UBS Commodity Index<sup>SM</sup> or its single-commodity sub-indices (each a “DJ-UBS Commodity Index” and collectively, the “DJ-UBS Commodity Indices”) or the S&P GSCI Indices. None of S&P, UBS or CME Indexes is under any obligation to continue to calculate any such S&P GSCI Indices or DJ-UBS Commodity Indices nor are they required to calculate any successor index. If any of S&P, UBS or CME Indexes discontinues or suspends the calculation of the respective index, it may become difficult to determine the market value of the notes or the amount payable at maturity or upon early repurchase or redemption. The Note Calculation Agent may designate a successor index selected in its sole discretion. If the Note Calculation Agent determines in its sole discretion that no successor index comparable to such index exists, the amount you receive at maturity or upon early repurchase or redemption will be determined by the Note Calculation Agent in its sole discretion.

**Index calculation disruption events may require an adjustment to the calculation of an Index Constituent.**

At any time during the term of the notes, the daily calculation of any of the S&P GSCI Indices or DJ-UBS Commodity Indices may be adjusted in the event that S&P, the publisher of the S&P GSCI Indices, or UBS and CME Indexes, the sponsor of the DJ-UBS Commodity Indices, respectively, determines that any of the following Index calculation disruption events exists: the termination or suspension of, or material limitation or disruption in the trading of any futures contract used in the calculation of any such index on that day; the settlement price of any futures contract used in the calculation of any such index reflects the maximum permitted price change from the previous day’s settlement price; the failure of an exchange to publish official settlement prices for any futures contract used in the calculation of any such index; or, with respect to any futures contract used in the calculation of any of the DJ-UBS Commodity Indices that trades on the London Metal Exchange (the “LME”), a business day on which the LME is not open for trading. Any such Index calculation disruption events may have an adverse impact on the value of any such index or the manner in which they are calculated and, therefore, the value of your notes.

**S&P or UBS and CME Indexes may be required to replace a contract underlying a S&P GSCI Index or a DJ-UBS Commodity Index, if the existing futures contract is terminated or replaced.**

A futures contract known as a “Designated Contract” has been selected as the reference contract for the underlying physical commodity included in each S&P GSCI Index or DJ-UBS Commodity Index. Data concerning this Designated Contract will be used to calculate each S&P GSCI Index and DJ-UBS Commodity Index. 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 by the S&P GSCI Index Committee or UBS, as the case may be, if available, to replace each such Designated Contract. The termination or replacement of any Designated Contract may have an adverse impact on the value of the individual S&P GSCI Index or level of any DJ-UBS Commodity Index. Suspension or disruptions of market trading in the commodity and related futures markets may adversely affect the value of the notes.

**The sponsor of an Index Constituent (a “Constituent Sponsor”) has no obligation to consider your interests.**

A Constituent Sponsor is responsible for calculating and maintaining an Index Constituent. The Constituent Sponsor can make methodological changes that could change the value of the Index Constituent at any time and it has no obligation to consider your interests. The Constituent Sponsor may discontinue or suspend calculation or dissemination of the Index Constituent. If one or more of these events occurs, the calculation of the payment at maturity or upon early repurchase or redemption will be adjusted to reflect such event or events. Consequently, any of these actions could adversely affect market value and/or payment at maturity or upon early repurchase or redemption of the notes. The Constituent Sponsor has no obligation to consider your interests in calculating or revising the methodology of the Index Constituent.

**For notes linked to an Index that includes a DJ-UBS Commodity Index, you may in the future have exposure to contracts that are not traded on regulated futures exchanges.**

At present, the DJ-UBS Commodity Indices are composed exclusively of regulated futures contracts; however, the DJ-UBS Commodity Indices may in the future include over-the-counter contracts (such as swaps and forward contracts) traded on trading facilities that are subject to lesser degrees of regulation or, in some cases, no substantive regulation. As a result, trading in such contracts, and the manner in which prices and volumes are reported by the relevant trading facilities, may not be subject to the same provisions of, and the protections afforded by, the Commodity Exchange Act, as amended, or other applicable statutes and related regulations that govern trading on regulated futures exchanges. In addition, many electronic trading facilities have only recently initiated trading and do not have significant trading histories. As a result, the trading of contracts on such facilities and the inclusion of such contracts in a DJ-UBS Commodity Index may expose you to certain risks not presented by most exchange-traded futures contracts, including risks related to the liquidity and price histories of the relevant contracts.

**For notes linked to an Index that include a DJ-UBS Commodity Index, risks associated with such DJ-UBS Commodity Index may adversely affect the market price of the notes.**

Because the Dow Jones-UBS Commodity Index<sup>SM</sup> and the Dow Jones-UBS Commodity Index 3 Month Forward<sup>SM</sup> reflect the return on exchange-traded futures contracts on nineteen different physical commodities and because the single-commodity sub-indices and the forward-month single-commodity sub-indices of Dow Jones-UBS Commodity Index<sup>SM</sup> each reflect the return on exchange-traded futures contract on a single physical commodity, any corresponding Index Components will be less diversified than other funds or investment portfolios investing in a broader range of products and, therefore, could experience greater volatility. Additionally, the annual composition of the DJ-UBS Commodity Indices will be calculated in reliance upon historical price, liquidity and production data that are subject to potential errors in data sources or errors that may affect the weighting of components of the DJ-UBS Commodity Indices. Any discrepancies that require revision are not applied retroactively but will be reflected in the weighting calculations of the DJ-UBS Commodity Indices for the following year. However, UBS and CME Indexes may not discover every discrepancy. Furthermore, the annual weightings for the DJ-UBS Commodity Indices are determined each year in the third or fourth quarter and announced as promptly as practicable following the calculation by UBS under the supervision of the Dow Jones-UBS Commodity Index Supervisory Committee, which has a significant degree of discretion in exercising its supervisory duties with respect to the DJ-UBS Commodity Indices and has no obligation to take the needs of any parties to transactions involving the DJ-UBS Commodity Indices into consideration when reweighting or making any other changes to the DJ-UBS Commodity Indices. Finally, subject to the minimum/maximum diversification limits described in “Background on the DJ-UBS Commodity Indices — Diversification Rules,” the commodities underlying the exchange-traded futures contracts included in the Dow Jones-UBS Commodity Index<sup>SM</sup> and the Dow Jones-UBS Commodity Index 3 Month Forward<sup>SM</sup> from time to time are concentrated in a limited number of sectors, particularly energy and agriculture, and the single-commodity sub-indices and the forward-month single-commodity sub-indices of Dow Jones-UBS Commodity Index<sup>SM</sup> are each limited to a single commodity. An investment in the notes may therefore carry risks similar to a concentrated securities investment in a limited number of industries or sectors or in a single commodity.

**For notes linked to an Index that includes a DJ-UBS Commodity Index, trading and other transactions by UBS and its affiliates in the futures contracts constituting the DJ-UBS Commodity Indices and the underlying commodities may affect the level of the DJ-UBS Commodity Indices.**

UBS and its affiliates actively trade futures contracts and options on futures contracts on the commodities underlying the DJ-UBS Commodity Indices. UBS and its affiliates also actively enter into or trade market securities, swaps, options, derivatives, and related instruments that are linked to the performance of the DJ-UBS Commodity Indices, the futures contracts underlying the DJ-UBS Commodity Indices or the commodities underlying these futures contracts. Certain of UBS's affiliates may underwrite or issue other securities or financial instruments indexed to the DJ-UBS Commodity Indices and related indices, and UBS and CME Indexes and certain of their affiliates may license the DJ-UBS Commodity Indices for publication or for use by unaffiliated third parties.

These activities could present conflicts of interest and could affect the levels of the DJ-UBS Commodity Indices. For instance, a market maker in a financial instrument linked to the performance of a DJ-UBS Commodity Index may expect to hedge some or all of its position in that financial instrument. Purchase (or selling) activity in the underlying components of a DJ-UBS Commodity Index in order to hedge the market maker's position in the financial instrument may affect the market price of the futures contracts included in such DJ-UBS Commodity Index, which in turn may affect the level of such DJ-UBS Commodity Index and the value of your notes. With respect to any of the activities described above, none of UBS, CME Indexes or their respective affiliates has any obligation to take the needs of any buyers, sellers or holders of the notes into consideration at any time.

**The relevant terms supplement or a separate underlying supplement will provide additional risk factors relating the commodity index governed by the Standard Terms to which the notes are linked.**

## USE OF PROCEEDS

Unless otherwise specified in the relevant terms supplement, the net proceeds we receive from the sale of the notes will be used for general corporate purposes and, in part, by us or by one or more of our affiliates in connection with hedging our obligations under the notes. Unless otherwise specified in the relevant terms supplement, JPMS, as an agent and a FINRA member will receive a portion of the aggregate Investor Fee applicable to the notes.

Unless otherwise specified in the relevant terms supplement, the original issue price of the notes will include the estimated cost of hedging our obligations under the notes. The estimated cost of hedging includes the projected profit, which in no event will exceed 5% of the principal amount per note, that our affiliates expect to realize in consideration for assuming the risks inherent in hedging our obligations under the notes. Because hedging our obligations entails risk and may be influenced by market forces beyond our control, such hedging may result in a profit that is more or less than expected, or could result in a loss. See also "Use of Proceeds" in the accompanying prospectus.

We expect to enter into transactions to hedge our obligations under the notes through certain affiliates or unaffiliated counterparties. Such transactions may involve purchases or sales of the futures contracts underlying the Index Constituents or listed or over-the-counter options, futures or other instruments linked to the Index and/or the Index Constituents prior to or on the Inception Date. In addition, from time to time after we issue the notes, we may enter into additional hedging transactions or unwind those hedging transactions previously entered into. In this regard, we may:

- acquire or dispose of or otherwise repurchase long or short positions in some or all of the Index Constituents;
- acquire or dispose of long or short positions in listed or over-the-counter options, futures, or other instruments linked to some or all of the Index Constituents or the Index;
- acquire or dispose of long or short positions in listed or over-the-counter options, futures, or other instruments linked to the level of other similar market indices, contracts or commodities; or
- engage in any combination of the above activities.

We or our affiliates may acquire a long or short position in securities similar to the notes from time to time and may, in our sole discretion, hold or resell those securities.

We may close out our hedge positions on or before the Final Valuation Date. That step may involve sales or purchases of the futures contracts underlying the Index Constituents, listed or over-the-counter options or futures on Index Constituents or listed or over-the-counter options, futures, or other instruments linked to the level of the Index or the Index Constituents, as well as other indices designed to track the performance of the Index or the Index Constituents.

While we cannot predict an outcome, such hedging activity or other hedging and investment activity of ours could potentially increase the Index closing level on the Inception Date, and therefore effectively establish a higher value that the Index closing level must achieve for you to obtain a return on your investment or avoid a loss of principal at maturity or upon early repurchase or redemption, as the case may be.

Although we have no reason to believe that any of these activities will have a material effect on the Index closing level or the value of the notes, we cannot assure you that these activities will not have such an effect.

We have no obligation to engage in any manner of hedging activity and will do so solely at our discretion and for our own account. No note holder will have any rights or interest in our hedging activity or any positions we or any affiliated or unaffiliated counterparties may take in connection with our hedging activity.

## THE J.P. MORGAN BESPOKE COMMODITY INDEX SERIES

### General

The J.P. Morgan Bespoke Commodity Indices (each, an “Index” and collectively, the “Indices”) are developed and will be maintained and calculated by J.P. Morgan Securities Ltd. (which we refer to as “JPMSL”), unless otherwise specified in the relevant terms supplement. Unless otherwise specified in the relevant terms supplement, each Index is a notional rules-based proprietary commodity index of JPMSL composed of one or more components (each, an “Index Component,” and collectively, the “Index Components”), and each Index Component will consist of a single commodity index or two commodity indices (each such commodity index, an “Index Constituent” and, collectively, the “Index Constituents”). We refer to any Index Constituent that underlies a synthetic long position as a “Long Constituent” and to any Index Constituent that underlies a synthetic short position as a “Short Constituent.”

The description of the general terms of the J.P. Morgan Bespoke Commodity Index Series included in this product supplement is based on standard terms formulated by JPMSL (which we refer to as the “Standard Terms”) that describe general terms relating to the J.P. Morgan Bespoke Commodity Indices. The relevant terms supplement or a separate underlying supplement will include a description of the specific terms that apply to the relevant Index, which description will be based on an index supplement to the Standard Terms formulated by JPMSL (which we refer to as an “Index Supplement”) that will describe the specific terms that apply to any particular Index. Any relevant Index Supplement will be included in the relevant terms supplement. The Index Supplement, when read together with the Standard Terms, constitutes the index rules (the “Index Rules”). This description and the description to be included in the relevant terms supplement are qualified by the full text of the Index Rules. The Index Rules, and not this description or the description in the relevant terms supplement, will govern the calculation and constitution of the Indices and other decisions and actions related to their maintenance. The Standard Terms in effect as of the date of this product supplement are attached as Annex A to this product supplement, and the Index Supplement in effect as of the date of the relevant terms supplement will be attached as an annex to the relevant terms supplement. The Index Rules are the intellectual property of JPMSL, and JPMSL reserves all rights with respect to its ownership of the Indices.

The Indices are rebalanced periodically on the Rebalancing Date (as defined below). If an Index includes one or more Index Components that consist of a Long Constituent and a Short Constituent, the relevant terms supplement may specify that Volatility Matching applies with respect to any or all such Index Components. Volatility Matching is a mechanism used 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. In addition, the relevant terms supplement may specify that Volatility Targeting applies with respect to an Index. Volatility Targeting is a mechanism that adjusts the overall leverage of the Index, with the intention of targeting a certain level of realized volatility of the Index. The relevant terms supplement may specify additional strategies that apply with respect to the relevant Index.

Each Index will either be an excess return or total return index, as specified in the relevant terms supplement. The relevant terms supplement will specify the Index Constituents. See “Background on the S&P GSCI Indices,” “Background on the DJ-UBS Commodity Indices” and any index descriptions provided in the relevant terms supplement for information about the Index Constituents. The Indices may have limited historical performance. The relevant terms supplement will specify the date on which the relevant Index was established (the “Index Inception Date”).

Each 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 each Index at any point

is the return of the hypothetical uncollateralized portfolio of the Index Components. In addition, the value for each Index at any point may be adjusted by an adjustment factor (the "Replication Adjustment Factor") as specified in the relevant terms supplement, calculated and deducted daily.

### **Calculation and Publication of the Index Level**

Unless otherwise specified in the relevant terms supplement, JPMSL, or any affiliate or subsidiary designated by it, will act as calculation agent for each Index (the "Index Calculation Agent"). Subject to the occurrence or existence of a Market Disruption Event affecting an Index Constituent or a futures contract underlying such Index Constituent, the Index Calculation Agent will calculate and publish the level (the "Index Level") of an Index on each Calculation Day, reported to four (4) decimal places, on the Bloomberg ticker page identified for the Index in the relevant terms supplement.

#### ***(a) Index Rebalancing***

Each Index will be rebalanced on each Rebalancing Date to adjust the synthetic exposure of each Index Constituent to account for the performance of the Index and the Index Constituents and the effects, if applicable, of Volatility Matching and/or Volatility Targeting since the immediately preceding Rebalancing Date. The rebalancing will reset the exposure to the Index Constituents and, if applicable, change (i) the leverage of a Short Constituent for which Volatility Matching is applicable (as described below under "— (f) Volatility Matching") and (ii) the leverage of the Index if Volatility Targeting is applicable (as described below under "— (g) Volatility Targeting").

A "Rebalancing Date" is a specific Calculation Day within each Rebalancing Period, as specified in the relevant terms supplement. For example, the relevant terms supplement may specify that the second Calculation Day of each Rebalancing Period is a Rebalancing Date.

A "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.

A "Rebalancing Period" is 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.

A "Rebalancing Determination Date" is a day determined as described in the relevant terms supplement. The Rebalancing Determination Dates may occur periodically (*e.g.*, the first of the month) or upon any external or definable event (*e.g.*, the crossing of two moving averages), as described in the relevant terms supplement.

#### ***(b) The Index Level for an Excess Return Index***

The Index Level for an excess return index is determined in respect of each Calculation Day. The Index Level is calculated by adjusting the Index Level as of the immediately preceding Rebalancing Date to reflect (i) the weighted average performance of each Index Component since such Rebalancing Date, taking into account Index Leverage (if applicable) and (ii) the applicable Replication Adjustment Factor. If a Market Disruption Event occurred with respect to any Index Constituent on the Rebalancing Date immediately preceding any Calculation Day or if a Market Disruption Event has occurred or is continuing with respect to any Index Constituent on such Calculation Day, the Index Level for such Calculation Day will be determined as described below, subject to the modifications described under "Market Disruptions" below.



Unless otherwise specified in the relevant terms supplement, the Index Level on the Initial Index Day will be equal to 100. With respect to each Calculation Day following the Initial Index Day, the Index Calculation Agent will calculate the Index Level for an excess return index in accordance with the following formula:

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

where:

$Index_{ER}(t)$	means the Index Level on Calculation Day t.
$Index_{ER}(RD_{n-1})$	means, with respect to 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 Calculation Day t, the Index Leverage on the Rebalancing Date immediately preceding Calculation Day t, determined as described below under “— (g) Volatility Targeting.”
$NS$	means the total number of Index Components.
$W_i$	means the Component Weight of the i-th component, determined as described below under “— (d) Component Weights.”
$PTDCP_i(t)$	means the Period-To-Date Component Performance for the i-th Index Component on Calculation Day t, determined as described below under “— (e) Period-To-Date Component Performance.”
$RAF_t$	means the Replication Adjustment Factor with respect to Calculation Day t, determined as described below under “— (h) Replication Adjustment Factor.”

***(c) The Index Level for a Total Return Index***

The Index Level for a total return index is determined in respect of each Calculation Day. The Index Level is calculated by adjusting the Index Level as of the immediately preceding Calculation Day to reflect (i) the weighted average performance of each Index Component since such immediately preceding Calculation Day, taking into account Index Leverage (if applicable), (ii) the return associated with synthetic exposure to three month U.S. Treasury bills, as represented by the T-Bill Rate, and (iii) the applicable Replication Adjustment Factor. With respect to any Calculation Day, if a Market Disruption Event has occurred with respect to any Index Constituent on any Calculation Day from and including the Rebalancing Date immediately preceding such Calculation Day to and including such Calculation Day, the Index Level for such Calculation Day will be determined as described below, subject to the modifications described under “Market Disruptions” below.

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

Unless otherwise specified in the relevant terms supplement, the Index Level on the Initial Index Day will be equal to 100. With respect to each Calculation Day following the Initial Index Day, the Index Calculation Agent will calculate the Index Level for a total return index in accordance with the following formula:

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

where:

$Index_{TR}(t)$  means the Index Level on Calculation Day t.

$Index_{TR}(t-1)$  means the Index Level on Calculation Day t-1.

$IndexLeverage(RD_{n-1})$  means, with respect to Calculation Day t, the Index Leverage on the Rebalancing Date immediately preceding Calculation Day t, determined as described below under "— (g) Volatility Targeting."

$NS$  means the total number of Index Components.

$W_i$  means the Component Weight of the i-th component, determined as described below under "— (d) Component Weights."

$PTDCP_i(t)$  means the Period-To-Date Component Performance for the i-th Index Component on Calculation Day t, determined as described below under "— (e) Period-To-Date Component Performance."

$PTDCP_i(t-1)$  means the Period-To-Date Component Performance for the i-th Index Component on Calculation Day t-1, determined as described below under "— (e) Period-To-Date Component Performance."

$\delta(t-1)$  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.

$A(t)$  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 the Replication Adjustment Factor with respect to Calculation Day t, determined as described below under "— (h) Replication Adjustment Factor."

#### **(d) Component Weights**

The Component Weight with respect to each Index Component will be a percentage determined as specified in the relevant terms supplement. The relevant terms supplement may specify fixed percentages for the Component Weights or may specify a formula or formulas to be used to determine the Components Weights. The sum of the Component Weights need not be 100%. In addition, one or more Component Weights may be negative. If a Long Constituent has a negative Component Weight, the Index will experience synthetic short exposure to such Long Constituent, and if a Short Constituent has a negative Component Weight, the Index will experience synthetic long exposure to such Short Constituent.

***(e) Period-To-Date Component Performance***

For each Index Component, the “Period-To-Date Performance” on any Calculation Day represents the net return of such Index Component from the Rebalancing Date immediately preceding such Calculation Day.

Accordingly, the Index Calculation Agent will calculate the Period-To-Date Performance for each Index Component with respect to each Calculation Day in accordance with the following formula:

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

where:

$PTDCP_i(t)$	means the Period-To-Date Performance for the i-th Index Component on Calculation Day t.
$Level_{Long}(t)$	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 Index Component on 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 Index Component on 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 Index Component on the Rebalancing Date immediately preceding Calculation Day t.
$Level_{Short}(RD_{n-1})$	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 Index Component on the Rebalancing Date immediately preceding Calculation Day t.
$SCL(RD_{n-1})$	is 0 if the i-th Component has no Short Constituent; otherwise, the Short Constituent Leverage for the Rebalancing Date immediately preceding Calculation Day t, determined as described below under “— (f) Volatility Matching.”

With respect to an Index Constituent and a Calculation Day, the “U.S. Dollar Level” means (a) the official closing level of the Underlying Index of such Index Constituent 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 will 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 (as defined below under “Market Disruptions — Market Disruption Events”) relating to the calculation of a Proxy Calculated Level (as defined below under “Market Disruptions — Market Disruption Events”), the U.S. Dollar Level will be the Proxy Calculated Level.

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

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

### **(f) Volatility Matching**

If the Index includes one or more Index Components that consist of a Long Constituent and a Short Constituent, the relevant terms supplement may specify that Volatility Matching applies with respect to any or all such Index Components. “Volatility Matching” is a mechanism used 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.

With respect to each Rebalancing Date, the Index Calculation Agent will determine the Short Constituent Leverage for any Index Component to which Volatility Matching applies. As set forth below, for each such Index Component, the Index Calculation first determines the volatility ratio between the realized volatility of the Long Constituent and the realized volatility of the Short Constituent over a period preceding such Rebalancing Date (the “Volatility Matching Period”), as specified in the relevant terms supplement. The Short Constituent Leverage for such Index Component will be equal to the volatility ratio, subject to any Maximum Short Constituent Leverage and/or Minimum Short Constituent Leverage specified in the relevant terms supplement. The Short Constituent for such Index Component on such Rebalancing Date will be used to calculate the Period-To-Date Performance for such Index Component.

Accordingly, the Index Calculation Agent will calculate the Short Constituent Leverage for any Index Component to which Volatility Matching applies 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<sub>n-1</sub>)* means, in respect of any Calculation Day, the Short Constituent Leverage for the immediately preceding Rebalancing Date.

*MaxLeverage* means the Maximum Short Constituent Leverage, as specified in the relevant terms supplement, if applicable.

*MinLeverage* means the Minimum Short Constituent Leverage, as specified in the relevant terms supplement, if applicable.

*VolRatio(RD<sub>n-1</sub>)* is equal to 1 with respect to any Index Component to which Volatility Matching does not apply and is otherwise calculated in accordance with the following formula:

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

where:

*m* means the Volatility Matching Lookback, as specified in the relevant terms supplement, if applicable.

*Rtn<sub>Long</sub>(j)* means the return of the Long Constituent on the j-th day of the Volatility Matching Period(RD<sub>n-1</sub>), defined as follows:

$$Rtn_{Long}(j) = \frac{\text{LookbackLevel}_{Long}(j)}{\text{LookbackLevel}_{Long}(j-1)} - 1$$

$Rtn_{Long}(k)$  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( $RD_{n-1}$ ).

If the Short Constituent exhibits greater volatility over any Volatility Matching Period than the Long Constituent, exposure to the Short Constituent will be smaller than 100%, *provided* that the Short Constituent Leverage will not be less than any applicable Minimum Short Constituent Leverage. If the Short Constituent exhibits lesser volatility over any Volatility Matching Period than the Long Constituent, exposure to the Short Constituent will be greater than 100%, *provided* that the Short Constituent Leverage will not be greater than any applicable Maximum Short Constituent Leverage.

**(g) Volatility Targeting**

The relevant terms supplement may specify that Volatility Targeting applies with respect to the Index. “Volatility Targeting” is a mechanism that adjusts the overall leverage of the Index, with the intention of targeting a certain level of realized volatility of the Index. If the relevant Index Supplement specifies that Volatility Targeting does not apply to an Index, the Index Leverage with respect to each Rebalancing Date will be equal to 1.

If the relevant Index Supplement specifies that Volatility Targeting applies to an Index, the Index Calculation Agent will determine the Index Leverage with respect to each Rebalancing Date. As set forth below, the Index Calculation Agent first determines index volatility based on the hypothetical realized volatility of a Non-Volatility Targeted Index over two periods preceding such Rebalancing Date (each, a “Volatility Targeting Period”), as specified in the relevant terms supplement. The “Non-Volatility Targeted Index” is a hypothetical index identical to the Index, except that the Index Leverage is set equal to 100% for all prior Rebalancing Dates and the Replication Adjustment Rate is set equal to 0.0%. The Index Leverage will be equal to a percentage equivalent to a fraction, the numerator of which is the Target Index Volatility, as specified in the relevant terms supplement, and the denominator of which is the index volatility from Volatility Targeting Period with the greater index volatility, subject to any Maximum Index Leverage and/or Minimum Index Leverage specified in the relevant terms supplement.

Accordingly, the Index Calculation Agent will calculate the Index Leverage for any Index to which Volatility Targeting applies in accordance with the following formula:

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

where:

*IndexLeverage*( $RD_{n-1}$ ) means, in respect of any Calculation Day, the Index Leverage for the immediately preceding Rebalancing Date, which will equal 100% if Volatility Targeting is not applicable to the Index.

*MinLeverage* means the Minimum Index Leverage, as specified in the relevant terms supplement, if applicable.

*MaxLeverage* means the Maximum Index Leverage, as specified in the relevant terms supplement, if applicable.

*TargetVol* means the Target Index Volatility, as specified in the relevant terms supplement, if applicable.

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

where:

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

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

where:

$m_1$  means Volatility Targeting Lookback 1, as specified in the relevant terms supplement, if applicable.

$m_2$  means Volatility Targeting Lookback 2, as specified in the relevant terms supplement, if applicable.

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

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

where:

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

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

$NVTIndex(k, 1, n-1)$	means the Non-Volatility Targeted Index Level of the Long Constituent on the k-th day of the Volatility Targeting Period 1(RD <sub>n-1</sub> ).
$NVTIndex(k, 2, n-1)$	means the Non-Volatility Targeted Index Level of the Long Constituent on the k-th day of the Volatility Targeting Period 2(RD <sub>n-1</sub> ).
$NVTIndex(k-1, 1, n-1)$	means the Non-Volatility Targeted Index Level of the Short Constituent on the (k-1)th day of the Volatility Targeting Period 1(RD <sub>n-1</sub> ).
$NVTIndex(k-1, 2, n-1)$	means the Non-Volatility Targeted Index Level of the Short Constituent on the (k-1)th day of the Volatility Targeting Period 2(RD <sub>n-1</sub> ).

If the volatility of the Non-Volatility Targeted Index over any Volatility Targeting Period is greater than the Target Index Volatility, exposure to the Index will be smaller than 100%, *provided* that the Index Leverage will not be less than any applicable Minimum Index Leverage. If the volatility of the Non-Volatility Targeted Index over any Volatility Targeting Period is less than the Target Index Volatility, exposure to the Index will be greater than 100%, *provided* that the Index Leverage will not be greater than any applicable Maximum Index Leverage.

#### ***(h) The Replication Adjustment Rate***

The Index Level for any excess return index or total return index may be calculated and published net of an adjustment based on the Replication Adjustment Factor, which is calculated and deducted daily. The Index Calculation Agent will calculate the Replication Adjustment Factor in accordance with the following formula:

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

where:

$RAR$	is the Replication Adjustment Rate, as specified in the relevant terms supplement, if applicable. The Replication Adjustment Rate will be equal to 0.00% if not specified in the relevant terms supplement.
$CalendarDays$	is the number of calendar days from and including the Rebalancing Date immediately preceding Calculation Day t to but excluding Calculation Day t.

If the Replication Adjustment Factor applies to the Index, the level of the Index will trail the value of a hypothetical identically constituted synthetic portfolio from which no Replication Adjustment Factor applies is deducted. Accordingly, the Replication Adjustment Factor is a drag on Index performance.

#### **Publication of the Index Level**

With respect to each Calculation Day, unless otherwise specified in the relevant terms supplement, the Index Calculation Agent will endeavor to publish the Index Level for such Calculation Day before, at or around 12:00 p.m. London time on the following Calculation Day. The Index Level will be published on a Bloomberg page and the Bloomberg website at the pages indicated by the Index Ticker specified in the relevant terms supplement. The Index Level will be published to 4 decimal places.



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.” The Index Calculation Agent generally will not revise a published Index Level once published. However, where the Index Level on subsequent Calculation Days depends on the Index Level on prior Calculation Days (*e.g.*, the Index Level on the previous Rebalancing Date), the Index Calculation Agent will apply the Adjusted Index Level, which is different from the published level. See “Market Disruptions — Effect of a Disrupted Day on Later Calculations” below.

The Index Calculation Agent will calculate, but not publish, an Adjusted Index Level for any Calculation Day that is a Disrupted Day. Upon request, the Index Calculation Agent will provide such Adjusted Index Level, as calculated on any succeeding Calculation Day. The Adjusted Index Level with respect to a Disrupted Day, as calculated on a succeeding Calculation Day, is calculated in the same manner as the Index Level on such Disrupted Day, except that the Index Calculation Agent will use the Adjusted U.S. Dollar Level with respect to such Disrupted Day, as calculated on such succeeding Calculation Day, instead of the U.S. Dollar Level on such Disrupted Day, for each Disrupted Constituent. See “Market Disruptions — Effect of a Disrupted Day on Later Calculations” below.

## **Market Disruptions**

The following sections summarize the effects that a Market Disruption Event has on the calculation of the Index. For a complete description of the manner in which the Index Calculation Agent will calculate the Index upon the occurrence of a Market Disruption Event, please refer to the Standard Terms.

### ***(a) Calculation of the Index Level on a Disrupted Day***

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

### ***(b) Effect of a Disrupted Day on Later Calculations***

As described under “Calculation and Publication of the Index Level” above, when calculating the Index Level on any Calculation Day, the Index Calculation Agent references the Index Level and the U.S. Dollar Levels of the Index Constituents on one or more prior Calculation Days. With respect to an excess return index, the Index Calculation Agent references the Index Level and the U.S. Dollar Levels of the Index Constituents on the immediately preceding Rebalancing Date. With respect to a total return index, the Index Calculation Agent references the Index Level and the U.S. Dollar Levels of the Index Constituents on each Calculation Day from and including the immediately preceding Rebalancing Date, to and including the immediately preceding Calculation Day. In this product supplement, we refer to each of these prior Calculation Days as a “Prior Date.”

If, with respect to any Calculation Day, any Prior Date was a Disrupted Day, the Index Calculation Agent will calculate the Index Level for such Calculation Day in the manner described in "Calculation and Publication of the Index Level" above (as modified by "— Calculation of the Index Level on a Disrupted Day" above, if applicable), with the following exceptions:

- (a) with respect to any Disrupted Constituent, the Index Calculation Agent will use the Adjusted U.S. Dollar Level with respect to such Prior Date, as calculated on such Calculation Day, instead of the U.S. Dollar Level on such Prior Date for such Index Constituent; and
- (b) with respect to any Prior Date that was a Disrupted Day, the Index Calculation Agent will use the Adjusted Index Level with respect to such Prior Date, as calculated on such Calculation Day, instead of the Index Level calculated on such Prior Date; *provided* that, with respect to a total return index, the Index Calculation Agent will use the Index Level calculated on such Prior Date if such Prior Date is the immediately preceding Calculation Date.

With respect to any Calculation Day, an Index Constituent is a "Disrupted Constituent" if either (a) a Market Disruption Event with respect to such Index Constituent has occurred or is continuing on such Calculation Day or (b) with respect to any Index Constituent underlying an Index Component that includes two Index Constituents, a Market Disruption Event with respect to either Index Constituent underlying such Index Component has occurred or is continuing on such Calculation Day.

With respect to any Disrupted Constituent for which the Underlying Index consists of a single commodity, the Adjusted U.S. Dollar Level on a Prior Date, as calculated on a Calculation Day, will generally be the U.S. Dollar Level of such Disrupted Constituent on the first Calculation Day following such Prior Date that is not a Disrupted Day with respect to such Disrupted Constituent; *provided* that, if each of the five Calculation Days immediately succeeding the Prior Date are Disrupted Days with respect to such 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 a Calculation Day that is fewer than five Calculation Days after the Prior Date, if each Calculation Day from the Prior Date to and including such Calculation Day is a Disrupted Day with respect to such Disrupted Constituent, the Adjusted U.S. Dollar Level on such Prior Date, as calculated on such Calculation Day, will be equal to the U.S. Dollar Level on such Calculation Day.

With respect to any Disrupted Constituent for which the Underlying Index consists of more than one commodity, the Adjusted U.S. Dollar Level on a Prior Date, as calculated on a Calculation Day, will be calculated by the Index Calculation Agent in good faith and in a commercially reasonable manner, using the prices described below:

- (a) with respect to each commodity underlying such Disrupted Constituent that is not affected by a Market Disruption Event (each, a "Non-Disrupted Commodity"), the Index Calculation Agent will use the official settlement price of the applicable futures contract(s) on such Prior Day; and
- (b) with respect to each commodity underlying such Disrupted Constituent that is affected by a Market Disruption Event (each, a "Disrupted Commodity"),
  - (i) if any Calculation Day from the Prior Date to and including such Calculation Day is not a Disrupted Day with respect to such Disrupted Commodity, the Index Calculation Agent will use the official settlement price of the applicable futures contract(s) on the first Calculation Day following such Prior Date that is not a Disrupted Day with respect to such Disrupted Commodity;
  - (ii) if such Calculation Day is fewer than five Calculation Days after the Prior Date and each Calculation Day from the Prior Date to and including such Calculation Day is a Disrupted Day with respect to such Disrupted Commodity, the Index Calculation Agent will use the official settlement price of the applicable futures contract(s) on such Calculation Day; *provided* that if such official settlement price is unavailable, the Index Calculation Agent will determine the applicable price in good faith and in a commercially reasonable manner; or

- (iii) if each of the five Calculation Days immediately succeeding the Prior Date are Disrupted Days with respect to such Disrupted Commodity, the Index Calculation Agent will determine the applicable price in good faith and in a commercially reasonable manner.

The Adjusted Index Level with respect to a Prior Date, as calculated on a Calculation Day, is calculated in the same manner as the Index Level on such Prior Date, except that the Index Calculation Agent will use the Adjusted U.S. Dollar Level with respect to such Prior Date, as calculated on such Calculation Day, instead of the U.S. Dollar Level on such Prior Date, for each Disrupted Constituent.

For additional information regarding the calculation of the Adjusted U.S. Dollar Level and the Adjusted Index Level, please refer to the Standard Terms. For the avoidance of doubt, the Index Calculation Agent will not update any Short Constituent Leverage or Index Leverage (each, if applicable) once they are calculated with respect to a Rebalancing Date to reflect Adjusted Index Levels or Adjusted U.S. Dollar Levels determined after such Rebalancing Date.

***(c) Market Disruption Events***

“Market Disruption Event” means, with respect to any Calculation Day,

- (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 an Index 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 an Index 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 an Index 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 an 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 (a “Non-Commodity Business Day”).

A Market Disruption Event for an Index Constituent will 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 for an Index Constituent will 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.

“Non-Publication Event” means the failure by the Relevant Exchange, Index Sponsor or other price source to announce publicly or publish the following (or the information necessary for determining the following): (a) the official settlement price for any relevant futures contract on the relevant commodity or commodities related to the Underlying Index of an Index Constituent or (b) the closing level of the

Underlying Index of an Index Constituent, in either case by noon (London time) on the immediately following 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 such immediately following Calculation Day that the information necessary for determining the closing level of the relevant Underlying Index of an Index Constituent has been announced publicly or published by the Relevant Exchange, Index Sponsor or other price source in which case the Index Calculation Agent will determine the U.S. Dollar Level of such 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 Constituent.

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

***(d) The T-Bill Rate***

With respect to an Index that is a total return index, if on any Calculation Day the T-Bill Rate for such Calculation Day does not appear on Bloomberg® ticker USB3MTA (or any official successor page thereto), the T-Bill Rate for such Calculation Day 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 T-Bill Rate for such Calculation Day 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 T-Bill Rate will be determined by the Index Calculation Agent in good faith and in a commercially reasonable manner.

**Extraordinary Events Affecting the Index Constituents**

***(a) Successor Index Constituent***

If any Index Constituent is (i) not calculated and announced by the Index Sponsor but is calculated and announced by a successor sponsor acceptable to the Index Calculation Agent or (ii) 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 Index 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.

***(b) Material Change in the Method or Formula of Calculating an Index Constituent***

If on or prior to any Calculation Day on which the Index Calculation Agent is determining the Index Level, the Index 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 such index in the 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 such modification.

***(c) Non-Publication of an Index Constituent as a result of Cancellation of the Index Constituent***

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

***(d) Change in Law Event***

Without prejudice to the ability of the Index Calculation Agent to amend the Index Rules as described elsewhere in this product supplement, the Index Calculation Agent may, acting in good faith and in a commercially reasonable manner:

- (a) exclude; or
- (b) 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 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 Index 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.

“Change in Law” means:

(A) due to:

- (1) the adoption of, or any change in, any applicable law, regulation or rule (including, without limitation, any tax law); or

(2) 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 Index Constituent of the relevant Index, any transaction referencing the Index Constituent or any component of the Index Constituent (including without limitation, commodities futures contracts) or, (y) holding a position in any Index Constituent of the relevant 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 such 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

(B) the occurrence or existence of any:

(1) 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

(2) 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.

***(e) Cancellation of an Index License relating to an Index Constituent***

With respect to any 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 (i) remove such Index Constituent from the Index or (ii) replace such Constituent and may make such adjustments to the Index Rules as it determines in good faith to be appropriate to account for such event on such dates as selected by the Index Calculation Agent.

**Additional Terms**

***(a) 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 such amendment. The Index Rules 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 Index Rules to reflect such resolution.

***(b) No Investment Advice and No Fiduciary Duty***

The Index Calculation Agent and its affiliates, officers, agents or employees (i) 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 (ii) 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 the Index. Each investor should make its own investment purchase 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.

***(c) Index Calculation Agent; Index Calculation Standards and Index Calculation Determinations***

Unless otherwise specified in the relevant terms 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 will 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 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:

- (i) be under any obligation to revise any determination or calculation made or action taken for any reason in connection with the Index Rules or an Index; or
- (ii) 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.

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

***(d) Corrections***

With respect to any Index,

- (i) if the level of an Index 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
- (ii) 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.

***(e) 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 such determination by the Index Calculation Agent.

**Disclaimer**

Neither J.P. Morgan Securities Ltd. nor any of its Relevant Persons make any representation or warranty, whatsoever, express or implied, as to the results that may be obtained through the use of these Rules or the Index strategy. Each Relevant Person hereby expressly disclaims all warranties of accuracy, completeness, merchantability, or fitness for a particular purpose with respect to any information contained in these Rules and no Relevant Person will 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 of any indices or strategies that may be potential components of the Index. The Index Calculation Agent need not publish the index level(s), Index Level(s) or similar information related to the Index if the relevant Bloomberg ticker (as identified in the relevant Index Supplement) is subject to any delay in or interruptions of publication for any reason including the occurrence of an Extraordinary Event (as defined herein).

No one may reproduce or disseminate the information contained in the Index Rules without the prior written consent of the Index Calculation Agent. The Index Rules are not intended for distribution to, or use by, any person in a jurisdiction where such distribution is prohibited by law or regulation.



## BACKGROUND ON THE S&P GSCI INDICES

The notes may be linked to the performance of the S&P GSCI™ Index ("S&P GSCI™") or certain of the S&P GSCI™'s commodity sector sub-indices: the S&P GSCI™ Agriculture Index, the S&P GSCI™ Energy Index, the S&P GSCI™ Industrial Metals Index, the S&P GSCI™ Livestock Index and the S&P GSCI™ Precious Metals Index (each a "GSCI Sector Index," and together, the "GSCI Sector Indices"), or the S&P GSCI™'s single commodity sub-indices (each a "GSCI Single Component Index," and collectively, the "GSCI Single Component Indices"). We refer to the GSCI Single Component Indices and GSCI Sector Indices collectively as the "GSCI Component Indices," and together with the S&P GSCI™, the "S&P GSCI Indices," and each, a "S&P GSCI Index." If the Index includes any GSCI Single Component Index, any relevant disclosure for such GSCI Single Component Index will be provided in the relevant terms supplement.

The S&P GSCI Indices are published by Standard & Poor's, a division of The McGraw-Hill Companies ("S&P") and are determined, composed and calculated by S&P, without regard to the notes. S&P acquired the rights to the S&P GSCI™ from Goldman, Sachs & Co. in 2007. Goldman, Sachs & Co. established and began calculating the S&P GSCI™ in May 1991. The former name of the S&P GSCI™ was the Goldman Sachs Commodity Index, or GSCI®.

S&P publishes total return and excess return versions of each of the S&P GSCI Indices. The excess return versions of the S&P GSCI Indices is based on price levels of the futures contracts included in such S&P GSCI Index as well as the discount or premium obtained by 'rolling' hypothetical positions in such contracts forward as they approach delivery. The total return versions of the S&P GSCI Indices incorporate the returns of the excess return versions, except that the total return indices also reflect interest earned on hypothetical, fully collateralized contract positions on the included commodities.

The S&P GSCI™ is an index on a world production-weighted basket of principal non-financial commodities (*i.e.*, physical commodities) that satisfy specified criteria. The S&P GSCI™ is designed to be a measure of the performance over time of the markets for these commodities. The only commodities represented in the S&P GSCI™ are those physical commodities on which active and liquid contracts are traded on trading facilities in major industrialized countries. The commodities included in the S&P GSCI™ are weighted, on a production basis, to reflect the relative significance (in the view of S&P, as described below) of such commodities to the world economy. The fluctuations in the value of the S&P GSCI™ are intended generally to correlate with changes in the prices of such physical commodities in global markets. The S&P GSCI™ has been normalized such that its hypothetical level on January 2, 1970 was 100. Futures contracts on the S&P GSCI™, and options on such futures contracts, are currently listed for trading on the Chicago Mercantile Exchange.

The S&P GSCI™ Agriculture Index is a world production-weighted index of certain agricultural commodities in the world economy, including Wheat, Kansas Wheat, Corn, Soybeans, Cotton, Sugar, Coffee and Cocoa. The S&P GSCI™ Energy Index is a world production-weighted index of certain energy commodities in the world economy, including Crude Oil, Brent Crude Oil, RBOB Gasoline, Heating Oil, Gasoil and Natural Gas. The S&P GSCI™ Industrial Metals Index is a world production-weighted index of certain industrial metals commodities in the world economy, including High Grade Primary Aluminum, Copper, Standard Lead, Primary Nickel and Special High Grade Zinc. The S&P GSCI™ Livestock Index is a world production-weighted index of certain livestock commodities in the world economy, including live cattle, feeder cattle and lean hogs. The S&P GSCI™ Precious Metals Index is a world production-weighted index consisting of two precious metals commodities in the world economy: Gold and Silver.

The value of a price return version of a S&P GSCI Index on any given day reflects:

- the price levels of the contracts included in the S&P GSCI Index (which represents the value of the S&P GSCI Index), and

- the “contract daily return,” which is the percentage change in the total dollar weight of the S&P GSCI Index from the previous day to the current day.

The value of a total return version of a S&P GSCI Index on any given day reflects the value of an investment in the price return version of such S&P GSCI Index together with a Treasury bill return.

Set forth below is a summary of the methodology used to calculate the S&P GSCI Indices. Since the S&P GSCI™ is the parent index of the GSCI Component Indices, the methodology for compiling the S&P GSCI™ relates as well to the methodology of compiling the GSCI Component Indices. Each of the GSCI Component Indices reflecting portions of the S&P GSCI™ is calculated in the same manner as the S&P GSCI™, except that (i) the daily contract reference price, CPWs and roll weights (each as discussed below) used in performing such calculations are limited to those of the commodities included in the relevant sub-index and (ii) each sub-index has a separate normalizing constant (discussed below). The methodology for determining the composition and weighting of the S&P GSCI™ and for calculating its value is subject to modification in a manner consistent with the purposes of the S&P GSCI™, as described below. S&P makes the official calculations of the S&P GSCI Indices.

### **The Index Committee and the Index Advisory Panel**

S&P has established an index committee (the “Index Committee”) to oversee the daily management and operations of the S&P GSCI™, and is responsible for all analytical methods and calculation of the S&P GSCI Indices. The Index Committee consists of full-time professional members of S&P’s staff. At each meeting, the Index Committee reviews any issues that may affect index constituents, statistics comparing the composition of the indices to the market, commodities that are being considered as candidates for an addition to an index and any significant market events. In addition, the Index Committee may revise index policy covering rules for selecting commodities or other matters.

S&P considers information about changes to its indices and related matters to be potentially market-moving and material. Therefore, all Index Committee discussions are confidential.

S&P has established an index advisory panel (the “Advisory Panel”) to assist it in connection with the operation of the S&P GSCI™. The Advisory Panel meets on an annual basis and at other times at the request of the Index Committee. The principal purpose of the Advisory Panel is to advise S&P with respect to, among other things, the calculation of the S&P GSCI™, the effectiveness of the S&P GSCI™ as a measure of commodity futures market performance and the need for changes in the composition or in the methodology of the S&P GSCI™. The Advisory Panel acts solely in an advisory and consultative capacity; the Index Committee makes all decisions with respect to the composition, calculation and operation of the S&P GSCI™.

### **Composition of the S&P GSCI™**

In order to be included in the S&P GSCI™, a contract must satisfy the following eligibility criteria:

- the contract must be in respect of a physical commodity and not a financial commodity;
- the contract must have a specified expiration or term or provide in some other manner for delivery or settlement at a specified time, or within a specified period, in the future;
- the contract must, at any given point in time, be available for trading at least five months prior to its expiration or such other date or time period specified for delivery or settlement;

- the contract must be traded on an exchange, facility or other platform (referred to as a “trading facility”) that allows market participants to execute spread transactions, through a single order entry, between the pairs of contract expirations included in the S&P GSCI™ that, at any given point in time, will be involved in the rolls to be effected in the next three roll periods (defined below);
- the contract must be denominated in U.S. dollars; and
- the contract must be traded on or through a trading facility that has its principal place of business or operations in a country that is a member of the Organization for Economic Cooperation and Development and that:
  - makes price quotations generally available to its members or participants (and to S&P) in a manner and with a frequency that is sufficient to provide reasonably reliable indications of the level of the relevant market at any given point in time;
  - makes reliable trading volume information available to S&P with at least the frequency required by S&P to make the monthly determinations;
  - accepts bids and offers from multiple participants or price providers; and
  - is accessible by a sufficiently broad range of participants.

The price of the relevant contract that is used as a reference or benchmark by market participants (referred to as the “daily contract reference price”) generally must have been available on a continuous basis for at least two years prior to the proposed date of inclusion in the S&P GSCI™. In appropriate circumstances, S&P may determine that a shorter time period is sufficient or that historical daily contract reference prices for such contract may be derived from daily contract reference prices for a similar or related contract. The daily contract reference price may be (but is not required to be) the settlement price or other similar price published by the relevant trading facility for purposes of margining transactions or for other purposes.

At and after the time a contract is included in the S&P GSCI™, the daily contract reference price for such contract must be published between 10:00 a.m. and 4:00 p.m., New York City time, on each business day relating to such contract by the trading facility on or through which it is traded and must generally be available to all members of, or participants in, such facility (and to S&P) on the same day from the trading facility or through a recognized third-party data vendor. Such publication must include, at all times, daily contract reference prices for at least one expiration or settlement date that is five months or more from the date the determination is made, as well as for all expiration or settlement dates during such five-month period.

For a contract to be eligible for inclusion in the S&P GSCI™, volume data with respect to such contract must be available for at least the three months immediately preceding the date on which the determination is made. The following eligibility criteria apply:

- In order to be added to the S&P GSCI™, a contract that is not included in the S&P GSCI™ at the time of determination and that is based on a commodity that is not represented in the S&P GSCI™ at such time must have an annualized total dollar value traded over the relevant period of at least U.S. \$15 billion. The total dollar value traded is the dollar value of the total quantity of the commodity underlying transactions in the relevant contract over the period for which the calculation is made, based on the average of the daily contract reference prices on the last day of each month during the period.
- In order to continue to be included in the S&P GSCI™, a contract that is already included in the S&P GSCI™ at the time of determination and that is the only contract on the relevant commodity included in the S&P GSCI™ must have an annualized total dollar value traded of at least U.S. \$5 billion over the relevant period and of at least U.S. \$10 billion during at least one of the three most recent annual periods used in making the determination.

- In order to be added to the S&P GSCI™, a contract that is not included in the S&P GSCI™ at the time of determination and that is based on a commodity on which there are one or more contracts already included in the S&P GSCI™ at such time must have an annualized total dollar value traded over the relevant period of at least U.S. \$30 billion.
- In order to continue to be included in the S&P GSCI™, a contract that is already included in the S&P GSCI™ at the time of determination and that is based on a commodity on which there are one or more contracts already included in the S&P GSCI™ at such time must have an annualized total dollar value traded, over the relevant period of at least U.S. \$10 billion over the relevant period and of at least U.S. \$20 billion during at least one of the three most recent annual periods used in making the determination.

In addition to the volume requirements described above, a contract must have a minimum reference percentage dollar weight:

- In order to continue to be included in the S&P GSCI™, a contract that is already included in the S&P GSCI™ at the time of determination must have a reference percentage dollar weight of at least 0.10%. The reference percentage dollar weight of a contract is determined by multiplying the CPW (defined below) of a contract by the average of its daily contract reference prices on the last day of each month during the relevant period. These amounts are summed for all contracts included in the S&P GSCI™ and each contract's percentage of the total is then determined.
- In order to be added to the S&P GSCI™, a contract that is not included in the S&P GSCI™ at the time of determination must have a reference percentage dollar weight of at least 1.00% at the time of determination.

In the event that two or more contracts on the same commodity satisfy the eligibility criteria, such contracts are included in the S&P GSCI™ in the order of their respective total quantity traded during the relevant period (determined as the total quantity of the commodity underlying transactions in the relevant contract), with the contract having the highest total quantity traded being included first. No further contracts are included if such inclusion results in the portion of the S&P GSCI™ attributable to such commodity exceeding a particular level.

If under the procedure set forth in the preceding paragraph, additional contracts could be included with respect to several commodities at the same time, the procedure is first applied to the commodity that has the smallest portion of the S&P GSCI™ attributable to it at the time of determination. Subject to the other eligibility criteria, the contract with the highest total quantity traded on such commodity is included. Before any additional contracts on any commodity are included, the portion of the S&P GSCI™ attributable to all commodities is recalculated. The selection procedure described above is then repeated with respect to the contracts on the commodity that then has the smallest portion of the S&P GSCI™ attributable to it.

The contracts currently included in the S&P GSCI™ are all futures contracts traded on the New York Mercantile Exchange, Inc. ("NYMEX"), ICE Futures Europe ("ICE-Europe"), ICE Futures U.S. ("ICE-US"), the Chicago Mercantile Exchange ("CME"), the Chicago Board of Trade ("CBOT"), the Kansas City Board of Trade ("KBT"), the Commodities Exchange Inc. ("CMX") and the London Metal Exchange ("LME").

The quantity of each of the contracts included in the S&P GSCI™ is determined on the basis of a five-year average (referred to as the "world production average") of the production quantity of the underlying commodity as published by the United Nations Statistical Yearbook, the Industrial Commodity Statistics Yearbook and other official sources. However, if a commodity is primarily a regional commodity, based on its production, use, pricing, transportation or other factors, S&P may calculate the weight of such commodity based on regional, rather than world, production data. At present, natural gas is the only commodity the weight of which is calculated on the basis of regional production data, with the relevant region being North America.

The five-year moving average is updated annually for each commodity included in the S&P GSCI™, based on the most recent five-year period (ending approximately two years prior to the date of calculation and moving backwards) for which complete data for all commodities is available. The contract production weights (the “CPWs”) used in calculating the S&P GSCI™ are derived from world or regional production averages, as applicable, of the relevant commodities, and are calculated based on the total quantity traded for the relevant contract and the world or regional production average, as applicable, of the underlying commodity. However, if the volume of trading in the relevant contract, as a multiple of the production levels of the commodity, is below specified thresholds, the CPW of the contract is reduced until the threshold is satisfied. This is designed to ensure that trading in each such contract is sufficiently liquid relative to the production of the commodity.

In addition, S&P performs this calculation on a monthly basis and, if the multiple of any contract is below the prescribed threshold, the composition of the S&P GSCI™ is reevaluated, based on the criteria and weighting procedure described above. This procedure is undertaken to allow the S&P GSCI™ to shift from contracts that have lost substantial liquidity into more liquid contracts, during the course of a given year. As a result, it is possible that the composition or weighting of the S&P GSCI™ will change on one or more of these monthly evaluation dates. In addition, regardless of whether any changes have occurred during the year, S&P reevaluates the composition of the S&P GSCI™ at the conclusion of each year, based on the above criteria. Other commodities that satisfy such criteria, if any, will be added to the S&P GSCI™. Commodities included in the S&P GSCI™ that no longer satisfy such criteria, if any, will be deleted.

S&P also determines whether modifications in the selection criteria or the methodology for determining the composition and weights of and for calculating the S&P GSCI™ are necessary or appropriate in order to assure that the S&P GSCI™ represents a measure of commodity market performance. S&P has the discretion to make any such modifications.

### **Contract Expirations**

Because the S&P GSCI™ comprises actively traded contracts with scheduled expirations, it can only be calculated by reference to the prices of contracts for specified expiration, delivery or settlement periods, referred to as “contract expirations.” The contract expirations included in the S&P GSCI™ for each commodity during a given year are designated by S&P, provided that each such contract must be an “active contract.” An “active contract” for this purpose is a liquid, actively traded contract expiration, as defined or identified by the relevant trading facility or, if no such definition or identification is provided by the relevant trading facility, as defined by standard custom and practice in the industry.

If a trading facility deletes one or more contract expirations, the S&P GSCI™ will be calculated during the remainder of the year in which such deletion occurs based on the remaining contract expirations designated by S&P. If a trading facility ceases trading in all contract expirations relating to a particular contract, S&P may designate an eligible replacement contract on the commodity. To the extent practicable, the replacement will be in effect during the next monthly review of the composition of the S&P GSCI™. If that timing is not practicable, S&P will determine the date of the replacement and will consider a number of factors, including the differences between the existing contract and the replacement contract specifications and contract expirations.

### **Value of the S&P GSCI™**

The value of the S&P GSCI™ on any given day is equal to the total dollar weight of the S&P GSCI™ divided by a normalizing constant that assures the continuity of the S&P GSCI™ over time. The total dollar weight of the S&P GSCI™ is the sum of the dollar weight of each of the underlying commodities.

The dollar weight of each such commodity on any given day is equal to:

- the “daily contract reference price” (discussed below),
- multiplied by the appropriate CPWs, and
- during a roll period, the appropriate “roll weights” (discussed below).

The daily contract reference price used in calculating the dollar weight of each commodity on any given day is the most recent daily contract reference price made available by the relevant trading facility, except that the daily contract reference price for the most recent prior day will be used if the exchange is closed or otherwise fails to publish a daily contract reference price on that day. In addition, if the trading facility fails to make a daily contract reference price available or publishes a daily contract reference price that, in the reasonable judgment of S&P, reflects manifest error, the relevant calculation will be delayed until the price is made available or corrected; provided that, if the price is not made available or corrected by 4:00 p.m., New York City time, S&P may, if it deems such action to be appropriate under the circumstances, determine the appropriate daily contract reference price for the applicable futures contract in its reasonable judgment for purposes of the relevant S&P GSCI™ calculation.

### **Contract Daily Return**

The contract daily return on any given day is equal to the sum, for each of the commodities included in the S&P GSCI™, of the applicable daily contract reference price on the relevant contract multiplied by the appropriate CPW and the appropriate “roll weight,” divided by the total dollar weight of the S&P GSCI™ on the preceding day, minus one.

The “roll weight” of each commodity reflects the fact that the positions in contracts must be liquidated or rolled forward into more distant contract expirations as they approach expiration. If actual positions in the relevant markets were rolled forward, the roll would likely need to take place over a period of days. Since the S&P GSCI™ is designed to replicate the performance of actual investments in the underlying contracts, the rolling process incorporated in the S&P GSCI™ also takes place over a period of days at the beginning of each month (referred to as the “roll period”). On each day of the roll period, the “roll weights” of the first nearby contract expiration on a particular commodity and the more distant contract expiration into which it is rolled are adjusted, so that the hypothetical position in the contract on the commodity that is included in the S&P GSCI™ is gradually shifted from the first nearby contract expiration to the more distant contract expiration.

If on any day during a roll period any of the following conditions exists, the portion of the roll that would have taken place on that day is deferred until the next day on which such conditions do not exist:

- no daily contract reference price is available for a given contract expiration;
- any such price represents the maximum or minimum price for such contract month, based on exchange price limits (referred to as a “Limit Price”);
- the daily contract reference price published by the relevant trading facility reflects manifest error, or such price is not published by 4:00 p.m., New York City time. In that event, S&P may, but is not required to, determine a daily contract reference price and complete the relevant portion of the roll based on such price; provided, that, if the trading facility publishes a price before the opening of trading on the next day, S&P will revise the portion of the roll accordingly; or
- trading in the relevant contract terminates prior to its scheduled closing time.

If any of these conditions exist throughout the roll period, the roll with respect to the affected contract will be effected in its entirety on the next day on which such conditions no longer exist.

## Calculation of the S&P GSCI Indices

### *Price Return S&P GSCI Indices*

The value of any price return version of a S&P GSCI Index on any day on which the S&P GSCI™ is calculated (an "S&P GSCI™ Business Day") is equal to the product of (1) the value of the underlying futures contracts on the immediately preceding S&P GSCI™ Business Day multiplied by (2) one plus the contract daily return of the applicable S&P GSCI Index on the S&P GSCI™ Business Day on which the calculation is made.

### *Total Return S&P GSCI Indices*

Whereas the price return versions of the S&P GSCI Indices are based on price levels of the underlying futures contracts, the total return versions of the S&P GSCI Indices depend on the daily return of the underlying futures contract. The contract daily return on any given day is equal to the sum, for each of the commodities included in the applicable S&P GSCI Index, of the applicable daily contract reference price on the relevant contract multiplied by the appropriate CPW and the appropriate roll weight, divided by the total dollar weight of the applicable S&P GSCI Index on the preceding day.

The value of any total return version of a S&P GSCI Index on any S&P GSCI™ Business Day is equal to the product of (1) the value of the applicable S&P GSCI Index on the immediately preceding S&P GSCI™ Business Day multiplied by (2) one plus the sum of the contract daily return and the Treasury Bill return on the S&P GSCI™ Business Day on which the calculation is made multiplied by (3) one plus the Treasury Bill return for each non-S&P GSCI™ Business Day since the immediately preceding S&P GSCI™ Business Day. The Treasury Bill return is the return on a hypothetical investment in the applicable S&P GSCI Index at a rate equal to the interest rate on a specified U.S. Treasury Bill.

## Information

All information contained herein relating to the S&P GSCI™ and each of the S&P GSCI Indices, including their make-up, method of calculation, changes in their components and historical performance, has been derived from publicly available information.

The information contained herein with respect to each of the S&P GSCI Indices and the S&P GSCI™ reflects the policies of, and is subject to change by, S&P.

Current information regarding the market value of the S&P GSCI Indices is available from S&P and from numerous public information sources. We make no representation that the publicly available information about the S&P GSCI Indices is accurate or complete.

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## BACKGROUND ON THE DJ-UBS COMMODITY INDICES

### General

The notes may be linked to the performance of the Dow Jones-UBS Commodity Index<sup>SM</sup>, its single-commodity sub-indices or the forward-month version of Dow Jones-UBS Commodity Index<sup>SM</sup> or its single-commodity sub-indices (each a “DJ-UBS Commodity Index” and collectively, the “DJ-UBS Commodity Indices”). We have derived all information contained in this product supplement regarding the DJ-UBS Commodity Indices including, without limitation, their make-up, methods of calculation and changes in their components from (i) publicly available sources and (ii) a summary of the Dow Jones-UBS Commodity Index<sup>SM</sup> Handbook (a document that is considered proprietary to UBS Securities LLC (“UBS”) and CME Group Index Services LLC (“CME Indexes”) and is available to those persons who enter into a license agreement available at [www.djindexes.com/ubs/index.cfm?go=handbook](http://www.djindexes.com/ubs/index.cfm?go=handbook)). Such information reflects the policies of, and is subject to change by, UBS and CME Indexes. We have not independently verified this information. You, as an investor in the notes, should make your own investigation into the DJ-UBS Commodity Indices, UBS and CME Indexes. UBS and CME Indexes 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 CME Indexes have no obligation to continue to publish the DJ-UBS Commodity Indices, and may discontinue publication of the DJ-UBS Commodity Indices at any time in their sole discretion. Information contained in the Dow Jones website is not incorporated by reference in, and should not be considered a part of, this product supplement or any terms supplement.

In May 2009, UBS completed its acquisition of the commodity index business of AIG Financial Products Corp. (“AIG-FP”), including AIG-FP’s rights to the Dow Jones — AIG Commodity Index<sup>SM</sup>, its single-commodity sub-indices and the forward-month versions of Dow Jones — AIG Commodity Index<sup>SM</sup> and its single-commodity sub-indices. The Dow Jones — AIG Commodity Index<sup>SM</sup> was rebranded as “Dow Jones-UBS Commodity Index<sup>SM</sup>” and the related indices were similarly rebranded. In addition, UBS and Dow Jones & Company, Inc. (“Dow Jones”) entered into an agreement to jointly market the DJ-UBS Commodity Indices. Dow Jones subsequently assigned all its interest in the joint marketing agreement to CME Indexes.

### Overview

The Dow Jones-UBS Commodity Index<sup>SM</sup> 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 Dow Jones-UBS Commodity Index<sup>SM</sup> is published by Bloomberg L.P. under the ticker symbols “DJUBS” for the excess return version and “DJUBSTR” for the total return version.

The single-commodity sub-indices of the Dow Jones-UBS Commodity Index<sup>SM</sup> follow the methodology of the Dow Jones-UBS Commodity Index<sup>SM</sup>, except that the calculation of each single-commodity sub-index utilizes the prices of the relevant futures contracts (listed under “— Designated Contracts for Each Commodity”) and the relevant Commodity Index Multiplier (determined as described under “— Commodity Index Multipliers”). The single-commodity sub-indices of the Dow Jones-UBS Commodity Index<sup>SM</sup> are published by Bloomberg L.P. If the Index includes a single-commodity sub-index of the Dow Jones-UBS Commodity Index<sup>SM</sup>, the ticker symbol will be provided in the relevant terms supplement.

UBS and CME Indexes also publish forward-month versions of the Dow Jones-UBS Commodity Index<sup>SM</sup> and its single-commodity sub-indices that trades longer-dated commodity futures contracts. The Dow Jones-UBS Commodity Index 3 Month Forward<sup>SM</sup> follows the methodology of the Dow Jones-UBS Commodity Index<sup>SM</sup>, except that the futures contracts used for calculating the Dow Jones-UBS Commodity Index 3 Month Forward<sup>SM</sup> are advanced, as compared to the Dow Jones-UBS Commodity

Index<sup>SM</sup>, such that the delivery months for the reference contracts are generally two or three months later than those of the corresponding reference contracts used for the Dow Jones-UBS Commodity Index<sup>SM</sup>. The Dow Jones-UBS Commodity Index 3 Month Forward<sup>SM</sup> is published by Bloomberg L.P. under the ticker symbols "DJUBSF3" for the excess return version and "DJUBSF3T" for the total return version.

The forward-month single-commodity sub-indices of the Dow Jones-UBS Commodity Index<sup>SM</sup> follow the methodology of the Dow Jones-UBS Commodity Index<sup>SM</sup>, except that the calculation of each forward-month single-commodity sub-index utilizes the prices of the relevant futures contracts (as listed under "— Designated Contracts for Each Commodity") and the relevant Commodity Index Multiplier (determined as described under "— Commodity Index Multipliers"). In addition, the futures contracts used for calculating the forward-month single-commodity sub-indices are advanced, as compared to the future contracts included in the Dow Jones-UBS Commodity Index<sup>SM</sup>, such that the delivery months for the reference contracts are three months later than those of the corresponding reference contracts used for the forward-month single-commodity sub-indices. The forward-month single-commodity sub-indices of the Dow Jones-UBS Commodity Index<sup>SM</sup> are published by Bloomberg L.P. If the Index includes a forward-month single-commodity sub-index of the Dow Jones-UBS Commodity Index<sup>SM</sup>, the ticker symbol will be provided in the relevant terms supplement.

UBS and CME Indexes publish both a total return version and excess return version of each of the DJ-UBS Commodity Indices. The total return version of each DJ-UBS Commodity Index reflects the returns on a fully collateralized investment in the excess return version of such DJ-UBS Commodity Index. Accordingly, the total return version of each DJ-UBS Commodity Index combines the returns of the relevant excess return version with returns on cash collateral invested in Treasury Bills. The cash collateral returns are calculated using the most recent weekly auction high rate for 3 Month U.S. Treasury Bills, as reported on the website [www.publicdebt.treas.gov/AI/OFBills](http://www.publicdebt.treas.gov/AI/OFBills) under the column heading "Discount Rate %," published by the Bureau of the Public Debt of the U.S. Treasury (or any successor source). Information contained in the Bureau of the Public Debt of the U.S. Treasury website is not incorporated by reference in, and should not be considered a part of, this product supplement or any terms supplement. Weekly auction high rates are generally published once each week on Monday. The notes may be linked to the excess return or the total return version of the DJ-UBS Commodity Indices.

The Dow Jones-UBS Commodity Index<sup>SM</sup> was introduced in July of 1998 to provide a unique, diversified, economically rational and liquid benchmark for commodities as an asset class. The Dow Jones-UBS Commodity Index<sup>SM</sup> currently is composed of the prices of nineteen 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 "The Commodity Futures Markets." The commodities included in the Dow Jones-UBS Commodity Index<sup>SM</sup> for 2011 are as follows: aluminum, coffee, copper, corn, cotton, crude oil, unleaded gasoline, gold, heating oil, lean hogs, live cattle, natural gas, nickel, silver, soybean oil, soybeans, sugar, wheat and zinc. Futures contracts and options on futures contracts on the Dow Jones-UBS Commodity Index<sup>SM</sup> are currently listed for trading on the Chicago Board of Trade ("CBOT").

The Dow Jones-UBS Commodity Index<sup>SM</sup> is a proprietary index that AIG International, Inc. developed and that UBS and CME calculate. The methodology for determining the composition and weighting of the Dow Jones-UBS Commodity Index<sup>SM</sup> and for calculating its value is subject to modification by UBS and CME Indexes at any time. As of the date of this product supplement, Dow Jones disseminates the Dow Jones-UBS Commodity Index<sup>SM</sup> level approximately every fifteen (15) seconds (assuming the Dow Jones-UBS Commodity Index<sup>SM</sup> level has changed within such fifteen-second interval) from 8:00 a.m. to 3:30 p.m. (New York time) and publishes the final Dow Jones-UBS Commodity Index<sup>SM</sup> level for each DJ-UBS Business Day (as defined below) at approximately 4:00 p.m. (New York time) on each such day. Dow Jones-UBS Commodity Index<sup>SM</sup> levels can also be obtained from the official websites of both UBS and Dow Jones Indexes and are also published in *The Wall Street Journal*.

A “DJ-UBS Business Day” is a day on which the sum of the Commodity Index Percentages (as defined below in “Annual Reweightings and Rebalancings of the Dow Jones-UBS Commodity Index<sup>SM</sup>”) for the Dow Jones-UBS Commodities that are open for trading is greater than 50%. For example, based on the weighting of the Dow Jones-UBS Commodities for 2011, if the CBOT and the New York Mercantile Exchange (“NYMEX”) are closed for trading on the same day, a DJ-UBS Business Day will not exist.

UBS and its affiliates actively trade futures contracts and options on futures contracts on the commodities that underlie the Dow Jones-UBS Commodity Index<sup>SM</sup>, as well as commodities, including commodities included in the Dow Jones-UBS Commodity Index<sup>SM</sup>. For information about how this trading may affect the value of the DJ-UBS Commodity Indices, see “Risk Factors — For notes linked to an Index that includes a DJ-UBS Commodity Index, trading and other transactions by UBS and its affiliates in the futures contracts constituting the DJ-UBS Commodity Indices and the underlying commodities may affect the level of the DJ-UBS Commodity Indices.”

### **The Dow Jones-UBS Commodity Index Supervisory and Advisory Committees**

UBS and CME Indexes have established the Dow Jones-UBS Commodity Index Supervisory Committee (the “Supervisory Committee”) and the Dow Jones-UBS Commodity Index Advisory Committee (the “Advisory Committee”) to assist them in connection with the operation of the Dow Jones-UBS Commodity Index<sup>SM</sup>. The Supervisory Committee is comprised of three members, two of whom are appointed by UBS and one of whom is appointed by CME Indexes, and makes all final decisions related to the Dow Jones-UBS Commodity Index<sup>SM</sup>, with advice and recommendations from the Advisory Committee. The Advisory Committee includes six to twelve members drawn from the financial and academic communities. Both the Supervisory and Advisory Committees meet annually to consider any changes to be made to the Dow Jones-UBS Commodity Index<sup>SM</sup> for the coming year. These committees may also meet at such other times as may be necessary.

As described in more detail below, the Dow Jones-UBS Commodity Index<sup>SM</sup> is reweighted and rebalanced each year in January on a price-percentage basis. The annual weightings for the Dow Jones-UBS Commodity Index<sup>SM</sup> are determined each year in third or fourth quarter by UBS under the supervision of the Supervisory Committee following advice from the Advisory Committee and are published as promptly as practicable following the calculation.

For example, the composition of the Dow Jones-UBS Commodity Index<sup>SM</sup> for 2011 was approved by the Dow Jones-UBS Index Oversight Committee in October of 2010 and published on October 29, 2010. The January 2011 reweighting and rebalancing was based on the following percentages:

### **The Dow Jones-UBS Commodity Index<sup>SM</sup> 2011 Commodity Index Percentages**

COMMODITY	WEIGHTING
Crude Oil	14.709297%
Natural Gas	11.218962%
Gold	10.449067%
Soybeans	7.856815%
Copper	7.539090%
Corn	6.978537%
Aluminum	5.203285%
Wheat	4.605238%
Heating Oil	3.575070%
Unleaded Gasoline	3.496671%
Live Cattle	3.359133%
Sugar	3.326014%
Silver	3.289633%
Soybean Oil	2.937244%
Zinc	2.849355%
Coffee	2.355773%
Nickel	2.250815%
Lean Hogs	2.000000%
Cotton	2.000000%

Information concerning the Dow Jones-UBS Commodity Index<sup>SM</sup>, including weightings and composition, may be obtained at the Dow Jones web site. Information contained in the Dow Jones web site is not incorporated by reference in, and should not be considered part of, this product supplement or any terms supplement.

#### **Four Main Principles Guiding the Creation of the Dow Jones-UBS Commodity Index<sup>SM</sup>**

The Dow Jones-UBS Commodity Index<sup>SM</sup> 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 Dow Jones-UBS Commodity Index<sup>SM</sup> uses both liquidity data and dollar-weighted production data in determining the relative quantities of included commodities. The Dow Jones-UBS Commodity Index<sup>SM</sup> 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 Dow Jones-UBS Commodity Index<sup>SM</sup> 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 Dow Jones-UBS Commodity Index<sup>SM</sup> 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 Dow Jones-UBS Commodity Index<sup>SM</sup> 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 Dow Jones-UBS Commodity Index<sup>SM</sup> is re-balanced annually on a price-percentage basis in order to maintain diversified commodities exposure over time.
- **CONTINUITY.** The third goal of the Dow Jones-UBS Commodity Index<sup>SM</sup> is to be responsive to the changing nature of commodity markets in a manner that does not completely reshape the character of the Dow Jones-UBS Commodity Index<sup>SM</sup> from year to year. The Dow Jones-UBS Commodity Index<sup>SM</sup> 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 Dow Jones-UBS Commodity Index<sup>SM</sup>.
- **LIQUIDITY.** Another goal of the Dow Jones-UBS Commodity Index<sup>SM</sup> is to provide a highly liquid index. The explicit inclusion of liquidity as a weighting factor helps to ensure that the Dow Jones-UBS Commodity Index<sup>SM</sup> 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 Dow Jones-UBS Commodity Index<sup>SM</sup> and its creators, and there can be no assurance that these goals will be reached by either UBS or CME Indexes.

## Composition of the Dow Jones-UBS Commodity Index<sup>SM</sup> — Commodities Available for Inclusion

A number of commodities have been selected which are believed to be sufficiently significant to the world economy to merit consideration for inclusion in the Dow Jones-UBS Commodity Index<sup>SM</sup> and that are tradeable through a qualifying related futures contract. With the exception of several metals contracts (aluminum, lead, tin, nickel and zinc) that trade on the London Metal Exchange ("LME"), each of the potential commodities is the subject of a futures contract that trades on a U.S. exchange.

As of the date of this product supplement, the 23 commodities available for inclusion in the Dow Jones-UBS Commodity Index<sup>SM</sup> were aluminum, cocoa, coffee, copper, corn, cotton, crude oil, gold, heating oil, lead, lean hogs, live cattle, natural gas, nickel, platinum, silver, soybean oil, soybeans, sugar, tin, unleaded gasoline, wheat and zinc.

The 19 Dow Jones-UBS Commodities for 2011 are as follows: aluminum, coffee, copper, corn, cotton, crude oil, gold, heating oil, lean hogs, live cattle, natural gas, nickel, silver, soybean oil, soybeans, sugar, unleaded gasoline, wheat and zinc.

### Designated Contracts for Each Commodity

A futures contract known as a Designated Contract is selected by UBS for each commodity available for inclusion in the Dow Jones-UBS Commodity Index<sup>SM</sup>. Historically, through and including the composition of the Index for 2011, UBS has chosen as the Designated Contract for each Commodity one contract that is traded in North America and denominated in U.S. dollars (with the exception of several LME contracts).

The Supervisory Committee has noted that it is possible that UBS will in the future select more than one Designated Contract for certain 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, prior to the determination of the 2012 composition of the Dow Jones-UBS Commodity Index<sup>SM</sup>, the Supervisory Committee intends to consider whether storage and delivery characteristics of crude oil make an allocation to Brent Crude Oil in the Dow Jones-UBS Commodity Index<sup>SM</sup> appropriate in light of the principles of Index design set out in "— Four Main Principles Guiding the Creation of the Dow Jones-UBS Commodity Index<sup>SM</sup>" above. Additionally, in the event that changes in regulations concerning position limits materially affect the ability of market participants to replicate the Dow Jones-UBS Commodity Index<sup>SM</sup> in the underlying futures markets, it may become appropriate to include multiple Designated Contracts for one or more commodities 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. The Supervisory Committee may, however, terminate, replace or otherwise change a Designated Contract, or make other changes to the Dow Jones-UBS Commodity Index<sup>SM</sup>, pursuant to special meetings. Please see "Risk Factors — S&P or UBS and CME Indexes may be required to replace a contract underlying a S&P GSCI Index or a DJ-UBS Commodity Index, if the existing futures contract is terminated or replaced."

The Designated Contracts for 2011 Dow Jones-UBS Commodities are as follows:

### Dow Jones-UBS Commodity Index<sup>SM</sup> Breakdown by Commodity

Commodity	Designated Contract	Exchange	Units	Price quote
Aluminum	High Grade Primary Aluminum	LME	25 metric tons	\$/metric ton
Coffee	Coffee "C"	NYBOT*	37,500 lbs	cents/pound
Copper**	Copper	COMEX***	25,000 lbs	cents/pound

<b>Commodity</b>	<b>Designated Contract</b>	<b>Exchange</b>	<b>Units</b>	<b>Price quote</b>
Corn	Corn	CBOT	5,000 bushels	cents/ bushel
Cotton	Cotton	NYBOT	50,000 lbs	cents/ pound
Crude Oil	Light, Sweet Crude Oil	NYMEX	1,000 barrels	\$/barrel
Gold	Gold	COMEX	100 troy oz.	\$/troy oz.
Heating Oil	Heating Oil	NYMEX	42,000 gallons	cents/ gallon
Live Cattle	Live Cattle	CME <sup>^</sup>	40,000 lbs	cents/ pound
Lean Hogs	Lean Hogs	CME <sup>^</sup>	40,000 lbs	cents/ pound
Natural Gas	Henry Hub Natural Gas	NYMEX	10,000 mmbtu	\$/mmbtu
Nickel	Primary Nickel	LME	6 metric tons	\$/metric ton
Silver	Silver	COMEX	5,000 troy oz.	\$/troy oz.
Soybeans	Soybeans	CBOT	5,000 bushels	cents/ bushel
Soybean Oil	Soybean Oil	CBOT	60,000 lbs	cents/ pound
Sugar	World Sugar No. 11	NYBOT	112,000 lbs	cents/ pound
Unleaded Gasoline (RBOB)	Reformulated Gasoline Blendstock for Oxygen Blending <sup>†</sup>	NYMEX	42,000 gal	cents/gallon
Wheat	Wheat	CBOT	5,000 bushels	cents/ bushel
Zinc	Special High Grade Zinc	LME	25 metric tons	\$/metric ton

\* The New York Board of Trade ("NYBOT") located in New York City.

\*\* The Dow Jones-UBS Commodity Index<sup>SM</sup> 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 Dow Jones-UBS Commodity Index<sup>SM</sup>.

\*\*\* The New York Commodities Exchange ("COMEX") located in New York City.

<sup>^</sup> The Chicago Mercantile Exchange ("CME") located in Chicago, Illinois.

<sup>†</sup> Represents a replacement of the New York Harbor Unleaded Gasoline contract. This replacement occurred during the regularly scheduled roll of futures contracts comprising the Dow Jones-UBS Commodity Index<sup>SM</sup> in April 2006.

In addition to the commodities set forth in the above table, cocoa, lead, platinum and tin also are considered annually for inclusion in the Dow Jones-UBS Commodity Index<sup>SM</sup>.

### Commodity Groups

For purposes of applying the diversification rules discussed above and below, the commodities available for inclusion in the Dow Jones-UBS Commodity Index<sup>SM</sup> 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 Heating Oil Natural Gas Unleaded Gasoline (RBOB)	Livestock	Lean Hogs Live Cattle
Precious Metals	Gold Silver Platinum	Grains	Corn Soybeans Soybean Oil Wheat
Industrial Metals	Aluminum Copper Lead Nickel Tin Zinc	Softs	Cocoa Coffee Cotton Sugar

### **Dow Jones-UBS Commodity Index<sup>SM</sup> Breakdown by Commodity Group**

The Commodity Group Breakdown set forth below is based on the weightings and composition of the Dow Jones-UBS Commodity Index<sup>SM</sup> set forth under "The Dow Jones-UBS Commodity Index<sup>SM</sup> 2011 Commodity Index Percentages."

Energy	33.00%
Precious Metals	13.74%
Industrial Metals	17.84%
Livestock	5.36%
Grains	22.38%
Softs	7.68%

### **Annual Reweightings and Rebalancings of The Dow Jones-UBS Commodity Index<sup>SM</sup>**

The Dow Jones-UBS Commodity Index<sup>SM</sup> is reweighted and rebalanced each year in January on a price-percentage basis. The annual weightings for the Dow Jones-UBS Commodity Index<sup>SM</sup> are determined each year in the third or fourth quarter by UBS under the supervision of the Supervisory 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.

### **Determination of Relative Weightings**

The relative weightings of the Dow Jones-UBS Commodities are determined annually according to both liquidity and dollar-adjusted production data in 2/3 and 1/3 shares, respectively. Each June, for each commodity designated for potential inclusion in the Dow Jones-UBS Commodity Index<sup>SM</sup>, liquidity is measured by the Commodity Liquidity Percentage ("CLP") and production by the Commodity Production Percentage ("CPP"). The CLP for each commodity is determined by taking a five-year average of the product of trading volume and the historical dollar value of the Designated Contract for that commodity, and dividing the result by the sum of such products for all commodities which were designated for potential inclusion in the Dow Jones-UBS Commodity Index<sup>SM</sup>. The CPP is determined for each commodity by taking a five-year average of annual world production figures, adjusted by the historical dollar value of the Designated Contract, and dividing the result by the sum of such production figures for all the commodities which were designated for potential inclusion in the Dow Jones-UBS Commodity Index<sup>SM</sup>. 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 which will be included in the Dow Jones-UBS Commodity Index<sup>SM</sup> (the "Dow Jones-UBS Commodities") and their respective percentage weights.

### **Diversification Rules**

The Dow Jones-UBS Commodity Index<sup>SM</sup> is designed to provide diversified exposure to commodities as an asset class. To ensure that no single commodity or commodity sector dominates the Dow Jones-UBS Commodity Index<sup>SM</sup>, the following diversification rules are applied to the annual reweighting and rebalancing of the Dow Jones-UBS Commodity Index<sup>SM</sup> as of January of each year:

- No single commodity (*e.g.*, natural gas or silver) may constitute more than 15% of the Dow Jones-UBS Commodity Index<sup>SM</sup>.
- 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 Dow Jones-UBS Commodity Index<sup>SM</sup>.
- 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 Dow Jones-UBS Commodity Index<sup>SM</sup>.
- No single commodity included in the Dow Jones-UBS Commodity Index<sup>SM</sup> may constitute less than 2% of the Dow Jones-UBS Commodity Index<sup>SM</sup>.

Following the annual reweighting and rebalancing of the Dow Jones-UBS Commodity Index<sup>SM</sup> in January, the percentage of any commodity included in The Dow Jones-UBS Commodity Index<sup>SM</sup> (the "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 Dow Jones-UBS Commodity Index<sup>SM</sup> by calculating the new unit weights for each Index Commodity. Near the beginning of each new calendar year (the "CIM Determination Date"), the CIPs, along with the settlement prices determined on that date for Designated Contracts included in the Dow Jones-UBS Commodity Index<sup>SM</sup>, are used to determine a Commodity Index Multiplier ("CIM") for each Index Commodity. This CIM is used to achieve the percentage weightings of the Dow Jones-UBS Commodities, 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 Index Commodity will float throughout the year, until the CIMs are reset the following year based on new CIPs.

### **Calculations**

The price return version of the Dow Jones-UBS Commodity Index<sup>SM</sup> is calculated by Dow Jones, in conjunction with UBS, by applying the impact of the changes to the futures prices of commodities included in the Dow Jones-UBS Commodity Index<sup>SM</sup> (based on their relative weightings). Once the CIMs are determined as discussed above, the calculation of the price return version of the Dow Jones-UBS Commodity Index<sup>SM</sup> is a mathematical process whereby the CIMs for the Dow Jones-UBS Commodities are multiplied by the prices in U.S. dollars for the applicable Designated Contracts. These products are then summed. The percentage change in this sum is then applied to the prior Dow Jones-UBS Commodity Index<sup>SM</sup> price return level to calculate the new Dow Jones-UBS Commodity Index<sup>SM</sup> price return level.



The total return version of the Dow Jones-UBS Commodity Index<sup>SM</sup> is calculated by Dow Jones, in conjunction with UBS, by applying the impact of the changes in the level of the price return version of the Dow Jones-UBS Commodity Index<sup>SM</sup> and adding interest that could be earned on funds committed to the trading of the underlying futures contracts. Once the level of the price return version of the Dow Jones-UBS Commodity Index<sup>SM</sup> is determined as discussed above, the calculation of the total return version of the Dow Jones-UBS Commodity Index<sup>SM</sup> is a mathematical process whereby the return from the prior Dow Jones-UBS Commodity Index<sup>SM</sup> price return level to the current Dow Jones-UBS Commodity Index<sup>SM</sup> price return level and the T-bill return since the calculation of the prior Dow Jones-UBS Commodity Index<sup>SM</sup> total return level are determined. These returns are then applied to the prior Dow Jones-UBS Commodity Index<sup>SM</sup> total return level to calculate the new Dow Jones-UBS Commodity Index<sup>SM</sup> total return level.

### **Dissemination and Publication**

Dow Jones disseminates the Dow Jones-UBS Commodity Index<sup>SM</sup> level approximately every fifteen (15) seconds (assuming the Dow Jones-UBS Commodity Index<sup>SM</sup> level has changed within such fifteen-second interval) from 8:00 a.m. to 3:30 p.m. (New York time), and publishes the final Dow Jones-UBS Commodity Index<sup>SM</sup> level for each DJ-UBS Business Day at approximately 4:00 p.m. (New York time) on each such day. Dow Jones-UBS Commodity Index<sup>SM</sup> levels can also be obtained from the official websites of both UBS and Dow Jones Indexes and are also published in *The Wall Street Journal*.

### **The Dow Jones-UBS Commodity Index<sup>SM</sup> Is a Rolling Index**

The Dow Jones-UBS Commodity Index<sup>SM</sup> is composed of futures contracts on physical commodities. Unlike equities, which typically entitle the holder to a continuing stake in a corporation, commodity futures contracts normally specify a certain date for the delivery of the underlying commodity. In order to avoid delivering the underlying physical commodities and to maintain exposure to the underlying physical commodities, periodically futures contracts on physical commodities specifying delivery on a nearby date must be sold and futures contracts on physical commodities that have not yet reached the delivery period must be purchased. The rollover for each contract occurs over a period of five DJ-UBS Business Days each month according to a pre-determined schedule. This process is known as "rolling" a futures position. The Dow Jones-UBS Commodity Index<sup>SM</sup> is a "rolling index."

### **Dow Jones-UBS Commodity Index<sup>SM</sup> Calculation Disruption Events**

From time to time, disruptions can occur in trading futures contracts on various commodity exchanges. The daily calculation of the Dow Jones-UBS Commodity Index<sup>SM</sup> will be adjusted in the event that UBS determines that any of the following index calculation disruption events exists:

- (a) the termination or suspension of, or material limitation or disruption in the trading of any futures contract used in the calculation of the Dow Jones-UBS Commodity Index<sup>SM</sup> on that day;
- (b) the settlement price of any futures contract used in the calculation of the Dow Jones-UBS Commodity Index<sup>SM</sup> reflects the maximum permitted price change from the previous day's settlement price;
- (c) the failure of an exchange to publish official settlement prices for any futures contract used in the calculation of the Dow Jones-UBS Commodity Index<sup>SM</sup>; or
- (d) with respect to any futures contract used in the calculation of the Dow Jones-UBS Commodity Index<sup>SM</sup> that trades on the LME, a business day on which the LME is not open for trading.

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

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### **The Commodity Futures Markets**

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 product supplement, all of the contracts included in the S&P GSCI Indices and the DJ-UBS Commodity Indices are exchange-traded futures contracts. An exchange-traded 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. A futures contract on an index of commodities typically provides for the payment and receipt of a cash settlement based on the value of such commodities. A futures contract provides for a specified settlement month in which the commodity or financial instrument is to be delivered by the seller (whose position is described as "short") and acquired by the purchaser (whose position is described as "long") or in which the cash settlement amount is to be made.

There is no purchase price 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 may be as low as 5% or less of the value of the contract. This margin deposit provides collateral for the obligations of the parties to the futures contract.

By depositing margin in the most advantageous form (which may vary depending on the exchange, clearing house or broker involved), a market participant may be able to earn interest on its margin funds, thereby increasing the potential total return that may be realized from an investment in futures contracts. The market participant normally makes to, and receives from, the broker subsequent payments on a daily basis as the price of the futures contract fluctuates. These payments are called "variation margin" and make the existing positions in the futures contract more or less valuable, a process known as "marking to market."

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

U.S. contract markets, as well as brokers and market participants, are subject to regulation by the Commodity Futures Trading Commission. Futures markets outside the United States are generally subject to regulation by comparable regulatory authorities. However, the structure and nature of trading on non-U.S. exchanges may differ from the foregoing description. From its inception to the present, the S&P GSCI Indices and the DJ-UBS Commodity Indices have been composed exclusively of futures contracts traded on regulated exchanges.

## GENERAL TERMS OF NOTES

### Note Calculation Agent

J.P. Morgan Securities LLC, one of our affiliates, will act as the Note Calculation Agent. The Note Calculation Agent will determine, among other things, the Index Factor on each Valuation Date, the Investor Fee on each Valuation Date, the Indicative Note Value on each Valuation Date, the Repurchase Fee Amount, if applicable, and the amount, if any, that we will pay you at maturity or upon early repurchase or redemption. The Note Calculation Agent will also be responsible for determining whether a market disruption event has occurred, whether the Index has been discontinued, the amount payable to you in the event of an early acceleration of the notes due to a commodity hedging disruption event and whether there has been a material change in the method of calculation of the Index so that the Index does not, in the opinion of the Note Calculation Agent, fairly represent the level of the Index (or relevant successor index, if applicable) had those modifications not been made. All determinations made by the Note Calculation Agent will be at the sole discretion of the Note Calculation Agent and will, in the absence of manifest error, be conclusive for all purposes and binding on you and on us. We may appoint a different Note Calculation Agent from time to time after the date of the relevant terms supplement without your consent and without notifying you.

The Note Calculation Agent will provide written notice to the trustee at its New York office, on which notice the trustee may conclusively rely, of the amount to be paid at maturity or upon early repurchase or redemption on or prior to 11:00 a.m., New York City time, on the business day preceding the maturity date, Repurchase Date or Redemption Date, as applicable.

All calculations with respect to the closing level on each Valuation Date and the Index Factor will be rounded to the nearest one hundred-thousandth, with five one-millionths rounded upward (*e.g.*, .876545 would be rounded to .87655); all dollar amounts related to determination of the Investor Fee, the Indicative Note Value, the Repurchase Fee Amount, if applicable, and the payment per note upon early repurchase or redemption or at maturity, if any, will be rounded to the nearest ten-thousandth, with five one hundred-thousandths rounded upward (*e.g.*, .76545 would be rounded up to .7655); and all dollar amounts paid, if any, on the aggregate Principal Amount of notes per holder will be rounded to the nearest cent, with one-half cent rounded upward.

### Market Disruption Events

Certain events may prevent the Index Sponsor (or any of its affiliates) from calculating the level of the Index and the Note Calculation Agent from calculating the Index Factor, the Investor Fee, the Repurchase Fee Amount, if applicable, or the amount, if any, that we will pay to you at maturity or upon early repurchase or redemption. These events may include disruptions or suspensions of trading on the markets as a whole. In addition, certain events may prevent us or our affiliates from hedging our obligations under the notes including, but not limited to, changes in laws or regulations applicable to the commodity futures contracts underlying the Index. In the case of such an event we have the right, but not the obligation, to accelerate the payment on the notes as described below under “—Consequences of a Commodity Hedging Disruption Event.” We refer to each of these events individually as a “market disruption event.”

With respect to the Index and any relevant successor index, a “**market disruption event**,” unless otherwise specified in the relevant terms supplement or related underlying supplement, means:

- (1) 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 an Index 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;

- (2) a limitation, suspension or disruption of trading in one or more options or futures contracts on a relevant commodity or commodities related to an Index Constituent, by reason of movements exceeding "limit up" or "limit down" levels permitted by the relevant exchange and which, in the opinion of the Note Calculation Agent, is material to trading volume and market conditions in such option(s) or futures contract(s) on such Index Business Day;
- (3) 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 an Index Constituent (by reason of movements exceeding "limit up" or "limit down" levels permitted by the relevant exchange);
- (4) failure by the Index Calculation Agent to announce publicly or publish the official index level of the Index by 12:30 p.m. London time on the following Calculation Day;
- (5) the relevant exchange for futures contracts included in an 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; or
- (6) a commodity hedging disruption event,

in each case as determined by the Note Calculation Agent in its sole discretion; and

- in the case of an event described in clause (1), (2), (3), (4) or (5) above, a determination by the Note Calculation Agent, in its sole discretion, that the applicable event described above materially interfered with our ability or the ability of any of our affiliates to adjust or unwind all or a material portion of any hedge with respect to the notes.

A limitation on the hours or number of days of trading by a relevant exchange will not constitute a market disruption event with respect to the Index and any relevant successor index if the limitation results from an announced change in the regular business hours of the relevant exchange.

"Relevant exchange" means, with respect to an Index Constituent, the primary exchange or market of trading for any futures contracts included in such Index Constituent.

A "**commodity hedging disruption event**," unless otherwise specified in the relevant terms supplement, means that:

(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 U.S. Commodity Futures Trading Commission or any exchange or trading facility), in each case occurring on or after the Inception Date, the Note 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 us to purchase, sell, enter into, maintain, hold, acquire or dispose of our or our affiliates' (A) positions or contracts in securities, options, futures, derivatives or foreign exchange or (B) other instruments or arrangements, in each case, in order to hedge our obligations under the notes (in the aggregate on a portfolio basis or incrementally on a trade by trade basis) ("**hedge positions**"), including (without limitation) if such hedge positions (in whole or in part) are (or, but for the consequent disposal thereof, would otherwise be) in excess of any allowable position limit(s) in relation to any commodity traded on any exchange(s) or other trading facility (it being within the sole and absolute discretion of the Note Calculation Agent to determine which of the hedge positions are counted towards such limit); or

(b) for any reason, we or our affiliates are unable, after using commercially reasonable efforts, to (i) acquire, establish, re-establish, substitute, maintain, unwind or dispose of any transaction(s) or asset(s) the Note Calculation Agent deems necessary to hedge the risk of entering into and performing our commodity-related obligations with respect to the notes, or (ii) realize, recover or remit the proceeds of any such transaction(s) or asset(s).

Please see “Risk Factors — Risks Relating to the Index — The commodity futures contracts underlying the Index Constituents are subject to legal and regulatory regimes that may change in ways that could affect our ability to hedge our obligations under the notes and/or could lead to the early acceleration of your notes” for more information.

### **Consequences of a Commodity Hedging Disruption Event**

If a commodity hedging disruption event occurs, we will have the right, but not the obligation, to accelerate the payment on the notes by providing, or causing the Note Calculation Agent to provide, written notice of our election to exercise such right to the trustee at its New York office, on which notice the trustee may conclusively rely, as promptly as possible and in no event later than the business day immediately following the day on which such commodity hedging disruption event occurred. The amount due and payable per note upon such early acceleration will be determined on the date on which we deliver notice of such acceleration by the Note Calculation Agent in good faith in a commercially reasonable manner and will be payable on the fifth business day following the day the Note Calculation Agent delivers notice of such acceleration. For the avoidance of doubt, under these circumstances, the maturity date will be accelerated to such fifth business day following the delivery by the Note Calculation Agent of the notice of acceleration. We will provide, or will cause the Note Calculation Agent to provide, written notice to the trustee at its New York office, on which notice the trustee may conclusively rely, and to DTC of the cash amount due with respect to the notes as promptly as possible and in no event later than two business days prior to the date on which such payment is due. For the avoidance of doubt, the determination set forth above is only applicable to the amount due with respect to acceleration as a result of a commodity hedging disruption event.

### **Discontinuation of the Index; Alteration of Method of Calculation**

If the sponsor of the Index (the “**Index Sponsor**”) discontinues publication of the Index and the Index Sponsor or another entity publishes a successor or substitute index that the Note Calculation Agent determines, in its sole discretion, to be comparable to the discontinued Index (such index being referred to herein as a “**successor index**”), then the Index closing level on any Valuation Date or any other relevant date on which the Index closing level is to be determined will be determined by reference to the level of such successor index at the close of trading on the relevant exchange for such successor index on such day.

Upon any selection by the Note Calculation Agent of a successor index, the Note Calculation Agent will cause written notice thereof to be promptly furnished to the trustee, to us and to the holders of the notes.

If the Index Sponsor discontinues publication of the Index prior to, and such discontinuation is continuing on, a Valuation Date or any other relevant date on which the Index closing level is to be determined, and the Note Calculation Agent determines, in its sole discretion, that no successor index is available at such time, or the Note Calculation Agent has previously selected a successor index and publication of such successor index is discontinued prior to, and such discontinuation is continuing on, such Valuation Date or such other relevant date, then the Note Calculation Agent will determine the Index closing level for such Valuation Date or such other relevant date on such date. The Index closing level will be computed by the Note Calculation Agent in accordance with the formula for and method of calculating the Index or successor index, as applicable, last in effect prior to such discontinuation, using the applicable Contract Price (or, if trading in the relevant futures contract has been materially

suspended or materially limited, the Note Calculation Agent's good faith estimate of the applicable Contract Price that would have prevailed but for such suspension or limitation) at the close of the principal trading session on such date of each futures contract most recently composing the Index Constituents or successor index, as applicable. Notwithstanding these alternative arrangements, discontinuation of the publication of the Index or its successor index, as applicable, may adversely affect the value of the notes.

If at any time the method of calculating the Index or a successor index, or the level thereof, is changed in a material respect, or if the Index or a successor index is in any other way modified so that the Index or such successor index does not, in the opinion of the Note Calculation Agent, fairly represent the level of the Index or such successor index had such changes or modifications not been made, then the Note Calculation Agent will, at the close of business in New York City on each date on which the Index closing level is to be determined, make such calculations and adjustments as, in the good faith judgment of the Note Calculation Agent, may be necessary in order to arrive at a level of a commodity index comparable to the Index or such successor index, as the case may be, as if such changes or modifications had not been made, and the Note Calculation Agent will calculate the Index closing level with reference to the Index or such successor index, as adjusted. Accordingly, if the method of calculating the Index or such successor index is modified so that the level of the Index or such successor index is a fraction of what it would have been if there had been no such modification (*e.g.*, due to a split in the Index), then the Note Calculation Agent will adjust its calculation of the Index or such successor index in order to arrive at a level of the Index or such successor index as if there had been no such modification (*e.g.*, as if such split had not occurred).

### **Events of Default**

Under the heading "Description of Debt Securities — Events of Default and Waivers" in the accompanying prospectus is a description of events of default relating to debt securities, including the notes.

### **Payment upon an Event of Default**

Unless otherwise specified in the relevant terms supplement, in case an event of default with respect to the notes shall have occurred and be continuing, the amount declared due and payable per note upon any acceleration of the notes will be determined by the Note Calculation Agent and will be an amount in cash equal to the amount payable at maturity as described under the caption "Description of Notes — Payment at Maturity," calculated as if the date of acceleration were the Final Valuation Date.

If the maturity of the notes is accelerated because of an event of default as described above, we will, or will cause the Note Calculation Agent to, provide written notice to the trustee at its New York office, on which notice the trustee may conclusively rely, and to DTC of the cash amount due with respect to the notes as promptly as possible and in no event later than two business days after the date of acceleration.

### **Modification**

Under the heading "Description of Debt Securities — Modification of the Indenture" in the accompanying prospectus is a description of when the consent of each affected holder of debt securities is required to modify the indenture.

### **Defeasance**

The provisions described in the accompanying prospectus under the heading "Description of Debt Securities — Discharge, Defeasance and Covenant Defeasance" are not applicable to the notes, unless otherwise specified in the relevant terms supplement.



## **Listing**

The notes will not be listed on any securities exchange, unless otherwise specified in the relevant terms supplement.

## **Book-Entry Only Issuance — The Depository Trust Company**

DTC will act as securities depository for the notes. The notes will be issued only as fully-registered securities registered in the name of Cede & Co. (DTC's nominee). One or more fully-registered global notes certificates, representing the total aggregate Principal Amount of the notes, will be issued and will be deposited with DTC. See the descriptions contained in the accompanying prospectus supplement under the headings "Description of Notes — Forms of Notes" and "The Depository."

## **Registrar, Transfer Agent and Paying Agent**

Payment of amounts due at maturity or upon early repurchase or redemption of the notes will be payable and the transfer of the notes will be registrable at the principal corporate trust office of The Bank of New York Mellon in The City of New York.

The Bank of New York Mellon or one of its affiliates will act as registrar and transfer agent for the notes. The Bank of New York Mellon will also act as paying agent and may designate additional paying agents.

Registration of transfers of the notes will be effected without charge by or on behalf of The Bank of New York Mellon, but upon payment (with the giving of such indemnity as The Bank of New York Mellon may require) in respect of any tax or other governmental charges that may be imposed in relation to it.

## **Governing Law**

The notes will be governed by and interpreted in accordance with the laws of the State of New York.

## **Reissuances or Reopening Issuances**

We may, in our sole discretion, "reopen" or reissue the notes based upon market conditions and the Index closing level at that time. We intend to issue the notes initially in an amount having the aggregate offering price specified on the cover of the relevant terms supplement. However, we may issue additional notes in amounts that exceed the amount on the cover at any time, without your consent and without notifying you. The notes do not limit our ability to incur other indebtedness or to issue other securities. Also, we are not subject to financial or similar restrictions by the terms of the notes. These further issuances, if any, will be consolidated to form a single series with the originally issued notes, will have the same CUSIP number and will trade interchangeably with the notes immediately upon settlement. Any notes bearing the same CUSIP number that are issued pursuant to any future additional issuances of notes bearing the same CUSIP number will increase the aggregate Principal Amount of the outstanding notes of this series. The price of any additional offering will be determined at the time of pricing of that offering. We have no obligation to take your interests into account when deciding to issue additional notes.

## CERTAIN U.S. FEDERAL INCOME TAX CONSEQUENCES

The following is a summary of the material U.S. federal income tax consequences of the ownership and disposition of the notes. This summary applies to you if you are an initial holder of a note purchasing the note at its issue price for cash and if you hold the note as a capital asset within the meaning of Section 1221 of the Internal Revenue Code of 1986, as amended (the "Code").

This summary does not address all aspects of U.S. federal income and estate taxation that may be relevant to you in light of your particular circumstances or if you are a holder of a note who is subject to special treatment under the U.S. federal income tax laws, such as:

- a financial institution;
- a "regulated investment company" as defined in Code Section 851;
- a "real estate investment trust" as defined in Code Section 856;
- a tax-exempt entity, including an "individual retirement account" or "Roth IRA" as defined in Code Section 408 or 408A, respectively;
- a dealer in securities;
- a person holding a note as part of a hedging transaction, "straddle," conversion transaction or integrated transaction, or who has entered into a "constructive sale" with respect to a note;
- a U.S. Holder (as defined below) whose functional currency is not the U.S. dollar;
- a trader in securities who elects to apply a mark-to-market method of tax accounting; or
- a partnership or other entity classified as a partnership for U.S. federal income tax purposes.

This summary is based on the Code, administrative pronouncements, judicial decisions and final, temporary and proposed Treasury regulations as of the date of this product supplement, changes to any of which, subsequent to the date of this product supplement, may affect the tax consequences described herein. As the law applicable to the U.S. federal income taxation of instruments such as the notes is technical and complex, the discussion below necessarily represents only a general summary. Moreover, the effects of any applicable state, local or foreign tax laws are not discussed. **You should consult your tax adviser concerning the application of U.S. federal income and estate tax laws to your particular situation (including the possibility of alternative characterizations of the notes), as well as any tax consequences arising under the laws of any state, local or foreign jurisdictions.**

### Tax Treatment of the Notes

The tax consequences of an investment in the notes are unclear. There is no direct legal authority as to the proper U.S. federal income tax characterization of the notes, and we do not intend to request a ruling from the IRS regarding the notes. We intend to seek an opinion from Davis Polk & Wardwell LLP, our special tax counsel, which will be based upon the terms of the notes at the time of the relevant offering and certain factual representations to be received from us, regarding the treatment of the notes as "open transactions" for U.S. federal income tax purposes. Whether our special tax counsel expresses an opinion regarding the characterization of the notes will be indicated in the relevant terms supplement. In either case, we and you will agree to treat the notes for U.S. federal income tax purposes as "open transactions." While other characterizations of the notes could be asserted by the IRS, as discussed below, the following discussion assumes that the notes are treated for U.S. federal income tax purposes as "open transactions" and not as debt instruments, unless otherwise indicated.

## **Tax Consequences to U.S. Holders**

You are a "U.S. Holder" if for U.S. federal income tax purposes you are a beneficial owner of a note that is:

- a citizen or resident of the United States;
- a corporation created or organized in or under the laws of the United States or any political subdivision thereof; or
- an estate or trust the income of which is subject to U.S. federal income taxation regardless of its source.

### ***Tax Treatment of the Notes***

*Tax Treatment Prior to Maturity.* You should not recognize taxable income or loss over the term of the notes prior to maturity, other than pursuant to a sale, exchange, early repurchase, optional redemption or "deemed exchange" as described below.

*Sale, Exchange or Redemption of a Note.* Upon a sale or exchange of a note (including early repurchase, optional redemption or redemption at maturity), you should recognize capital gain or loss equal to the difference between the amount realized on the sale or exchange and your tax basis in the note, which should equal the amount you paid to acquire the note. This gain or loss should be long-term capital gain or loss if you have held the note for more than one year at that time. The deductibility of capital losses, however, is subject to limitations.

The IRS could assert that a "deemed" taxable exchange has occurred on one or more Rebalancing Dates under certain unexpected circumstances. If the IRS were successful in asserting that a taxable exchange has occurred, you could be required to recognize gain (but probably not loss), which would equal the amount by which the fair market value of the note exceeds your tax basis therein on the relevant Rebalancing Date. Any deemed exchange gain should be capital gain. You should consult your tax adviser regarding the possible U.S. federal income consequences of rebalancings.

### ***Possible Alternative Tax Treatments of an Investment in the Notes***

Due to the absence of authorities that directly address the proper characterization of the notes and because we are not requesting a ruling from the IRS with respect to the notes, no assurance can be given that the IRS will accept, or that a court will uphold, the characterization and tax treatment of the notes described above. If the IRS were successful in asserting an alternative characterization or treatment of the notes, the timing and character of income on the notes could differ materially and adversely from our description herein. For example, the IRS might treat the notes as debt instruments issued by us, in which event the taxation of the notes would be governed by certain Treasury regulations relating to the taxation of "contingent payment debt instruments" if the term of the notes from issue to maturity (including the last possible date that the notes could be outstanding) is more than one year. In this event, regardless of whether you are an accrual-method or cash-method taxpayer, you would be required to accrue into income original issue discount on your notes at our "comparable yield" for similar noncontingent debt, determined at the time of the issuance of the notes, in each year that you hold your notes (even though you will not receive any cash with respect to the notes prior to maturity or early repurchase) and any income recognized upon a sale or exchange of your notes (including early repurchase, optional redemption or redemption at maturity) would generally be treated as interest income. Additionally, if you were to recognize a loss above certain thresholds, you could be required to file a disclosure statement with the IRS.

Other alternative U.S. federal income tax characterizations of the notes might also require you to include amounts in income during the term of your notes and/or might treat all or a portion of the gain or loss on the sale or exchange of your notes (including early repurchase, optional redemption or redemption at maturity) as ordinary income or loss or as short-term capital gain or loss, without regard to how long you held your notes. In addition, in 2007 Treasury and the IRS released a notice requesting comments on the U.S. federal income tax treatment of “prepaid forward contracts” and similar instruments, which might include the notes. The notice focuses in particular on whether to require holders of these instruments to accrue income over the term of their investment. It also asks for comments on a number of related topics, including the character of income or loss with respect to these instruments; the relevance of factors such as the nature of the underlying property to which the instruments are linked; and whether these instruments are or should be subject to the “constructive ownership” regime, which very generally can operate to recharacterize certain long-term capital gain as ordinary income and impose an interest charge. While the notice requests comments on appropriate transition rules and effective dates, any Treasury regulations or other guidance promulgated after consideration of these issues could materially and adversely affect the tax consequences of an investment in the notes, possibly with retroactive effect. You should consult your tax adviser regarding the U.S. federal income tax consequences of an investment in the notes, including possible alternative treatments and the issues presented by this notice.

### **Tax Consequences to Non-U.S. Holders**

You are a “Non-U.S. Holder” if for U.S. federal income tax purposes you are a beneficial owner of a note that is:

- a nonresident alien individual;
- a foreign corporation; or
- a foreign estate or trust.

You are not a “Non-U.S. Holder” for purposes of this discussion if you are an individual present in the United States for 183 days or more in the taxable year of disposition. In this case, you should consult your tax adviser regarding the U.S. federal income tax consequences of the sale or exchange of a note (including early repurchase, optional redemption or redemption at maturity).

If you are a Non-U.S. Holder of a note and if the characterization of the notes as “open transactions” is respected, any income or gain from the note should not be subject to U.S. federal income or withholding tax unless it is effectively connected with your conduct of a U.S. trade or business. However, among the issues addressed in the notice described above in “—Tax Consequences to U.S. Holders—Possible Alternative Tax Treatments of an Investment in the Notes” is the degree, if any, to which income with respect to instruments described therein, which might include the notes, should be subject to U.S. withholding tax. It is possible that any Treasury regulations or other guidance promulgated after consideration of these issues could materially and adversely affect the withholding tax consequences of an investment in the notes, possibly with retroactive effect.

If the notes were recharacterized as indebtedness, any income or gain from a note nonetheless would not be subject to U.S. withholding tax, provided generally that the certification requirement described below has been fulfilled. Because the characterization of the notes is unclear, payments made to you with respect to a note may be withheld upon at a rate of 30% unless you have certified on IRS Form W-8BEN, under penalties of perjury, that you are not a United States person and provided your name and address or otherwise satisfied applicable documentation requirements.

If you are engaged in a U.S. trade or business, and if income or gain from a note is effectively connected with your conduct of that trade or business, although exempt from the withholding tax discussed above, you will generally be taxed in the same manner as a U.S. Holder, except that in lieu of

the certificate described in the preceding paragraph, you will be required to provide a properly executed IRS Form W-8ECI in order to claim an exemption from withholding. If this paragraph applies to you, you should consult your tax adviser with respect to other U.S. tax consequences of the ownership and disposition of notes, including the possible imposition of a 30% branch profits tax if you are a corporation.

### ***Federal Estate Tax***

Individual Non-U.S. Holders, and entities the property of which is potentially includible in those individuals' gross estates for U.S. federal estate tax purposes (for example, a trust funded by such an individual and with respect to which the individual has retained certain interests or powers), should note that, absent an applicable treaty benefit, a note is likely to be treated as U.S. situs property, subject to U.S. federal estate tax. These individuals and entities should consult their tax advisers regarding the U.S. federal estate tax consequences of investing in a note.

### **Backup Withholding and Information Reporting**

You may be subject to information reporting, and you may also be subject to backup withholding at the rates specified in the Code on the amounts paid to you unless you provide proof of an applicable exemption or a correct taxpayer identification number and otherwise comply with applicable requirements of the backup withholding rules. If you are a Non-U.S. Holder, you will not be subject to backup withholding if you comply with the certification procedures described in the preceding section. Amounts withheld under the backup withholding rules are not additional taxes and may be refunded or credited against your U.S. federal income tax liability, provided the required information is furnished to the IRS.

**THE TAX CONSEQUENCES TO YOU OF OWNING AND DISPOSING OF NOTES ARE UNCLEAR. YOU SHOULD CONSULT YOUR TAX ADVISER REGARDING THE TAX CONSEQUENCES OF OWNING AND DISPOSING OF NOTES, INCLUDING THE TAX CONSEQUENCES UNDER STATE, LOCAL, FOREIGN AND OTHER TAX LAWS AND THE POSSIBLE EFFECTS OF CHANGES IN U.S. FEDERAL OR OTHER TAX LAWS.**

## PLAN OF DISTRIBUTION (CONFLICTS OF INTEREST)

Under the terms and subject to the conditions contained in the Master Agency Agreement entered into between JPMorgan Chase & Co. and JPMS, as agent, and certain other agents that may be party to the Master Agency Agreement from time to time (each an "Agent", and collectively with JPMS, the "Agents"), each Agent participating in an offering of notes will, unless otherwise specified in the relevant terms supplement, sell notes directly to investors and to dealers as principal at the public offering price set forth on the cover of the relevant terms supplement, plus, if applicable, a purchase fee as specified in the relevant terms supplement. These dealers may then resell notes to the public at varying prices that the dealers will determine at the time of resale. In addition, these dealers may make a market in the notes, although these dealers are not obligated to do so and any of them may stop doing so at any time without notice.

On the issue date, we will sell the number of notes described in the relevant terms supplement and JPMS may charge a purchase fee in connection with such sale. To the extent not all the notes are sold, we expect the remainder of the notes will be offered and sold to other dealers and to investors from time to time at market prices prevailing at the time of sale, at prices related to market prices or at negotiated prices. We will receive proceeds equal to 100% of the price at which the notes are sold by us. JPMS in subsequent distributions may charge a purchase fee that will be specified in the relevant terms supplement, if applicable.

Unless otherwise specified in the relevant terms supplement, JPMS, as an agent and a FINRA member will receive a portion of the Investor Fee applicable to the notes as compensation to promote the notes and to provide certain support and services related to the notes.

We own, directly or indirectly, all of the outstanding equity securities of JPMS. The net proceeds received from the sale of the notes will be used, in part, by JPMS or one of its affiliates in connection with hedging our obligations under the notes. The underwriting arrangements for this offering will comply with the requirements of FINRA Rule 5121 regarding a FINRA member firm's underwriting of securities of an affiliate. In accordance with FINRA Rule 5121, neither JPMS nor any other affiliated Agent of ours may make sales in this offering to any of its discretionary accounts without the prior written approval of the customer.

JPMS or another Agent may act as principal or agent in connection with offers and sales of the notes in the secondary market. Secondary market offers and sales will be made at prices related to market prices at the time of such offer or sale; accordingly, the Agents or a dealer may change the public offering price, concession and discount after the offering has been completed.

This product supplement no. 200-A-III (and the accompanying base prospectus and prospectus supplement) may be used by such dealers in connection with market-making transactions. In these transactions, dealers may resell a note covered by this product supplement no. 200-A-III that they acquire from other holders after the original offering and sale of the notes, or they may sell a note covered by this product supplement no. 200-A-III in short sale transactions.

Broker-dealers and other persons are cautioned that some of their activities may result in their being deemed participants in the distribution of the notes in a manner that would render them statutory underwriters and subject them to the prospectus delivery and liability provisions of the Securities Act. Among other activities, broker-dealers and other persons may make short sales of the notes and may cover such short positions by borrowing notes from us or our affiliates or by purchasing notes from us or our affiliates subject to our obligation to repurchase such notes at a later date. As a result of these activities, these market participants may be deemed statutory underwriters. A determination of whether a particular market participant is an underwriter must take into account all the facts and circumstances pertaining to the activities of the participant in the particular case, and the example mentioned above should not be considered a complete description of all the activities that would lead to designation as an underwriter and subject a market participant to the prospectus-delivery and liability provisions of the Securities Act. This product supplement no. 200-A-III will be deemed to cover any short sales of notes by market participants who cover their short positions with notes borrowed or acquired from us or our affiliates in the manner described above.

In order to facilitate the offering of the notes, JPMS may engage in transactions that stabilize, maintain or otherwise affect the price of the notes. Specifically, JPMS may sell more notes than it is obligated to purchase in connection with the offering, creating a naked short position in the notes for its own account. JPMS must close out any naked short position by purchasing the notes in the open market. A naked short position is more likely to be created if JPMS is concerned that there may be downward pressure on the price of the notes in the open market after pricing that could adversely affect investors who purchase in the offering. As an additional means of facilitating the offering, JPMS may bid for, and purchase, notes in the open market to stabilize the price of the notes. Any of these activities may raise or maintain the market price of the notes above independent market values or prevent or retard a decline in the market price of the notes. JPMS is not required to engage in these activities, and may end any of these activities at any time.

No action has been or will be taken by us, JPMS or any dealer that would permit a public offering of the notes or possession or distribution of this product supplement no. 200-A-III, any related underlying supplement, the accompanying prospectus supplement, prospectus or terms supplement, other than in the United States, where action for that purpose is required. No offers, sales or deliveries of the notes, or distribution of this product supplement no. 200-A-III, any related underlying supplement, the accompanying prospectus supplement, prospectus or terms supplement or any other offering material relating to the notes, may be made in or from any jurisdiction except in circumstances which will result in compliance with any applicable laws and regulations and will not impose any obligations on us, the Agents or any dealer.

Each Agent has represented and agreed, and each dealer through which we may offer the notes has represented and agreed, that it (i) will comply with all applicable laws and regulations in force in each non-U.S. jurisdiction in which it purchases, offers, sells or delivers the notes or possesses or distributes this product supplement no. 200-A-III, any related underlying supplement and the accompanying prospectus supplement, prospectus and terms supplement and (ii) will obtain any consent, approval or permission required by it for the purchase, offer or sale by it of the notes under the laws and regulations in force in each non-U.S. jurisdiction to which it is subject or in which it makes purchases, offers or sales of the notes. We shall not have responsibility for any Agent's or any dealer's compliance with the applicable laws and regulations or obtaining any required consent, approval or permission. For additional information regarding selling restrictions, please see "Notice to Investors" in this product supplement.

Unless otherwise specified in the relevant terms supplement, the settlement date for the notes will be the third business day following the pricing date (which is referred to as a "T+3" settlement cycle).

## NOTICE TO INVESTORS

We are offering to sell, and are seeking offers to buy, the notes only in jurisdictions where offers and sales are permitted. Neither this product supplement no. 200-A-III nor any related underlying supplement, the accompanying prospectus supplement, prospectus or terms supplement constitutes an offer to sell, or a solicitation of an offer to buy, any notes by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation. Neither the delivery of this product supplement no. 200-A-III nor the related underlying supplement, the accompanying prospectus supplement, prospectus or terms supplement nor any sale made hereunder implies that there has been no change in our affairs or that the information in this product supplement no. 200-A-III, any related underlying supplement, the accompanying prospectus supplement, prospectus and terms supplement is correct as of any date after the date hereof.

You must (i) comply with all applicable laws and regulations in force in any jurisdiction in connection with the possession or distribution of this product supplement no. 200-A-III, any related underlying supplement, the accompanying prospectus supplement, prospectus and terms supplement and the purchase, offer or sale of the notes and (ii) obtain any consent, approval or permission required to be obtained by you for the purchase, offer or sale by you of the notes under the laws and regulations applicable to you in force in any jurisdiction to which you are subject or in which you make such purchases, offers or sales.

### Argentina

The notes have not been and will not be authorized by the *Comisión Nacional de Valores* (the "CNV") for public offer in Argentina and therefore may not be offered or sold to the public at large or to sectors or specific groups thereof by any means, including but not limited to personal offerings, written materials, advertisements, the internet or the media, in circumstances which constitute a public offering of securities under Argentine Law No. 17,811, as amended (the "Argentine Public Offering Law").

The Argentine Public Offering Law does not expressly recognize the concept of private placement. Notwithstanding the foregoing, pursuant to the general rules on public offering and the few existing judicial and administrative precedents, the following private placement rules have been outlined:

- (i) target investors should be qualified or sophisticated investors, capable of understanding the risk of the proposed investment.
- (ii) investors should be contacted on an individual, direct and confidential basis, without using any type of massive means of communication.
- (iii) the number of contacted investors should be relatively small.
- (iv) investors should receive complete and precise information on the proposed investment.
- (v) any material, brochures, documents, etc, regarding the investment should be delivered in a personal and confidential manner, identifying the name of the recipient.
- (vi) the documents or information mentioned in item (v) should contain a legend or statement expressly stating that the offer is a private offer not subject to the approval or supervision of the CNV, or any other regulator in Argentina.
- (vii) the aforementioned documents or materials should also contain a statement prohibiting the re-sale or re-placement of the relevant securities within the Argentine territory or their sale through any type of transaction that may constitute a public offering of securities pursuant to Argentine law.



## **The Bahamas**

The notes have not been and shall not be offered or sold in or into The Bahamas except in circumstances that do not constitute a 'public offering' according to the Securities Industry Act, 1999.

The offer of the notes, directly or indirectly, in or from within The Bahamas may only be made by an entity or person who is licensed as a Broker Dealer by the Securities Commission of The Bahamas.

Persons deemed "resident" in The Bahamas pursuant to the Exchange Control Regulations, 1956 must receive the prior approval of the Central Bank of The Bahamas prior to accepting an offer to purchase any notes.

## **Bermuda**

This product supplement no. 200-A-III any related underlying supplement, the accompanying prospectus supplement, prospectus and terms supplement have not been registered or filed with any regulatory authority in Bermuda. The offering of the notes pursuant to this product supplement no. 200-A-III and any related underlying supplement, the accompanying prospectus supplement, prospectus and any terms supplement to persons resident in Bermuda is not prohibited, *provided* we are not thereby carrying on business in Bermuda.

## **Brazil**

The notes have not been and will not be registered with the "*Comissão de Valores Mobiliários*" – the Brazilian Securities and Exchange Commission ("CVM") and accordingly, the notes may not and will not be sold, promised to be sold, offered, solicited, advertised and/or marketed within the Federal Republic of Brazil, except in circumstances that cannot be construed as a public offering or unauthorized distribution of securities under Brazilian laws and regulations. The notes are not being offered into Brazil. Documents relating to an offering of the notes, as well as the information contained herein and therein, may not be supplied or distributed to the public in Brazil nor be used in connection with any offer for subscription or sale of the notes to the public in Brazil.

## **British Virgin Islands**

The notes may not be offered in the British Virgin Islands unless we or the person offering the notes on our behalf is licensed to carry on business in the British Virgin Islands. We are not licensed to carry on business in the British Virgin Islands. The notes may be offered to British Virgin Islands "business companies" (from outside the British Virgin Islands) without restriction. A British Virgin Islands "business company" is a company formed under or otherwise governed by the BVI Business Companies Act, 2004 (British Virgin Islands).

## **Cayman Islands**

This product supplement no. 200-A-III, any related underlying supplement, the accompanying prospectus supplement, prospectus and terms supplement, and the notes offered hereby and thereby have not been, and will not be, registered under the laws and regulations of the Cayman Islands, nor has any regulatory authority in the Cayman Islands passed comment upon or approved the accuracy or adequacy of this product supplement no. 200-A-III, any related underlying supplement, the accompanying prospectus supplement, prospectus and terms supplement. The notes have not been, and will not be, offered or sold, directly or indirectly, in the Cayman Islands.

## **Chile**

None of the Agents, we or the notes have been registered with the *Superintendencia de Valores y Seguros de Chile* (Chilean Securities and Insurance Commission) pursuant to *Ley No. 18,045 de Mercado de Valores* (the "Chilean Securities Act"), as amended, of the Republic of Chile and, accordingly, the notes have not been and will not be offered or sold within Chile or to, or for the account of benefit of persons in Chile except in circumstances which have not resulted and will not result in a public offering and/or securities intermediation in Chile within the meaning of the Chilean Securities Act.

None of the Agents is a bank or a licensed broker in Chile, and therefore each Agent has not and will not conduct transactions or any business operations in any of such qualities, including the marketing, offer and sale of the notes, except in circumstances which have not resulted and will not result in a "public offering" as such term is defined in Article 4 of the Chilean Securities Act, and/or have not resulted and will not result in the intermediation of securities in Chile within the meaning of Article 24 of the Chilean Securities Act and/or the breach of the brokerage restrictions set forth in Article 39 of Decree with Force of Law No. 3 of 1997.

The notes will only be sold to specific buyers, each of which will be deemed upon purchase:

- (i) to be a financial institution and/or an institutional investor or a qualified investor with such knowledge and experience in financial and business matters as to be capable of evaluating the risks and merits of an investment in the notes;
- (ii) to agree that it will only resell the notes in the Republic of Chile in compliance with all applicable laws and regulations; and that it will deliver to each person to whom the notes are transferred a notice substantially to the effect of this selling restriction;
- (iii) to acknowledge receipt of sufficient information required to make an informed decision whether or not to invest in the notes; and
- (iv) to acknowledge that it has not relied upon advice from any Agent and/or us, or its or our respective affiliates, regarding the determination of the convenience or suitability of notes as an investment for the buyer or any other person; and has taken and relied upon independent legal, regulatory, tax and accounting advice.

## Colombia

The notes have not been and will not be registered in the National Securities Registry of Colombia (*Registro Nacional de Valores y Emisores*) kept by the Colombian Financial Superintendency (*Superintendencia Financiera de Colombia*) or in the Colombian Stock Exchange (*Bolsa de Valores de Colombia*).

Therefore, the notes shall not be marketed, offered, sold or distributed in Colombia or to Colombian residents in any manner that would be characterized as a public offering, as such is defined in article 1.2.1.1 of Resolution 400, issued on May 22, 1995 by the Securities Superintendency General Commission (*Sala General de la Superintendencia de Valores*), as amended from time to time.

If the notes are to be marketed within Colombian territory or to Colombian residents, regardless of the number of persons to which said marketing is addressed to, any such promotion or advertisement of the notes must be made through a local financial entity, a representative's office, or a local correspondent, in accordance with Decree 2558, issued on June 6, 2007 by the Ministry of Finance and Public Credit of Colombia, as amended from time to time.

Therefore, the notes should not be marketed within Colombian territory or to Colombian residents, by any given means, that may be considered as being addressed to an indeterminate number of persons or to more than ninety-nine (99) persons, including but not limited to: (i) any written material or other means of communication, such as subscription lists, bulletins, pamphlets or advertisements; (ii) any offer or sale of the notes at offices or branches open to the public; (iii) use of any oral or written advertisements, letters, announcements, notices or any other means of communication that may be perceived to be addressed to an indeterminate number of persons for the purpose of marketing and/or offering the notes; or (iv) use (a) non-solicited emails or (b) email distributions lists to market the notes.

## El Salvador

The notes may not be offered to the general public in El Salvador, and according to Article 2 of the *Ley de Mercado de Valores* (Securities Market Law) of the Republic of El Salvador, Legislative Decree number 809 dated 16 February 1994, published on the *Diario Oficial* (Official Gazette) number 73-BIS, Number 323, dated 21 April 1994, and in compliance with the aforementioned regulation, each Agent has represented and agreed that it will not make an invitation for subscription or purchase of the notes to indeterminate individuals, nor will it make known this product supplement no. 200-A-III, any related underlying supplement, the accompanying prospectus supplement, prospectus and terms supplement in the territory of El Salvador through any mass media communication such as television, radio, press, or any similar medium, other than publications of an international nature that are received in El Salvador, such as internet access or foreign cable advertisements, which are not directed to the Salvadoran public. The offering of the notes has not been registered with an authorized stock exchange in the Republic of El Salvador. Any negotiation for the purchase or sale of notes in the Republic of El Salvador shall only be negotiated on an individual basis with determinate individuals or entities in strict compliance with the aforementioned Article 2 of the Salvadoran Securities Market Law, and shall in any event be effected in accordance with all securities, tax and exchange control of the Dominican Republic, Central America, and United States Free Trade Agreements, and other applicable laws or regulations of the Republic of El Salvador.

## European Economic Area

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a "Relevant Member State"), each Agent has represented and agreed that with effect from and including the date on which the Prospectus Directive is implemented in that Relevant Member State (the "Relevant Implementation Date") it has not made and will not make an offer of notes which are the subject of the offering contemplated by this product supplement no. 200-A-III, any related underlying supplement, the accompanying prospectus supplement to the public in that Relevant Member State prior to the publication of a prospectus in relation to the notes which has been approved by the competent authority in that Relevant Member State or, where appropriate, approved in another Relevant Member State and notified to the competent authority in that Relevant Member State, all in accordance with the Prospectus Directive except that it may, with effect from and including the Relevant Implementation Date, make an offer of such notes to the public in that Relevant Member State:

- (a) at any time to legal entities which are authorized or regulated to operate in the financial markets or, if not so authorized or regulated, whose corporate purpose is solely to invest in securities;
- (b) at any time to any legal entity which has two or more of (1) an average of at least 250 employees during the last financial year; (2) a total balance sheet of more than €43,000,000; and (3) an annual net turnover of more than €50,000,000, as shown in its last annual or consolidated accounts;
- (c) to fewer than 100 natural or legal persons (other than qualified investors as defined in the Prospectus Directive) subject to obtaining the prior consent of the Agent; or
- (d) at any time in any other circumstances which do not require the publication by us of a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an "offer of notes to the public" in relation to any notes in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the notes to be offered so as to enable an investor to decide to purchase or subscribe the notes, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State and the expression "Prospectus Directive" means Directive 2003/71/EC and includes any relevant implementing measure in each Relevant Member State.

This European Economic Area selling restriction is in addition to any other selling restrictions set out herein.

## Hong Kong

The notes may not be offered or sold in Hong Kong, by means of any document, other than to persons whose ordinary business it is to buy or sell shares or debentures, whether as principal or agent, or in circumstances that do not constitute an offer to the public within the meaning of the Companies Ordinance (Cap. 32) of Hong Kong. Each Agent has not issued and will not issue any advertisement, invitation or document relating to the notes, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to notes which are intended to be disposed of only to persons outside Hong Kong or only to “professional investors” within the meaning of the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made thereunder.

## Jersey

Each Agent has represented to and agreed with us that it will not circulate in Jersey any offer for subscription, sale or exchange of any notes which would constitute an offer to the public for the purposes of Article 8 of the Control of Borrowing (Jersey) Order 1958.

## Mexico

The notes have not been, and will not be, registered with the Mexican National Registry of Securities maintained by the Mexican National Banking and Securities Commission nor with the Mexican Stock Exchange and therefore, may not be offered or sold publicly in the United Mexican States. This product supplement no. 200-A-III, any related underlying supplement, the accompanying prospectus supplement, prospectus and terms supplement may not be publicly distributed in the United Mexican States. The notes may be privately placed in Mexico among institutional and qualified investors, pursuant to the private placement exemption set forth in Article 8 of the Mexican Securities Market Law.

## The Netherlands

An offer to the public of any notes which are the subject of the offering and placement contemplated by this product supplement no. 200-A-III, any related underlying supplement, the accompanying prospectus supplement, prospectus and terms supplement may not be made in The Netherlands and each Agent has represented and agreed that it has not made and will not make an offer of such notes to the public in The Netherlands, unless such an offer is made exclusively to one or more of the following categories of investors in accordance with the Dutch Financial Markets Supervision Act (*Wet op het financieel toezicht*, the “FMSA”):

1. Regulated Entities: (a) any person or entity who or which is subject to supervision by a regulatory authority in any country in order to lawfully operate in the financial markets (which includes: credit institutions, investment firms, financial institutions, insurance companies, collective investment schemes and their management companies, pension funds and their management companies, commodity dealers) (“Supervised Entities”); and (b) any person or entity who or which engages in a regulated activity on the financial markets but who or which is not subject to supervision by a regulatory authority because it benefits from an exemption or dispensation (“Exempt Entities”);
2. Investment Funds and Entities: any entity whose corporate purpose is solely to invest in securities (which includes, without limitation, hedge funds);
3. Governmental institutions: the Dutch State, the Dutch Central Bank, Dutch regional, local or other decentralized governmental institutions, international treaty organizations and supranational organizations;
4. Self-certified Small and Medium-Sized Enterprises (“SMEs”): any company having its registered office in The Netherlands which does not meet at least two of the three criteria mentioned in (6) below and which has (a) expressly requested the Netherlands Authority for the Financial Markets (the “AFM”) to be considered as a qualified investor, and (b) been entered on the register of qualified investors maintained by the AFM;

5. Self-certified Natural Persons: any natural person who is resident in The Netherlands if this person meets at least two (2) of the following criteria:

- (i) the investor has carried out transactions of a significant size on securities markets at an average frequency of, at least, ten (10) per quarter over the previous four (4) quarters;
- (ii) the size of the investor's securities portfolio exceeds €500,000;
- (iii) the investor works or has worked for at least one (1) year in the financial sector in a professional position which requires knowledge of investment in securities,

*provided* this person has:

- (a) expressly requested the AFM to be considered as a qualified investor; and
- (b) been entered on the register of qualified investors maintained by the AFM;

6. Large Enterprises: any company or legal entity which meets at least two of the following three criteria according to its most recent consolidated or non-consolidated annual accounts:

- (a) an average number of employees during the financial year of at least 250;
- (b) total assets of at least €43,000,000; or
- (c) an annual net turnover of at least €50,000,000.

7. Discretionary individual portfolio managers: any portfolio manager in The Netherlands who or which purchases the notes for the account of clients who are not Qualified Investors on the basis of a contract of agency that allows for making investment decisions on the client's behalf without specific instructions of or consultation with any such client;

8. Minimum consideration: any person or entity for a minimum consideration of €50,000 or more (or equivalent in foreign currency) for each offer of notes; or

9. Fewer than 100 Offerees: fewer than 100 natural or legal persons (other than Qualified Investors).

For the purposes of this provision, the expression:

- (a) an "offer to the public" in relation to any notes means making a sufficiently determined offer as meant in Section 217(1) of Book 6 of the Dutch Civil Code (*Burgerlijk Wetboek*) addressed to more than one person to conclude a contract to purchase or otherwise acquire notes, or inviting persons to make an offer in respect of such notes;
- (b) "Qualified Investors" means the categories of investors listed under (1) up to and including (6) above.

Zero Coupon Notes may not, directly or indirectly, as part of their initial distribution (or immediately thereafter) or as part of any re-offering be offered, sold, transferred or delivered in The Netherlands. For purposes of this paragraph "Zero Coupon Notes" are notes (whether in definitive or in global form) that are in bearer form and that constitute a claim for a fixed sum against us and on which interest does not become due prior to maturity or on which no interest is due whatsoever.

## **Panama**

The notes have not been and will not be registered with the National Securities Commission of the Republic of Panama under Decree Law No. 1 of July 8, 1999 (the "Panamanian Securities Law") and may not be publicly offered or sold within Panama, except in certain limited transactions exempt from the registration requirements of the Panamanian Securities Law. The notes do not benefit from the tax incentives provided by the Panamanian Securities Law and are not subject to regulation or supervision by the National Securities Commission of the Republic of Panama.

## **Peru**

The notes have been and will be offered only to institutional investors (as defined by the Peruvian Securities Market Law – “*Ley de Mercado de Valores*” enacted by Legislative Decree No. 861 – Unified Text of the Law approved by Supreme Decree No. 093-2002-EF) and not to the public in general or a segment of it. The placement of the notes shall comply with article 5 of the Peruvian Securities Market Law.

## **Singapore**

Neither this product supplement no. 200-A-III, nor any related underlying supplement nor the accompanying prospectus supplement, prospectus or terms supplement has been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, this product supplement no. 200-A-III, any related underlying supplement, the accompanying prospectus supplement, prospectus or terms supplement, and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the notes may not be circulated or distributed, nor may the notes be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore (the “SFA”), (ii) to a relevant person, or any person pursuant to Section 275(1A), and in accordance with the conditions, specified in Section 275 of the SFA or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

## **Switzerland**

The notes have not been and will not be offered or sold, directly or indirectly, to the public in Switzerland, and this product supplement no. 200-A-III, any related underlying supplement and the accompanying prospectus supplement, prospectus and terms supplement do not constitute a public offering prospectus as that term is understood pursuant to article 652a or article 1156 of the Swiss Federal Code of Obligations.

We have not applied for a listing of the notes on the SWX Swiss Exchange or on any other regulated securities market and, consequently, the information presented in this product supplement no. 200-A-III, any related underlying supplement and the accompanying prospectus supplement, prospectus and terms supplement does not necessarily comply with the information standards set out in the relevant listing rules.

The notes do not constitute a participation in a collective investment scheme in the meaning of the Swiss Federal Act on Collective Investment Schemes and are not licensed by the Swiss Federal Banking Commission. Accordingly, neither the notes nor holders of the notes benefit from protection under the Swiss Federal Act on Collective Investment Schemes or supervision by the Swiss Federal Banking Commission.

## **United Kingdom**

Each Agent has represented and agreed that:

(a) it is a person whose ordinary activities involve it in acquiring, holding, managing or disposing of investments (as principal or agent) for the purposes of its business and (ii) it has not offered or sold and will not offer or sell the notes other than to persons whose ordinary activities involve them in acquiring, holding, managing or disposing of investments (as principal or as agent) for the purposes of their businesses or who it is reasonable to expect will acquire, hold, manage or dispose of investments (as principal or agent) for the purposes of their businesses where the issue of the notes would otherwise constitute a contravention of Section 19 of the Financial Services and Markets Act 2000 (the “FSMA”) by the Issuer;

(b) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the FSMA) received by it in connection with the issue or sale of the notes in circumstances in which Section 21(1) of the FSMA does not apply to us; and

(c) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the notes in, from or otherwise involving the United Kingdom.

#### **Uruguay**

The offering of notes in Uruguay constitutes a private offering and each Agent has agreed that the notes and us will not be registered with the Central Bank of Uruguay pursuant to section 2 of Uruguayan law 16.749.

#### **Venezuela**

The notes comprising this offering have not been registered with the Venezuelan National Securities Commission (*Comisión Nacional de Valores*) and are not being publicly offered in Venezuela. No document related to the offering of the notes shall be interpreted to constitute a public offer of securities in Venezuela. This document has been sent exclusively to clients of the Agents and the information contained herein is private, confidential and for the exclusive use of the addressee. Investors wishing to acquire the notes may use only funds located outside of Venezuela, which are not of mandatory sale to the Central Bank of Venezuela (*Banco Central de Venezuela*) or are not otherwise subject to restrictions or limitations under the exchange control regulation currently in force in Venezuela.

## BENEFIT PLAN INVESTOR CONSIDERATIONS

A fiduciary of a pension, profit-sharing or other employee benefit plan subject to the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), including entities such as collective investment funds, partnerships and separate accounts whose underlying assets include the assets of such plans (collectively, "ERISA Plans") should consider the fiduciary standards of ERISA in the context of the ERISA Plan's particular circumstances before authorizing an investment in the notes. Among other factors, the fiduciary should consider whether the investment would satisfy the prudence and diversification requirements of ERISA and would be consistent with the documents and instruments governing the ERISA Plan.

Section 406 of ERISA and Section 4975 of the Internal Revenue Code of 1986, as amended, (the "Code") prohibit ERISA Plans, as well as plans (including individual retirement accounts and Keogh plans) subject to Section 4975 of the Code (together with ERISA Plans, "Plans"), from engaging in certain transactions involving the "plan assets" with persons who are "parties in interest" under ERISA or "disqualified persons" under Section 4975 of the Code (in either case, "Parties in Interest") with respect to such Plans. As a result of our business, we, and our current and future affiliates, may be Parties in Interest with respect to many Plans. Where we (or our affiliate) are a Party in Interest with respect to a Plan (either directly or by reason of our ownership interests in our directly or indirectly owned subsidiaries), the purchase and holding of the notes by or on behalf of the Plan could be a prohibited transaction under Section 406 of ERISA and/or Section 4975 of the Code, unless exemptive relief were available under an applicable exemption (as described below).

Certain prohibited transaction class exemptions ("PTCEs") issued by the U.S. Department of Labor may provide exemptive relief for direct or indirect prohibited transactions resulting from the purchase or holding of the notes. Those class exemptions are PTCE 96-23 (for certain transactions determined by in-house asset managers), PTCE 95-60 (for certain transactions involving insurance company general accounts), PTCE 91-38 (for certain transactions involving bank collective investment funds), PTCE 90-1 (for certain transactions involving insurance company separate accounts) and PTCE 84-14 (for certain transactions determined by independent qualified asset managers). In addition, ERISA Section 408(b)(17) and Section 4975(d)(20) of the Code may provide a limited exemption for the purchase and sale of the notes and related lending transactions, provided that neither the issuer of the notes nor any of its affiliates have or exercise any discretionary authority or control or render any investment advice with respect to the assets of the Plan involved in the transaction and provided further that the Plan pays no more, and receives no less, than adequate consideration in connection with the transaction (the so-called "service provider exemption"). There can be no assurance that any of these statutory or class exemptions will be available with respect to transactions involving the notes.

Accordingly, the notes may not be purchased or held by any Plan, any entity whose underlying assets include "plan assets" by reason of any Plan's investment in the entity (a "Plan Asset Entity") or any person investing "plan assets" of any Plan, unless such purchaser or holder is eligible for the exemptive relief available under PTCE 96-23, 95-60, 91-38, 90-1 or 84-14 or the service-provider exemption or there is some other basis on which the purchase and holding of the notes will not constitute a non-exempt prohibited transaction under ERISA or Section 4975 of the Code. Each purchaser or holder of the notes or any interest therein will be deemed to have represented by its purchase or holding of the notes that (a) it is not a Plan and its purchase and holding of the notes is not made on behalf of or with "plan assets" of any Plan or (b) its purchase and holding of the notes will not result in a non-exempt prohibited transaction under Section 406 of ERISA or Section 4975 of the Code.



Certain governmental plans (as defined in Section 3(32) of ERISA), church plans (as defined in Section 3(33) of ERISA) and non-U.S. plans (as described in Section 4(b)(4) of ERISA) ("Non-ERISA Arrangements") are not subject to these "prohibited transaction" rules of ERISA or Section 4975 of the Code, but may be subject to similar rules under other applicable laws or regulations ("Similar Laws"). Accordingly, each such purchaser or holder of the notes shall be required to represent (and deemed to have represented by its purchase of the notes) that such purchase and holding is not prohibited under applicable Similar Laws.

Due to the complexity of these rules, it is particularly important that fiduciaries or other persons considering purchasing the notes on behalf of or with "plan assets" of any Plan consult with their counsel regarding the relevant provisions of ERISA, the Code or any Similar Laws and the availability of exemptive relief under PTCE 96-23, 95-60, 91-38, 90-1, 84-14, the service provider exemption or some other basis on which the acquisition and holding will not constitute a non-exempt prohibited transaction under ERISA or Section 4975 of the Code or a violation of any applicable Similar Laws.

The notes are contractual financial instruments. The financial exposure provided by the notes is not a substitute or proxy for, and is not intended as a substitute or proxy for, individualized investment management or advice for the benefit of any purchaser or holder of the notes. The notes have not been designed and will not be administered in a manner intended to reflect the individualized needs and objectives of any purchaser or holder of the notes.

Each purchaser or holder of any notes acknowledges and agrees that:

- (i) the purchaser or holder or its fiduciary has made and shall make all investment decisions for the purchaser or holder and the purchaser or holder has not relied and shall not rely in any way upon us or our affiliates to act as a fiduciary or adviser of the purchaser or holder with respect to (A) the design and terms of the notes, (B) the purchaser or holder's investment in the notes, or (C) the exercise of or failure to exercise any rights we have under or with respect to the notes;
- (ii) we and our affiliates have acted and will act solely for our own account in connection with (A) all transactions relating to the notes and (B) all hedging transactions in connection with our obligations under the notes;
- (iii) any and all assets and positions relating to hedging transactions by us or our affiliates are assets and positions of those entities and are not assets and positions held for the benefit of the purchaser or holder;
- (iv) our interests are adverse to the interests of the purchaser or holder; and
- (v) neither we nor any of our affiliates is a fiduciary or adviser of the purchaser or holder in connection with any such assets, positions or transactions, and any information that we or any of our affiliates may provide is not intended to be impartial investment advice.

Each purchaser and holder of the notes has exclusive responsibility for ensuring that its purchase, holding and subsequent disposition of the notes does not violate the fiduciary or prohibited transaction rules of ERISA, the Code or any applicable Similar Laws. The sale of any notes to any Plan is in no respect a representation by us or any of our affiliates or representatives that such an investment meets all relevant legal requirements with respect to investments by Plans or Non-ERISA Arrangements generally or any particular Plan or Non-ERISA Arrangement, or that such an investment is appropriate for Plans or Non-ERISA Arrangements generally or any particular Plan or Non-ERISA Arrangement.

ANNEX A

J.P. Morgan Bespoke Commodity Index  
Standard Terms

February 2011

**J.P.Morgan**

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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<sub>i</sub> 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(RDn):	The overall leverage applied to the Index on Rebalancing Date n 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 t, the nominal level of the Index, which the Index Calculation Agent will calculate in respect of each such Calculation Day t 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 (t) on the immediately following Calculation Day t+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 t or occurred on the immediately prior Rebalancing Date n-1, the Index Calculation Agent may adjust the Index Level with respect to Calculation Day t, 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"> <li>(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;</li> <li>(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;</li> <li>(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);</li> <li>(iv) the occurrence of a Non-Publication Event; or</li> <li>(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 “<u>Non-Commodity Business Day</u>”).</li> </ul>



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<sub>i</sub> 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:

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, *provided, however* 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 “Proxy Calculated Level”) in good faith and in a commercially reasonable manner.

Non-Volatility Targeted Index: 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 (“Non-Volatility Targeted Index Levels”) in respect of each relevant day a Volatility Targeting Period are the basis of the Volatility Targeting calculation.

Proxy Calculated Level: will have the meaning set forth under the definition of “Non-Publication Event”.

Rebalancing Date: 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 “Rebalancing Date Integer”, which is greater than or equal to 1 as indicated in the relevant Index Supplement.

The Rebalancing Date will be the specific Calculation Day in the Rebalancing Period corresponding to d (*e.g.*, if Rebalancing Date Integer is equal to 1, each Rebalancing Date will be the 1<sup>st</sup> Calculation Day of the relevant Rebalancing Period and if Rebalancing Date Integer is equal to 2, each Rebalancing Date will be the 2<sup>nd</sup> Calculation Day in the relevant Rebalancing Period).

Additionally, for the purposes of Section 4 (*Calculation and Determination of the Index Level*) 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<sub>n</sub> (abbreviated as RD<sub>n</sub>).

Rebalancing Date Integer: With respect to the Rebalancing Date, the Rebalancing Date Integer is a whole number specified in the Index Supplement. See “Rebalancing Date” herein.

	The Rebalancing Date Integer will be specified in the relevant Index Supplement.
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):	means any Constituent specified in the relevant Index Supplement with a Short Market Position.  The delineation of whether a Constituent is a Short Constituent will be specified in the relevant Index Supplement.
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:	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.

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.

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.

Volatility Matching cannot be used for Components that do not have both a Long Constituent and a Short Constituent.

As set forth in Section 4 (*Calculation and Determination of the Index Level*) of these Standard Terms, the Index Calculation Agent will calculate the VolRatio(RD<sub>n</sub>) (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 *n*th Rebalancing Date. Subject to the Maximum Short Constituent Leverage *i* and Minimum Short Constituent Leverage *i*, the VolRatio(RD<sub>n</sub>) will determine the Short Constituent Leverage *i*(RD<sub>n</sub>) applied to the Short Constituent of Component *i* on the *n*th 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%.

Volatility Matching Lookback<sub>*i*</sub>: 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.

If Volatility Matching is "Not Applicable," Volatility Matching Lookback<sub>*i*</sub> with respect to Component *i* will also be "Not Applicable."

Volatility Matching Period<sub>*i*</sub>(RD<sub>*n*</sub>) With respect to Component *i* and Rebalancing Date<sub>*n*</sub>, the chronologically ordered set of Volatility Matching Lookback *i* plus one consecutive Calculation Days ending with the Calculation Day immediately preceding Rebalancing Date<sub>*n*</sub>. 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.

The earliest day of the Volatility Matching Period<sub>*i*</sub>(RD<sub>*n*</sub>) shall be regarded as the zero-th day of such period and the latest day of the Volatility Matching Period<sub>*i*</sub>(RD<sub>*n*</sub>) shall be the Volatility Matching Lookback *i*-th day.

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<sub>n</sub>, the two sets of consecutive Calculation Days used in the calculation of IndexVol(RDn), both ending with the Calculation Day immediately preceding Rebalancing Date<sub>n</sub>.

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<sub>n-1</sub> 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<sub>n-1</sub> 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<sub>n-1</sub> 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<sub>n-1</sub> 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  $i^{th}$  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:

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

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  $IndexLeverage(RD_{n-1})$  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  $i^{\text{th}}$  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 <sub>$i$</sub>

$PTDCP_i(t)$  means the Period-To-Date Component Performance for the  $i^{th}$  Component on Calculation Day  $t$  as determined in accordance with Section 4.5 (*Calculating the Period-To-Date Component Performance for each Component*) 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.

$\text{CalendarDays}$  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 (*Volatility Targeting*) above.

$NS$  means the total number of Components in the Index.

$W_i$  means Component Weight<sub>i</sub>

$PTDCP_i(t)$  means the Period-To-Date Component Performance for the i<sup>th</sup> 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:

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

where:

$RAR$  is the Replication Adjustment Rate, if applicable.

$\text{CalendarDays}$  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<sub>n-1</sub>, 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<sub>n-1</sub>;

“ $Index_{Adj,RD_{n-1}}(RD_{n-1})$ ” 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<sub>n-1</sub> 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  $Level^c_{Adj,t}(t)$ , 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  $Level^c_{Adj,t}(t)$  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:

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

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  $Level_{Adj,t}^c(t)$  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  $Level_{Adj,t}^c(t)$ , 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.

“ $PTDCP_{Adj,i,s}(t)$ ” 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  $Level_{Adj,s}^c(t)$  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  $Level_{Adj,s}^c(t-1)$  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.

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 the Indices, and hedging the obligations that might arise under any such transactions or investments. These Index Rules are not intended as a recommendation, offer or solicitation for (i) the purchase or sales of any security or financial instrument or (ii) participation in any transaction. These Index Rules should not be used to evaluate the advantages and disadvantages of any security or financial instrument linked to the Index or otherwise participating in any transaction referencing the Index. Such evaluation should be made solely on the basis of the information contained in the relevant terms supplement, product supplement, term sheet, offering memorandum, private placement memorandum or prospectus (collectively, each an "Offering Documents") when available. Those Offering Documents will contains the terms of any security 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, including this strategy guide. All persons should conduct their own investigations and consult with their own professional advisors when evaluating these Index Rules and the Index without reliance on any Relevant Person. None of the Relevant Persons is a fiduciary or advisor to any person interested in obtaining exposure to the Index.

The Index Calculation Agent or any of its affiliates or any of the Relevant Persons may publish research, express opinions or provide recommendations (for example, with respect to the commodities or indices that may be included in the Index) that are inconsistent with investing in instruments linked to the Index, and which may be revised at any time. Any such research, opinions or recommendations may or may not recommend that investors buy or hold the relevant commodities or indices and could affect the value and or performance of the Index or of instruments linked to the Index.

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.

## **The Index Disclaimer**

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The Index Calculation Agent is under no obligation to continue the calculation, publication and dissemination of the Index, or of any indices or strategies that may be potential components of the Index. The Index Calculation Agent need not publish the index level(s), Index Level(s) or similar information related to the Index if the relevant Bloomberg ticker (as identified in the relevant Index Supplement) is subject to any delay in or interruptions of publication for any reason including the occurrence of an Extraordinary Event (as defined herein).

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