

JPMORGAN CHASE & CO.

Knock-Out Digital Notes Linked to the Least Performing of Two or More Indices or Funds

General

- JPMorgan Chase & Co. may from time to time offer and sell knock-out digital notes linked to the least performing of two or more indices and/or funds. This product supplement no. 22-I 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. A separate underlying supplement or the relevant terms supplement will describe any index or fund to which the notes are linked. If the terms described in the relevant terms supplement are inconsistent with those described in this product supplement 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.**
- The payment at maturity is *not* linked to a basket composed of the Underlyings. The payment at maturity is linked to the performance of each of the Underlyings individually, as described below.
- For important information about tax consequences, see "Material U.S. Federal Income Tax Consequences" beginning on page PS-40.
- Minimum denominations of \$1,000 and integral multiples thereof, unless otherwise specified in the relevant terms supplement
- Investing in the notes is not equivalent to investing directly in any Underlying, the equity securities composing any Underlying or the commodities or commodity futures contracts underlying any Fund.
- The notes will not be listed on any securities exchange unless otherwise specified in the relevant terms supplement.

Key Terms

Underlyings: The relevant terms supplement will specify the indices (each, an "Index" and collectively, the "Indices") and/or funds (each, a "Fund" and collectively, the "Funds") to which the notes are linked. We refer to each Index and each Fund as an "Underlying," and collectively, the "Underlyings."

Payment at Maturity: Unless otherwise specified in the relevant terms supplement, *if a Knock-Out Event has not occurred*, you will receive at maturity a cash payment per \$1,000 principal amount note that provides you with a return on your investment equal to the High Digital Return. Under these circumstances, your payment at maturity per \$1,000 principal amount note will be calculated as follows:

$$\$1,000 + (\$1,000 \times \text{High Digital Return})$$

Unless otherwise specified in the relevant terms supplement, *if a Knock-Out Event has occurred and* the Ending Underlying Level of *each* Underlying *is greater than or equal to* the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying, you will receive at maturity a cash payment per \$1,000 principal amount note that provides you with a return on your investment equal to the Low Digital Return, which may be 0%. Under these circumstances, your payment at maturity per \$1,000 principal amount note will be calculated as follows:

$$\$1,000 + (\$1,000 \times \text{Low Digital Return})$$

Unless otherwise specified in the relevant terms supplement, *if a Knock-Out Event has occurred and* the Ending Underlying Level of *any* Underlying *is less than* the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying, you will receive at maturity a cash payment per \$1,000 principal amount note that reflects the Low Digital Return, but that also exposes you to the negative performance of the Least Performing Underlying. Under these circumstances, your payment at maturity per \$1,000 principal amount note will be calculated as follows:

$$\$1,000 + [\$1,000 \times (\text{Least Performing Underlying Return} + \text{Low Digital Return})]$$

If a Knock-Out Event has occurred and the Ending Underlying Level of any Underlying is less than the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying, you will most likely lose some or all of your initial investment at maturity.

High Digital Return: A percentage as specified in the relevant terms supplement

Low Digital Return: A percentage, which may be 0%, as specified in the relevant terms supplement

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Investing in the notes involves a number of risks. See "Risk Factors" beginning on page PS-9.

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. 22-I, 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 by the Federal Deposit Insurance Corporation or any other governmental agency, nor are they obligations of, or guaranteed by, a bank.

J.P.Morgan

January 13, 2012

Key Terms (continued):

Knock-Out Event:	<p>A Knock-Out Event occurs if (i) for notes with continuous monitoring, at any time during the Monitoring Period, the Index level or trading price, as applicable, of any Underlying is less than the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying by more than the Buffer Amount; (ii) for notes with daily monitoring, on any day during the Monitoring Period, the closing level or closing price, as applicable, of any Underlying is less than the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying by more than the Buffer Amount; or (iii) for notes with single observation monitoring, the Ending Underlying Level of any Underlying is less than the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying by more than the Buffer Amount.</p> <p>The relevant terms supplement will specify whether continuous, daily or single observation monitoring is applicable to the notes or, alternatively, may specify another method for monitoring the levels or prices, as applicable, of the Underlyings. For example, the relevant terms supplement may specify weekly monitoring for purposes of determining whether the level or price, as applicable, of the Underlying is less than the Starting Underlying Level (or Underlying Strike Level, if applicable) by more than the Buffer Amount.</p>
Monitoring Period:	<p>As specified in the relevant terms supplement, if applicable. For example, the relevant terms supplement may specify that the Monitoring Period consists of each day from and including the pricing date to and including the Observation Date or the final Averaging Date.</p>
Buffer Amount:	<p>As specified in the relevant terms supplement. For example, the relevant terms supplement may specify that the Buffer Amount is equal to 20% of the Starting Underlying Level of each Underlying. The Buffer Amount for a Fund is subject to adjustment upon the occurrence of certain events affecting that Fund, if applicable. See "General Terms of Notes — Anti-Dilution Adjustments."</p>
Underlying Return:	<p>With respect to each Underlying, the Underlying Return is calculated as follows:</p> $\frac{\text{Ending Underlying Level} - \text{Starting Underlying Level (or Underlying Strike Level, if applicable)}}{\text{Starting Underlying Level (or Underlying Strike Level, if applicable)}}$
Starting Underlying Level:	<p>Unless otherwise specified in the relevant terms supplement, with respect to each Index, the "Initial Index Level" is the closing level of that Index on the pricing date or such other date as specified in the relevant terms supplement, or the arithmetic average of the closing levels of that Index on each of the Initial Averaging Dates, if so specified in the relevant terms supplement.</p> <p>Unless otherwise specified in the relevant terms supplement, with respect to each Fund, the "Initial Share Price" is (a)(i) the closing price of one share of that Fund on the pricing date or such other date as specified in the relevant terms supplement, or (ii) the arithmetic average of the closing prices of one share of that Fund on each of the Initial Averaging Dates, if so specified in the relevant terms supplement, <i>divided</i> by (b) the Share Adjustment Factor for that Fund. The closing price of one share of a Fund on an Initial Averaging Date, if applicable, used to determine its Initial Share Price may be subject to adjustment. See "Description of Notes — Payment at Maturity" and "General Terms of Notes — Anti-Dilution Adjustments."</p> <p>We refer to each of the Initial Index Level for each Index and the Initial Share Price for each Fund as a "Starting Underlying Level."</p>
Ending Underlying Level:	<p>Unless otherwise specified in the relevant terms supplement, with respect to each Index, the "Ending Index Level" is the closing level of that Index on the Observation Date or such other date as specified in the relevant terms supplement, or the arithmetic average of the closing levels of that Index on each of the Ending Averaging Dates, if so specified in the relevant terms supplement.</p> <p>Unless otherwise specified in the relevant terms supplement, with respect to each Fund, the "Final Share Price" is the closing price of one share of that Fund on the Observation Date or such other date as specified in the relevant terms supplement, or the arithmetic average of the closing prices of one share of that Fund on each of the Ending Averaging Dates, if so specified in the relevant terms supplement. The closing price of a Fund on an Ending Averaging Date used to determine its Final Share Price may be subject to adjustment. See "Description of Notes — Payment at Maturity" and "General Terms of Notes — Anti-Dilution Adjustments."</p> <p>We refer to each of the Ending Index Level for each Index and the Final Share Price for each Fund as an "Ending Underlying Level."</p>
Share Adjustment Factor:	<p>Unless otherwise specified in the relevant terms supplement, with respect to each Fund, the Share Adjustment Factor will be set initially at 1.0, subject to adjustment upon the occurrence of certain events affecting that Fund. See "General Terms of Notes — Anti-Dilution Adjustments."</p>

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Key Terms (continued):

Underlying Strike Level:

With respect to each Index, the relevant terms supplement may specify a level other than the Initial Index Level to be used for calculating the Underlying Return and the amount payable at maturity, if any, which we refer to as the "Index Strike Level." The Index Strike Level, if applicable, for an Index may be based on and/or expressed as a percentage of the level of that Index as of a specified date, or may be determined without regard to the level of that Index as of a particular date. For example, the relevant terms supplement may specify that, for a particular Index, an Index Strike Level, equal to 95% of the Initial Index Level, will be used to calculate the Underlying Return for that Index.

With respect to each Fund, the relevant terms supplement may specify a share price other than the Initial Share Price to be used for calculating the Underlying Return and the amount payable at maturity, if any, which we refer to as the "Fund Strike Price." The Fund Strike Price, if applicable, for a Fund will be equal to (a) a percentage of the closing price of one share of that Fund as of a specified date or (b) a fixed amount determined without regard to the closing price of one share of that Fund as of a particular date, in each case *divided* by the Share Adjustment Factor for that Fund. For example, the relevant terms supplement may specify that, for a particular Fund, a Fund Strike Price equal to 95% of the closing price of one share of that Fund on the pricing date, *divided* by the Share Adjustment Factor for that Fund (*i.e.*, the Initial Share Price), will be used to calculate the Underlying Return for that Fund.

We refer to each of the Index Strike Level for each Index and the Fund Strike Price for each Fund as an "Underlying Strike Level."

Least Performing Underlying:

The Underlying with the Least Performing Underlying Return, which may be referred to as the "Lesser Performing Underlying" in the relevant terms supplement if the notes are linked to only two Underlyings.

Least Performing Underlying Return:

The lowest of the Underlying Returns of the Underlyings, which may be referred to as the "Lesser Performing Underlying Return" in the relevant terms supplement if the notes are linked to only two Underlyings.

Initial Averaging Dates:

As specified, if applicable, in the relevant terms supplement. Any Initial Averaging Date is subject to postponement as described under "Description of Notes — Postponement of a Determination Date."

Valuation Date(s):

The Ending Underlying Level for each Underlying will be determined on a single date, which we refer to as the Observation Date, or on several dates, each of which we refer to as an Ending Averaging Date, as specified in the relevant terms supplement. We refer to these dates generally as Valuation Dates in this product supplement. Any Valuation Date is subject to postponement in the event of certain market disruption events and as described under "Description of Notes — Postponement of a Determination Date."

Maturity Date:

As specified in the relevant terms supplement. The maturity date of the notes is subject to postponement in the event of certain market disruption events and as described under "Description of Notes — Payment at Maturity."

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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. 22-I and the accompanying prospectus supplement and prospectus with respect to the notes offered by the relevant terms supplement and with respect to JPMorgan Chase & Co. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This product supplement no. 22-I, 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. 22-I 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. 22-I 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 Financial Industry Regulatory Authority, Inc., or FINRA, and the laws of certain jurisdictions (including regulations and laws that require brokers to ensure that investments are suitable for their customers) may limit the availability of the notes. The relevant terms supplement, any related underlying supplement, this product supplement no. 22-I 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. 22-I, 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. A separate underlying supplement or the relevant terms supplement will describe any index or fund to which the notes are linked. Capitalized terms used but not defined in this product supplement no. 22-1 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 \$1,000 principal amount of our Knock-Out Digital Notes Linked to the Least Performing of Two or More Indices or Funds.

General

The notes are senior unsecured obligations of JPMorgan Chase & Co. that are linked to two or more indices (each, an "Index" and collectively, the "Indices") or funds (each, a "Fund" and collectively, the "Funds") as specified in the relevant terms supplement. We refer to each Index and each Fund as an "Underlying," and collectively, the "Underlyings." We refer to a fund that is designed to track a commodity index or primarily invests in commodities or commodity futures contracts as a "Commodity Fund" and an index underlying a Fund (or the relevant successor fund), if applicable, as an "Underlying Index."

The notes are a series of debt securities referred to in the accompanying prospectus supplement and prospectus. 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 notes do not pay interest and do not guarantee any return of principal at, or prior to, maturity. The payment at maturity is not linked to a basket composed of the Underlyings. Instead, the payment at maturity will be based on whether a Knock-Out Event has occurred and the performance of the Least Performing Underlying (as described under "— Payment at Maturity"). Under certain circumstances (as described under "— Payment at Maturity"), you may receive at maturity a cash payment that is less than the principal amount of the notes. **Any payment on the notes is subject to the credit risk of JPMorgan Chase & Co.**

The notes are not bank deposits and are not insured 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.

The notes will be issued in denominations of \$1,000 and integral multiples thereof, unless otherwise specified in the relevant terms supplement. The principal amount and issue price of each note are \$1,000, unless otherwise 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, or DTC, or its nominee, as described under "Description of Notes — Forms of Notes" in the accompanying prospectus supplement and "Forms of Securities — Book-Entry System" in the accompanying prospectus.

The terms of specific issuances of the notes will be described in the relevant terms supplement accompanying this product supplement no. 22-1 and any related underlying supplement. The terms described in that document supplement those described in this product supplement 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 in this product supplement or in any related underlying supplement, the accompanying prospectus or prospectus supplement, the terms described in the relevant terms supplement will control.

Payment at Maturity

Unless otherwise specified in the relevant terms supplement, *if a Knock-Out Event has not occurred*, you will receive at maturity a cash payment per \$1,000 principal amount note that provides you with a return on your investment equal to the High Digital Return. Under these circumstances, your payment at maturity per \$1,000 principal amount note will be calculated as follows:

$$\$1,000 + (\$1,000 \times \text{High Digital Return})$$

Unless otherwise specified in the relevant terms supplement, *if a Knock-Out Event has occurred* and the Ending Underlying Level of *each* Underlying *is greater than or equal to* the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying, you will receive at maturity a cash payment per \$1,000 principal amount note that provides you with a return on your investment equal to the Low Digital Return, which may be 0%. Under these circumstances, your payment at maturity per \$1,000 principal amount note will be calculated as follows:

$$\$1,000 + (\$1,000 \times \text{Low Digital Return})$$

Unless otherwise specified in the relevant terms supplement, *if a Knock-Out Event has occurred* and the Ending Underlying Level of *any* Underlying *is less than* the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying, you will receive at maturity a cash payment per \$1,000 principal amount note that reflects the Low Digital Return, but that also exposes you to the negative performance of the Least Performing Underlying. Under these circumstances, your payment at maturity per \$1,000 principal amount note will be calculated as follows:

$$\$1,000 + [\$1,000 \times (\text{Least Performing Underlying Return} + \text{Low Digital Return})]$$

If a Knock-Out Event has occurred and the Ending Underlying Level of any Underlying is less than the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying, you will most likely lose some or all of your initial investment at maturity.

The “**Least Performing Underlying**” means the Underlying with the Least Performing Underlying Return, which may be referred to as the “**Lesser Performing Underlying**” in the relevant terms supplement if the notes are linked to only two Underlyings.

The “**Least Performing Underlying Return**” means the lowest of the Underlying Returns of the Underlyings, which may be referred to as the “**Lesser Performing Underlying Return**” in the relevant terms supplement if the notes are linked to only two Underlyings.

The “**High Digital Return**” will be a percentage as specified in the relevant terms supplement.

The “**Low Digital Return**” will be a percentage, which may be 0%, as specified in the relevant terms supplement.

A “**Knock-Out Event**” occurs if (i) for notes with continuous monitoring, at any time during the Monitoring Period, the Index level or trading price, as applicable, of any Underlying is less than the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying by more than the Buffer Amount; (ii) for notes with daily monitoring, on any day during the Monitoring Period, the closing level or closing price, as applicable, of any Underlying is less than the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying by more than the Buffer Amount; or (iii) for notes with single observation monitoring, the Ending Underlying Level of any Underlying is less than the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying by more than the Buffer Amount.

The relevant terms supplement will specify whether continuous, daily or single observation monitoring is applicable to the notes or, alternatively, may specify another method for monitoring the Index levels or trading prices, as applicable, of the Underlyings. For example, the relevant terms supplement may specify weekly monitoring for purposes of determining whether the Index level or trading price, as applicable, of the Underlying is less than the Starting Underlying Level (or Underlying Strike Level, if applicable) by more than the Buffer Amount.

The “**Monitoring Period**” will be specified in the relevant terms supplement, if applicable. For example, the relevant terms supplement may specify that the Monitoring Period consists of each day from and including the pricing date to and including the Observation Date or the final Ending Averaging Date.

The “**Buffer Amount**” will be specified in the relevant terms supplement. For example, the relevant terms supplement may specify that the Buffer Amount is equal to 20% of the Starting Underlying Level of each Underlying. The Buffer Amount for a Fund is subject to adjustment upon the occurrence of certain events affecting a Fund, if applicable. See “General Terms of Notes — Anti-Dilution Adjustments.”

Unless otherwise specified in the relevant terms supplement, with respect to each Index, the “**Initial Index Level**” is the closing level of that Index on the pricing date or such other date as specified in the relevant terms supplement, or the arithmetic average of the closing levels of that Index on each of the Initial Averaging Dates, if so specified in the relevant terms supplement.

Unless otherwise specified in the relevant terms supplement, with respect to each Fund, the “**Initial Share Price**” is (a)(i) the closing price of one share of that Fund on the pricing date or that other date as specified in the relevant terms supplement, or (ii) the arithmetic average of the closing prices of one share of that Fund on each of the Initial Averaging Dates, if so specified in the relevant terms supplement, *divided* by (b) the Share Adjustment Factor for that Fund. Notwithstanding the foregoing, if the relevant terms supplement specifies that the Initial Share Price of a Fund will be determined based on the arithmetic average of the closing prices of one share of that Fund on each of the Initial Averaging Dates and an adjustment to the Share Adjustment Factor for that Fund would have become effective in accordance with “General Terms of Notes — Anti-Dilution Adjustments” on any day (an “**Adjustment Effective Date**”) after the first Initial Averaging Date but on or prior to the final Initial Averaging Date, then the closing price of one share of that Fund on each Initial Averaging Date occurring prior to the applicable Adjustment Effective Date to be used to determine the applicable Initial Share Price will be deemed to equal that closing price, *divided* by the Share Adjustment Factor for that Fund, as adjusted (assuming that the Share Adjustment Factor prior to the applicable adjustment is equal to 1.0). See “General Terms of Notes — Anti-Dilution Adjustments.”

We refer to each of the Initial Index Level for each Index and the Initial Share Price for each Fund as a “**Starting Underlying Level**.”

Unless otherwise specified in the relevant terms supplement, with respect to each Fund, the “**Share Adjustment Factor**” will be set initially at 1.0, subject to adjustment upon the occurrence of certain corporate events affecting that Fund. See “General Terms of Notes — Anti-Dilution Adjustments.”

With respect to each Index, the relevant terms supplement may specify a level other than the Initial Index Level to be used for calculating the Underlying Return and the amount payable at maturity, if any, which we refer to as the “**Index Strike Level**.” The Index Strike Level, if applicable, for an Index may be based on and/or expressed as a percentage of the level of that Index as of a specified date, or may be determined without regard to the level of that Index as of a particular date. For example, the relevant terms supplement may specify that, for a particular Index, an Index Strike Level, equal to 95% of the Initial Index Level, will be used to calculate the Underlying Return for that Index.

With respect to each Fund, the relevant terms supplement may specify a share price other than the Initial Share Price to be used for calculating the Underlying Return and the amount payable at maturity, if any, which we refer to as the “**Fund Strike Price.**” The Fund Strike Price, if applicable, for a Fund will be equal to (a) a percentage of the closing price of one share of that Fund as of a specified date or (b) a fixed amount determined without regard to the closing price of one share of that Fund as of a particular date, in each case *divided* by the Share Adjustment Factor for that Fund. For example, the relevant terms supplement may specify that, for a particular Fund, a Fund Strike Price equal to 95% of the closing price of one share of that Fund on the pricing date, *divided* by the Share Adjustment Factor for that Fund (*i.e.*, the Initial Share Price), will be used to calculate the Underlying Return for that Fund.

We refer to each of the Index Strike Level for each Index and the Fund Strike Price for each Fund as an “**Underlying Strike Level.**”

Unless otherwise specified in the relevant terms supplement, with respect to each Index, the “**Ending Index Level**” is the closing level of that Index on the Observation Date or such other date as specified in the relevant terms supplement, or the arithmetic average of the closing levels of that Index on each of the Ending Averaging Dates, if so specified in the relevant terms supplement.

Unless otherwise specified in the relevant terms supplement, with respect to each Fund, the “**Final Share Price**” is the closing price of one share of that Fund on the Observation Date or such other date as specified in the relevant terms supplement, or the arithmetic average of the closing prices of one share of that Fund on each of the Ending Averaging Dates, if so specified in the relevant terms supplement. Notwithstanding the foregoing, if the relevant terms supplement specifies that the Final Share Price of a Fund will be determined based on the arithmetic average of the closing prices of one share of that Fund on each of the Ending Averaging Dates and an adjustment to the Share Adjustment Factor for that Fund would have become effective in accordance with “General Terms of Notes — Anti-Dilution Adjustments” after the first Ending Averaging Date but on or prior to the final Ending Averaging Date, then the closing price of one share of that Fund on each Ending Averaging Date occurring prior to the applicable Adjustment Effective Date to be used to determine the applicable Final Share Price will be deemed to equal that closing price, *divided* by the Share Adjustment Factor for that Fund, as adjusted (assuming that the Share Adjustment Factor prior to the applicable adjustment is equal to 1.0). See “General Terms of Notes — Anti-Dilution Adjustments.”

We refer to each of the Ending Index Level for each Index and the Final Share Price for each Fund as an “**Ending Underlying Level.**”

Unless otherwise specified in the relevant terms supplement, with respect to each Underlying, the “**Underlying Return,**” as calculated by the calculation agent, is the percentage change in the closing level or closing price, as applicable, of that Underlying calculated by comparing the Ending Underlying Level of that Underlying to the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying. The relevant terms supplement will specify the Starting Underlying Level (or Underlying Strike Level, if applicable) of each Underlying and the manner in which the Ending Underlying Level of each Underlying is determined. The Underlying Return for each Index, unless otherwise specified in the relevant terms supplement, is calculated as follows:

$$\text{Underlying Return} = \frac{\text{Ending Underlying Level} - \text{Starting Underlying Level (or Underlying Strike Level, if applicable)}}{\text{Starting Underlying Level (or Underlying Strike Level, if applicable)}}$$

Unless otherwise specified in the relevant terms supplement, the “**closing level**” of each Index or any relevant successor index (as defined under “General Terms of Notes — Discontinuation of an Index; Alteration of Method of Calculation”) on any relevant day will equal the official closing level of that Index or that successor index, as applicable, published with respect to that day. In certain circumstances, the closing level of an Index or any relevant successor index will be based on the alternative calculation of that Index described under “— Postponement of a Determination Date” or “General Terms of Notes — Discontinuation of an Index; Alteration of Method of Calculation.”

Unless otherwise specified in the relevant terms supplement, with respect to each Fund, the **"closing price"** of one share of that Fund (or any relevant successor fund (as defined under "General Terms of Notes — Discontinuation of a Fund; Alternate Calculation of Closing Price and Trading Price") or one unit of any other security for which a closing price must be determined) on any relevant day (as defined below) means:

- if that Fund (or that successor fund or other security) is listed or admitted to trading on a national securities exchange, the last reported sale price, regular way (or, in the case of The NASDAQ Stock Market, the official closing price) of the principal trading session on that day on the principal U.S. securities exchange registered under the Securities Exchange Act of 1934, as amended (the **"Exchange Act"**), on which that Fund (or that successor fund or other security) is listed or admitted to trading;
- if that Fund (or that successor fund or other security) is not listed or admitted to trading on any national securities exchange but is included in the OTC Bulletin Board Service (or any successor service) operated by the Financial Industry Regulatory Authority (the **"FINRA"**) (the **"OTC Bulletin Board"**), the last reported sale price of the principal trading session on the OTC Bulletin Board on that day; or
- if, because of a market disruption event (as defined under "General Terms of Notes — Market Disruption Events") or otherwise, the last reported sale price or official closing price, as applicable, for that Fund (or that successor fund or other security) is not available pursuant to the preceding bullet points, the mean, as determined by the calculation agent, of the bid prices for the shares of that Fund (or that successor fund or other security) obtained from as many recognized dealers in that Fund (or that successor fund or other security), but not exceeding three, as will make those bid prices available to the calculation agent. Bids of any of our affiliates may be included in the calculation of the mean, but only to the extent that any of those bids is not the highest or the lowest of the bids obtained,

in each case subject to the provisions of "— Postponement of a Determination Date" and "General Terms of Notes — Discontinuation of a Fund; Alternate Calculation of Closing Price and Trading Price."

Unless otherwise specified in the relevant terms supplement, the **"Index level"** of each Index or any relevant successor index at any time on any relevant day (including at the open and close of trading for the applicable Index) will equal the level at such time for that Index or that successor index, as applicable, as published on the applicable page of Bloomberg, L.P., which we refer to as **"Bloomberg,"** or any successor page, or the Bloomberg page or successor page for any successor index.

Unless otherwise specified in the relevant terms supplement, with respect to each Fund, the **"trading price"** of one share of the Fund (or any successor fund, as defined under "General Terms of Notes — Alternate Calculation of Closing Price and Trading Price") or one unit of any other security for which a trading price must be determined) at any time on any relevant day (as defined below) means:

- if that Fund (or that successor fund or other security) is listed or admitted to trading on a national securities exchange, the most recently reported sale price, regular way, at that time during the principal trading session on that day on the principal U.S. securities exchange registered under the Exchange Act on which that Fund (or that successor fund or other security) is listed or admitted to trading; or
- if that Fund (or that successor fund or other security) is not listed or admitted to trading on any national securities exchange but is included in the OTC Bulletin Board, the most recently reported sale price at that time during the principal trading session on the OTC Bulletin Board on that day;

in each case subject to the provisions of "General Terms of Notes — Alternate Calculation of Closing Price and Trading Price."

Unless otherwise specified in the relevant terms supplement or any relevant underlying supplement, a **“trading day”** is, with respect to each Index or any relevant successor index, a day, as determined by the calculation agent, on which trading is generally conducted on (i) the relevant exchanges (as defined below) for securities underlying that Index or successor index, if applicable, and (ii) the exchanges on which futures or options contracts related to that Index or successor index, if applicable, are traded.

Unless otherwise specified in the relevant terms supplement, with respect to each Fund or any relevant successor fund, a **“trading day”** is a day, as determined by the calculation agent, on which trading is generally conducted on (i) the relevant exchange (as defined below) for that Fund or successor fund, if applicable, and (ii) the exchanges on which futures or options contracts related to that Fund or successor fund, if applicable, are traded.

Unless otherwise specified in the relevant terms supplement or any relevant underlying supplement, **“relevant exchange”** means with respect to each Index or any relevant successor index, the primary exchange or market of trading for any security (or any combination thereof) then included in that Index or successor index, as applicable.

Unless otherwise specified in the relevant terms supplement, **“relevant exchange”** means (a) with respect to each Fund or any successor fund, the primary exchange or market of trading for the shares of that Fund or successor fund, as applicable, and (b) with respect to the applicable Underlying Index, if any, the primary exchange or market of trading for any security (or any combination thereof) then included in that Underlying Index.

The **“Initial Averaging Dates”** for each Underlying, if applicable, will be specified in the relevant terms supplement, and any such date is subject to adjustment as described under **“— Postponement of a Determination Date”** below.

The **“Valuation Date(s)”** for each Underlying, which will be either a single date, which we refer to as the Observation Date, or several dates, each of which we refer to as an Ending Averaging Date, will be specified in the relevant terms supplement, and any such date is subject to adjustment as described under **“— Postponement of a Determination Date”** below.

The **“maturity date”** will be specified in the relevant terms supplement and is subject to adjustment as described below. 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 the 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.”**

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 the applicable date or dates. We will give DTC irrevocable instructions and authority to pay the applicable amount to the holders of the notes entitled thereto.

Unless otherwise specified in the relevant terms supplement, a **“business day”** is 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.

The **“calculation agent”** is the agent appointed by us to make certain calculations for the notes, which initially will be J.P. Morgan Securities LLC (**“JPMS”**). See **“General Terms of Notes — Calculation Agent”** below. JPMS is our affiliate and may have interests adverse to yours. Please see **“Risk Factors — Risks Relating to the Notes Generally — We or our affiliates may have economic interests that are adverse to those of the holders of the notes due to JPMS’s role as calculation agent.”**

Subject to the foregoing and to applicable law (including, without limitation, U.S. federal laws), we or our affiliates may, at any time and from time to time, purchase outstanding notes by tender, in the open market or by private agreement.

Postponement of a Determination Date

If an Initial Averaging Date or Valuation Date (each, a “**Determination Date**”) is not a trading day for any Underlying or if there is a market disruption event for any Underlying on a Determination Date (any such day, a “**Disrupted Day**” and any Underlying affected by a Disrupted Day, a “**Disrupted Underlying**”), the applicable Determination Date will be postponed to the earliest day on which the closing level or closing price, as applicable, of each Underlying has been established, as described below:

- (a) for each Underlying that is not a Disrupted Underlying (an “**Unaffected Underlying**”), the closing level or closing price, as applicable, on the postponed Determination Date will be deemed to be the closing level or closing price, as applicable, on the originally scheduled Determination Date; and
- (b) for each Disrupted Underlying, the closing level or closing price, as applicable, on the postponed Determination Date will be deemed to be the closing level or closing price, as applicable, on the first business day immediately following the originally scheduled Determination Date that is not a Disrupted Day for that Disrupted Underlying.

Accordingly, if a Determination Date is postponed as described above, the calculation agent may reference the closing levels or closing prices, as applicable, of the Underlyings from different business days when making any determinations with respect to that Determination Date, as postponed.

For example, assume that the notes are linked to the least performing of three Underlyings, Index A, Fund B and Fund C, and that:

- (a) Business Day 1, a scheduled Determination Date, is not a Disrupted Day for Index A but is a Disrupted Day for Funds B and C;
- (b) Business Day 2 is not a Disrupted Day for Fund B but is a Disrupted Day for Fund C; and
- (c) Business Day 3 is not a Disrupted Day for Fund C.

Under these circumstances, the Determination Date originally scheduled to occur on Business Day 1 would be postponed to Business Day 3 and, with respect to that Determination Date, as postponed, the closing levels or closing prices, as applicable, would be deemed to be (a) for Index A, the closing level on Business Day 1; (b) for Fund B, the closing price on Business Day 2 and (c) for Fund C, the closing price on Business Day 3.

In no event, however, will any Determination Date be postponed to a date that is after the tenth business day after that Determination Date, as originally scheduled (the “**Final Disrupted Determination Date**”). If a Determination Date is or has been postponed to the Final Disrupted Determination Date and on that day, the closing level or closing price, as applicable, for any Disrupted Underlying has not been established in accordance with the first paragraph above (a “**Final Disrupted Underlying**”), the closing level or closing price, as applicable, for that Determination Date will be determined by the calculation agent on the Final Disrupted Determination Date and will be deemed to be:

- (a) for each Unaffected Underlying, the closing level or closing price, as applicable, on the originally scheduled Determination Date;

- (b) for each Disrupted Underlying that is not a Final Disrupted Underlying, the closing level or closing price, as applicable, determined in the manner described in the first paragraph above;
- (c) for each Final Disrupted Underlying that is an Index, unless otherwise specified in the relevant terms supplement or any relevant underlying supplement, the closing level of that Index determined by the calculation agent in accordance with the formula for and method of calculating that closing level last in effect prior to the commencement of the market disruption event (or prior to the non-trading day), using the closing price (or, if trading in the relevant securities has been materially suspended or materially limited, the calculation agent's good faith estimate of the closing price that would have prevailed but for that suspension or limitation or non-trading day) on the Final Disrupted Determination Date of each security most recently constituting the Index; or
- (d) for each Final Disrupted Underlying that is a Fund, the closing price of one share of that Fund determined by the calculation agent in good faith based on the calculation agent's assessment of the market value of one share of that Fund on the Final Disrupted Determination Date.

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. Investing in the notes is not equivalent to investing (or taking a short position) directly in any Underlying, the equity securities composing any Underlying or the commodities or commodity futures contracts underlying any Fund. 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 differ from conventional securities and do not pay interest or guarantee the return of your investment.

The notes differ from conventional securities and do not pay interest and may not return any of your investment. The amount payable at maturity will be determined pursuant to the terms described in this product supplement no. 22-1 and the relevant terms supplement. If a Knock-Out Event has occurred and the Ending Underlying Level of any Underlying is less than the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying, you will most likely lose some or all of your initial investment at maturity. A Knock-Out Event occurs if the closing level or closing price, as applicable (in the case of daily monitoring), Index level or trading price, as applicable (in the case of continuous monitoring) during the Monitoring Period or the Ending Underlying Level (in the case of single observation monitoring) of each Underlying is less than the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying by more than the Buffer Amount.

The opportunity to receive the High Digital Return and the benefit provided by the Buffer Amount may terminate on any day during the term of the notes (in the case of continuous or daily monitoring) or on the final Valuation Date (in the case of single observation monitoring).

If a Knock-Out Event has occurred, you will not receive the High Digital Return, and you will be fully exposed to any depreciation in the Least Performing Underlying. We refer to this feature as a contingent buffer. Under these circumstances, and if the Ending Underlying Level of any Underlying is less than the Starting Underlying Level (or Underlying Strike Level, if applicable) for that Underlying, at maturity you will most likely lose some or all of your initial investment at maturity.

For notes with continuous or daily monitoring, you will lose the opportunity to receive the High Digital Return and will be subject to this potential loss of principal even if the relevant Underlying subsequently recovers such that the closing level or closing price, as applicable (in the case of daily monitoring), or Index level or trading price, as applicable (in the case of continuous monitoring), of that Underlying is greater than the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying or less than the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying by less than the Buffer Amount. If these notes had a non-contingent buffer feature, under the same scenario, you would have received the full principal amount of your notes plus a return on your investment equal to the High Digital Return. As a result, your investment in the notes may not perform as well as an investment in a security with a return that includes a non-contingent buffer.

Because you will not benefit from any appreciation in any Underlying above the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying, you will not receive a payment at maturity with a value greater than your principal amount plus a return equal to the High Digital Return.

At maturity, you will receive a payment with a value no greater than the principal amount of your notes plus a return equal to the High Digital Return, regardless of any appreciation in the value of any Underlying, which may be significant. Even if a Knock-Out Event has not occurred and the Ending Underlying Level of each Underlying exceeds the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying, you will receive only the principal amount of your notes at maturity plus a return equal to the High Digital Return.

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, 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. If we were to default on our payment obligations, you may not receive any amounts owed to you under the notes and you could lose your entire investment.

You are exposed to the risk of decline in the value of each Underlying.

Your return on the notes and your payment at maturity, if any, is not linked to a basket consisting of the Underlyings. Rather, your payment at maturity will be contingent upon the performance of each individual Underlying. Unlike an instrument with a return linked to a basket of underlying assets, in which risk is mitigated and diversified among all the components of the basket, you will be exposed equally to the risks related to *all* of the Underlyings. Poor performance by any one of the Underlyings over the term of the notes may negatively affect your payment at maturity and will not be offset or mitigated by a positive performance by any or all of the other Underlyings. Accordingly, your investment is subject to the risk of each Underlying.

You cannot predict the future performance of an Underlying based on its historical performance. The value of an Underlying may decline by more than its Buffer Amount during the Monitoring Period, if applicable, or on the final Valuation Date even though that Underlying has not experienced such a decrease in the past.

Our offering of the notes does not constitute an expression of our view about, or a recommendation of, any Underlying, the equity securities composing any Underlying or the commodities or commodity futures contracts underlying any Fund.

You should not take our offering of the notes as an expression of our views about how any Underlying, the equity securities composing any Underlying or the commodities or commodity futures contracts underlying any Fund will perform in the future or as a recommendation to invest (directly or indirectly, by taking a long or short position) in any Underlying, the equity securities composing any Underlying or the commodities or commodity futures contracts underlying any Fund, including through an investment in the notes. As a global financial institution, we and our affiliates may, and often do, have positions (long, short or both) in one or more Underlyings, the equity securities composing one or more Underlyings or the commodities or commodity futures contracts underlying one or more Funds that conflict with an investment in the notes. See "— We or our affiliates may have economic interests that are adverse to those of the holders of the notes as a result of our hedging and other trading activities" below and "Use of Proceeds and Hedging" in this product supplement for some examples of potential conflicting positions we may have. You should undertake an independent determination of whether an investment in the notes is suitable for you in light of your specific investment objectives, risk tolerance and financial resources.

We or our affiliates may have economic interests that are adverse to those of the holders of the notes as a result of our hedging and other trading activities.

In anticipation of the sale of the notes, we expect to hedge our obligations under the notes through certain affiliates or unaffiliated counterparties by taking positions in instruments the value of which is derived from one or more Underlyings, the equity securities composing one or more Underlyings or the commodities or commodity futures contracts underlying one or more Funds. We may also adjust our hedge by, among other things, purchasing or selling instruments the value of which is derived from one or more Underlyings, the equity securities composing one or more Underlyings or the commodities or commodity futures contracts underlying one or more Funds at any

time and from time to time, and close out or unwind our hedge by selling any of the foregoing on or before any Determination Date. We cannot give you any assurances that our hedging will not negatively affect the value of the Underlyings or the performance of the notes. See "Use of Proceeds and Hedging" below for additional information about our hedging activities.

This hedging activity may present a conflict of interest between your interest as a holder of the notes and the interests our affiliates have in executing, maintaining and adjusting hedge transactions. These hedging activities could also affect the price at which JPMS is willing to purchase your notes in the secondary market.

Our hedging counterparties expect to make a profit. Because hedging our obligations entails risk and may be influenced by market forces beyond our control, this hedging may result in a profit that is more or less than expected, or it may result in a loss.

JPMS and other affiliates of ours also trade the Funds, the equity securities composing the Underlyings, the commodities or commodity futures contracts underlying the Funds and other financial instruments related to the Underlyings, the equity securities composing the Underlyings and the commodities or commodity futures contracts underlying the Funds on a regular basis (taking long or short positions or both), for their accounts, for other accounts under their management and to facilitate transactions, including block transactions, on behalf of customers. While we cannot predict an outcome, any of these hedging activities or other trading activities of ours could potentially increase the level or price of one or more of the Underlyings as well as their respective Starting Underlying Levels, and, therefore, effectively establish higher levels or prices that the Underlyings must achieve for you to receive the High Digital Return or to avoid a loss of principal at maturity.

It is possible that these hedging or trading activities could result in substantial returns for us or our affiliates while the value of the notes declines.

We or our affiliates may have economic interests that are adverse to those of the holders of the notes as a result of our business activities.

We or our affiliates may currently or from time to time engage in business with the companies the equity securities of which are included in an Underlying or included in a relevant Underlying Index (the "**underlying companies**"), including extending loans to, making equity investments in or providing advisory services to the underlying companies, including merger and acquisition advisory services. In the course of this business, we or our affiliates may acquire nonpublic information about the underlying companies, and we will not disclose any such information to you. In addition, we or one or more of our affiliates may publish research reports or otherwise express views about the underlying companies. Any prospective purchaser of notes should undertake an independent investigation of each of the underlying companies as in its judgment is appropriate to make an informed decision with respect to an investment in the notes. We do not make any representation or warranty to any purchaser of notes with respect to any matters whatsoever relating to our business with the underlying companies.

Additionally, we or one of our affiliates may serve as issuer, agent or underwriter for issuances of other securities or financial instruments with returns linked or related to changes in the level or price, as applicable, of an Underlying, the equity securities composing an Underlying and the commodities or commodity futures contracts underlying a Fund. To the extent that we or one of our affiliates serves as issuer, agent or underwriter for these securities or financial instruments, our or their interests with respect to these securities or financial instruments may be adverse to those of the holders of the notes. 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 or one of our affiliates may currently or from time to time engage in trading activities related to the currencies in which the equity securities composing a foreign Underlying are denominated. If currency exchange rate calculations are involved in the calculation of the closing levels or net asset

values, as applicable, of an Underlying, these trading activities could potentially affect the exchange rates with respect to the currencies in which the equity securities composing that foreign Underlying are denominated, the closing levels or closing prices, as applicable, of that foreign Underlying and, accordingly, the value of the notes. A “**foreign Underlying**” is one that is composed primarily of securities issues by non-U.S. companies.

In the course of our or our affiliates’ currency trading activities, we or our affiliates may acquire material nonpublic information with respect to currency exchange rates, and we will not disclose any such information to you. In addition, one or more of our affiliates may produce and/or publish research reports, or otherwise express views, with respect to expected movements in currency exchange rates. We do not make any representation or warranty to any purchaser of notes with respect to any matters whatsoever relating to future currency exchange rate movements and, if the notes are linked to a foreign Underlying, any prospective purchaser of the notes should undertake an independent investigation of the currencies in which equity securities composing a foreign Underlying are denominated and their related exchange rates as, in its judgment, is appropriate to make an informed decision with respect to an investment in the notes.

We or our affiliates may have economic interests that are adverse to those of the holders of the notes due to JPMS’s role as calculation agent.

JPMS, one of our affiliates, will act as the calculation agent. The calculation agent will determine, among other things, each Starting Underlying Level (or Underlying Strike Level, if applicable), each Ending Underlying Level, each Underlying Return, each Buffer Amount, the payment at maturity, if any, on the notes, any closing level or closing price of any Underlying, any Index level or trading price of any Underlying, if applicable, whether a Knock-Out Event has occurred and each Share Adjustment Factor. The calculation agent will also determine, among other things:

- whether there has been a market disruption event with respect to an Underlying;
- adjustments to any Share Adjustment Factor;
- whether an Index has been discontinued, whether the method of calculating an Index has changed in a material respect or whether an Index has been otherwise modified so that it does not, in the opinion of the calculation agent, fairly represent the level of that Index had those changes or modifications not been made and, if applicable, which index to select as a successor index; and
- whether a Fund has been delisted, liquidated or otherwise terminated, whether a Fund or its Underlying Index, if applicable, has been changed in a material respect or a Fund or its Underlying Index, if applicable, has been otherwise modified so that it does not, in the opinion of the calculation agent, fairly represent the price of that Fund had those changes or modifications not been made and, if applicable, which exchange-traded fund to select as a successor fund.

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 calculation agent, is entitled to exercise discretion.

In certain circumstances, your payment at maturity will be determined by the Underlying with the worst performance on the Observation Date or Ending Averaging Dates, as applicable.

If a Knock-Out Event has occurred and the Ending Underlying Level of any Underlying is less than the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying, your return on the notes will be determined by the Underlying with the worst performance on the Observation Date or Ending Averaging dates, as applicable, and the notes may not return any of your investment in excess of the Low Digital Return.

For example, for notes linked to two Underlyings, even if the Ending Underlying Level of one Underlying is greater than or equal to the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying, if the Ending Underlying Level of the other Underlying (in this example, the Lesser Performing Underlying) is less than the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying and a Knock-Out Event has occurred, you will most likely lose some or all of your initial investment at maturity.

If a Knock-Out Event has occurred, your payment at maturity may be determined by the Least Performing Underlying even if the Least Performing Underlying did not cause the occurrence of the Knock-Out Event. For example, assuming the notes are linked to two Underlyings, continuous monitoring or daily monitoring applies and the relevant terms supplement specifies that the Buffer Amount for each Underlying is equal to 30% of the Starting Underlying Level of each Underlying, if a Knock-Out Event has occurred with respect to Underlying A and Underlying A subsequently increases in value so that its Ending Underlying Level exceeds or is equal to its Starting Underlying Level, your payment at maturity will not necessarily be based on the performance of Underlying A. Instead, if the Underlying Return of Underlying B is -20%, and the Underlying Return of Underlying A is -10%, your payment at maturity will be based on the performance of Underlying B, which is the Least Performing Underlying. Under these circumstances, assuming that the Low Digital Return is 0%, your payment at maturity will be equal to \$800 for each \$1,000 principal amount note even though the value of Underlying B did not decline below its Buffer Amount at any time during the Monitoring Period.

If the notes are linked to an Index that is not a total return index or to a Fund, your return on the notes will not reflect dividends on the equity securities included in that Index or held by that Fund.

If the notes are linked to an Index that is not a total return index or to a Fund, your return on the notes will not reflect the return you would realize if you actually owned the equity securities included in any Index that is not a total return index or held by any Fund, if applicable, and received the dividends paid on those equity securities. This is because the calculation agent will calculate the amount payable to you at maturity of the notes by reference to the Ending Underlying Level of the Least Performing Underlying on the Valuation Date(s) and, in the case of continuous monitoring or daily monitoring, the performance of the Underlyings during the Monitoring Period. The Ending Underlying Level of each Underlying reflects the prices of the equity securities included in or held by that Underlying, if applicable, on the Valuation Date(s) without taking into consideration the value of dividends paid on those equity securities.

The Ending Underlying Level for each Underlying may be less than the closing level or closing price, as applicable, for that Underlying at the maturity date of the notes or at other times during the term of the notes.

Because the Ending Underlying Level for each Underlying is calculated based on the closing level or closing price, as applicable, of that Underlying on one or more Valuation Dates during the term of the notes, the closing level or closing price, as applicable, of each Underlying at the maturity date or at other times during the term of the notes, including dates near the Valuation Date(s), could be higher than the Ending Underlying Level for that Underlying. This difference could be particularly large if there is a significant increase in the closing levels or closing prices, as applicable, of one or more of the Underlyings after the final Valuation Date, if there is a significant decrease in the closing levels or closing prices, as applicable, of one or more of the Underlyings around the time of the Valuation Date(s) or if there is significant volatility in the closing levels or closing prices, as applicable, of one or more of the Underlyings during the term of the notes (especially on dates near the Valuation Date(s)). For example, when the Valuation Date for one or more of the Underlyings is near the end of the term of the notes, then if the closing level or closing price, as applicable, for an Underlying increases or remains relatively constant during the initial term of the notes and then decreases below the Starting Underlying Level (or Underlying Strike Level, if applicable) for that Underlying, the Ending Underlying Level may be significantly less than if it were calculated on a date earlier than the Valuation Date. Under these circumstances, you may receive a lower payment at maturity than you would have received if you had invested in one or more of the Underlyings or any of the equity securities, commodities or commodity futures contracts, as applicable, included in or held by the Underlyings for which there is an active secondary market.

The Starting Underlying Level for each Underlying may be determined after the issue date of the notes.

If so specified in the relevant terms supplement, the Starting Underlying Level for each Underlying will be determined based on the arithmetic average of the closing levels or closing prices, as applicable, of that Underlying on the Initial Averaging Dates specified in that relevant terms supplement. One or more of the Initial Averaging Dates specified may occur on or following the issue date of the notes; as a result, the Starting Underlying Level for each Underlying may not be determined, and you may therefore not know that value, until after the issue date. Similarly, the global note certificate constituting the notes, which will be deposited with DTC on the issue date as described under “General Terms of Notes — Book-Entry Only Issuance — The Depository Trust Company,” will not set forth the Starting Underlying Level for the applicable Underlying. The Starting Underlying Levels for the Underlyings will be used in the calculation of the Underlying Returns for the various Underlyings and the payment at maturity, if any. If there are any increases in the closing levels or closing prices, as applicable, for the Underlyings on the Initial Averaging Dates that occur after the issue date and those increases result in the Starting Underlying Levels for one or more of the Underlyings being higher than the closing level or closing price of such Underlying(s) on the issue date, this may establish higher levels that the Underlyings must achieve for you to avoid a loss of principal at maturity.

The notes are designed to be held to maturity.

The notes are not designed to be short-term trading instruments. The price at which you will be able to sell your notes to us or our affiliates prior to maturity, if at all, may be at a substantial discount from the principal amount of the notes, even in cases where one or more of the Underlyings have appreciated since the pricing date. The potential returns described in the relevant terms supplement assume that your notes are held to maturity unless redeemed prior to maturity.

Secondary trading may be limited.

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

JPMS may act as a market maker for the notes, but is not required to do so. Because we do not expect that other market makers will participate significantly in the secondary market for the notes, the price at which you may be able to trade your notes is likely to depend on the price, if any, at which JPMS is willing to buy the notes. If at any time JPMS or another agent does not act as a market maker, it is likely that there would be little or no secondary market for the notes.

The inclusion in the original issue price of each agent’s commission and the estimated cost of hedging our obligations under the notes is likely to affect adversely the value of the notes prior to maturity.

While the payment at maturity, if any, will be based on the full principal amount of your notes as described in the relevant terms supplement, the original issue price of the notes includes each agent’s commission and the estimated cost of hedging our obligations under the notes. An agent’s commission or the estimated cost (see “Use of Proceeds and Hedging”) includes the profit our affiliates expect to realize in consideration for assuming the risks inherent in providing such hedge. As a result, assuming no change in market conditions or any other relevant factors, the price, if any, at which JPMS will be willing to purchase notes from you in secondary market transactions, if at all, will likely be lower than the original issue price. In addition, any of those prices may differ from values determined by pricing models used by JPMS, as a result of this compensation or other transaction costs.

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 or price of each Underlying 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 any Underlying. 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:

- whether a Knock-Out Event has occurred or is expected to occur;
- the actual and expected frequency and magnitude of changes in each Underlying (*i.e.* volatility);
- the time to maturity of the notes;
- the dividend rates on a Fund or the equity securities composing an Underlying (while not paid to holders of the notes, dividend payments on the equity securities composing an Underlying may influence the value of that Underlying and the market value of options on that Underlying and therefore affect the market value of the notes), if applicable;
- the market price of the commodities or commodity futures contracts underlying a Fund, if applicable;
- supply and demand trends and market prices at any time for the commodities upon which the futures contracts that compose any Underlying or the exchange-traded futures contracts on those commodities, if applicable;
- the occurrence of certain events to a Fund that may or may not require an adjustment to the Share Adjustment Factor (as defined herein);
- interest and yield rates in the market generally as well as in each of the markets of the equity securities composing each Underlying;
- economic, financial, political, regulatory, geographical, agricultural, meteorological and judicial events that affect the equity securities composing each Underlying or stock markets generally and the commodities or commodity futures contracts underlying a Fund or commodity markets generally, if applicable, and which may affect the closing level or closing price of any Underlying on any Determination Date and the Underlying Return for each Underlying;
- if an Index is composed of primarily foreign equity securities (which we refer to as a foreign Index) or a Fund holds primarily foreign equity securities (which we refer to as a foreign Fund and together with a foreign Index each as a foreign Underlying), the exchange rates and the volatility of the exchange rates between the U.S. dollar and the currencies in which the stocks composing that foreign Underlying are traded, and the correlation between those rates and the levels or prices, as the case may be, of that foreign Underlying; 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 Underlyings based on their historical performance. While it is possible that the notes could trade above their principal amount prior to maturity, the likelihood of such an increase is limited by market factors and the fact that the amount payable at maturity will not exceed 100% of the principal amount of the notes. Even if the notes did trade above their principal amount prior to maturity, the only way

to realize such a market premium would be to sell your notes in a secondary market transaction, if such transaction were available. **Moreover, if you sell your notes prior to maturity, you may have to sell them at a substantial discount from their principal amount if the closing level or closing price (in the case of daily monitoring or single observation monitoring) or Index level or trading price (in the case of continuous monitoring) of one or more of the Underlyings is at, below or not sufficiently above the Starting Underlying Level (or Underlying Strike Level, if applicable) of that Underlying.**

If the level or price, as applicable, of an Underlying changes, the market value of your notes may not change in the same manner.

Owning the notes is not the same as owning any Fund or the equity securities included in any Index. Accordingly, changes in the level or price, as applicable, of an Underlying may not result in a comparable change in the market value of the notes. If the level or price, as applicable, of an Underlying on any day is greater than its Starting Underlying Level, the value of the notes may not increase comparably, if at all. It is also possible for the level or price, as applicable, of an Underlying to increase moderately while the value of the notes declines.

When the closing level or closing price, as applicable (in the case of daily monitoring) or Index level or trading price, as applicable (in the case of continuous monitoring) of an Underlying on any trading day is less than its Starting Underlying Level by close to the Buffer Amount for the first time, the price of the notes will likely decline at a greater rate than the level or price, as applicable, of the Underlying. During the Monitoring Period, if the closing level or closing price, as applicable (in the case of daily monitoring) or Index level or trading price, as applicable (in the case of continuous monitoring) of an Underlying is less than its Starting Underlying Value by an amount that is close to or more than the Buffer Amount, we expect the market value of the notes to decline to reflect, among a number of other factors, that your payment at maturity is more likely to be less than the principal amount of your notes.

You will have no shareholder rights in issuers of equity securities, if any, that are included in or held by any Underlying.

As a holder of the notes, you will not have voting rights or rights to receive dividends or other distributions or other rights that holders of the equity securities, if any, that are included in or held by any Underlying would have.

You will not have rights in the commodities or commodity futures contracts, if any, underlying any Fund.

As an owner of the notes, you will not have rights that holders of the commodities or commodity futures contracts, if any, underlying a Fund may have.

Market disruptions may adversely affect your return.

The calculation agent may, in its sole discretion, determine that the markets have been affected in a manner that prevents it from properly determining the closing level or closing price, as applicable, of an Underlying on a Determination Date, and consequently, calculating the Underlying Return of an Underlying and the amount, if any, that we will pay you at maturity. These events may include disruptions or suspensions of trading in the markets as a whole. If the 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 applicable Determination Date and the applicable payment date will be postponed and your return will be adversely affected. See "General Terms of Notes — Market Disruption Events." Moreover, if any Determination Date is postponed to the last possible day and the closing level or closing price, as applicable, of any Underlying is not available on that day because of a market disruption event or if such day is not a trading day, the calculation agent will nevertheless determine the closing level or closing price, as applicable, of that Underlying on that last possible day. See "Description of Notes — Postponement of a Determination Date" for more information.

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 treatment 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 treatment of the notes as open transactions that are not debt instruments, as described in "Material U.S. Federal Income Tax Consequences." If the IRS were successful in asserting an alternative treatment for the notes, the timing and/or character of income on the notes could be affected materially and adversely. 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 may 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 "Material U.S. Federal Income Tax Consequences" in this product supplement no. 22-1 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.

Historical performance of any Underlying should not be taken as an indication of the future performance of such Underlying during the terms of the notes.

The actual performance of any Underlying over the term of the notes, as well as the amount payable at maturity, may bear little relation to the historical performance of such Underlying. The closing price or closing level, as applicable, of any Underlying will be determined by the trading prices of the equity securities composing the relevant Index or the trading prices of the relevant Fund, as applicable. As a result, it is impossible to predict whether the value of any Underlying will rise or fall.

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 only acquire the notes 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 an Index

The sponsor of an Index (an "Index Sponsor") may adjust such Index in a way that affects its level, and the Index Sponsor has no obligation to consider your interests.

The applicable Index Sponsor is responsible for maintaining an Index. The Index Sponsor can add, delete or substitute the equity securities composing the applicable Index or make other methodological changes that could change the level of that Index. You should realize that the changing of equity securities included in an Index may affect that Index, as a newly added equity security may perform significantly better or worse than the equity security or securities it replaces. Additionally, the Index Sponsor may alter, discontinue or suspend calculation or dissemination of the

applicable Index. Any of these actions could adversely affect the value of the notes. The Index Sponsor of an Index has no obligation to consider your interests in calculating or revising the Index. See the relevant index description section in any related underlying supplement or the relevant terms supplement for additional information.

Unless otherwise specified in the relevant terms supplement or any related underlying supplement, to our knowledge, we are not currently affiliated with any other company the equity securities of which are included in an Index.

Unless otherwise specified in the relevant terms supplement or any related underlying supplement, to our knowledge, we are not currently affiliated with any issuers the equity securities of which are included in an Index. As a result, we will have no ability to control the actions of the issuers of those equity securities, including actions that could affect the value of the equity securities composing an Index or your notes. Unless otherwise specified in the relevant terms supplement or any relevant underlying supplement, none of the money you pay us will go to any Index Sponsor or any of the issuers of the equity securities included in any Index, and none of those issuers will be involved in the offering of the notes in any way. Neither those issuers nor we will have any obligation to consider your interests as a holder of the notes in taking any corporate actions that might affect the value of your notes. See any related underlying supplement or the relevant terms supplement for additional information about whether we are one of the companies included in an Index.

In the event we become affiliated with any issuer of equity securities that are included in an Index, we will have no obligation to consider your interests as a holder of the notes in taking any action with respect to such issuer that might affect the value of your notes.

For notes linked in whole or in part to a foreign Index, the notes will be subject to risks associated with foreign Underlyings.

For notes linked in whole or in part to a foreign Index, the notes will be subject to risks associated with foreign Underlyings. See “— Risks Relating to a Foreign Underlying” below.

Risks Relating to a Fund

The policies of the investment adviser or commodity pool operator, as applicable, for a Fund, and the sponsor of its Underlying Index, if applicable, could affect the value and the amount payable on the notes.

The policies of the investment adviser or commodity pool operator, as applicable, for a Fund concerning the calculation of the Fund’s net asset value; additions, deletions or substitutions of equity securities, commodities or commodity futures contracts underlying the Fund; substitutions of its Underlying Index, if applicable; and manner in which changes affecting an Underlying Index, if applicable, are reflected in the Fund, could affect the market price of the shares of such Fund and, therefore, affect the amount payable on the notes at maturity, if any, and the value of the notes before maturity. The amount payable on the notes and their value could also be affected if the investment adviser or commodity pool operator, as applicable, changes these policies, for example, by changing the manner in which it calculates the Fund’s net asset value, or if the investment adviser or commodity pool operator, as applicable, discontinues or suspends calculation or publication of the Fund’s net asset value, in which case it may become difficult to determine the value of the notes.

In addition, the sponsor of an Underlying Index, if applicable, is responsible for the design and maintenance of the Underlying Index. The policies of the sponsor concerning the calculation of the Underlying Index, including decisions regarding the addition, deletion or substitution of the equity securities, commodities or commodity futures contracts included in the Underlying Index, if applicable, could affect the value of the Underlying Index and, consequently, the market prices of the shares of the Fund and, therefore, the amount payable on the notes at maturity and the value of the notes before maturity.

There are risks associated with a Fund.

A Fund may have a limited operating history. Although the shares of a Fund may be listed for trading on NYSE Arca, Inc. (“NYSE Arca”) and a number of similar products have been traded on NYSE Arca or other securities exchanges for varying periods of time, there is no assurance that an active trading market will continue for the shares of any Fund or that there will be liquidity in the trading market.

In addition, a Fund is subject to management risk, which is the risk that the applicable investment adviser’s investment strategy, the implementation of which is subject to a number of constraints, may not produce the intended results. These constraints could adversely affect the market prices of the shares of a Fund and, consequently, the value of the notes. See any applicable Fund description in the relevant terms supplement or any relevant underlying supplement for additional information.

The anti-dilution protection is limited.

The calculation agent will make adjustments to the Share Adjustment Factor for a Fund, which will be set initially at 1.0 in each case, for certain events affecting the shares of such Fund. See “General Terms of Notes — Anti-Dilution Adjustments.” The calculation agent is not required, however, to make those adjustments in response to all events that could affect the shares of a Fund. If an event occurs that does not require the calculation agent to make an adjustment, the value of the notes may be materially and adversely affected.

For notes linked in whole or in part to a Fund that is designed to track an Underlying Index, the performance of the Fund may not correlate with the performance of its Underlying Index.

Unless otherwise specified in the relevant terms supplement or any relevant underlying supplement, a Fund that is designed to track an Underlying Index uses a representative sampling strategy or a replication or indexing strategy to attempt to track the performance of its Underlying Index. Pursuant to a representative sampling strategy, a Fund invests in a representative sample of equity securities that collectively has an investment profile similar to its Underlying Index; however, a Fund may not hold all or substantially all of the equity securities, commodities or commodity futures contracts included in its Underlying Index. Even if a Fund uses a replication or indexing strategy, the Fund may not hold all of the equity securities, commodities or commodity futures contracts included in its Underlying Index. Therefore, while the performance of a Fund is linked principally to the performance of its Underlying Index, its performance is also generally linked in part to assets other than the equity securities, commodities or commodity futures contracts included in its Underlying Index because, unless otherwise specified in the relevant terms supplement, its investment adviser generally may invest a portion of a Fund’s assets in equity securities not included in the Underlying Index and in other assets, including potentially shares of money market funds affiliated with or advised by the investment adviser.

In addition, the performance of a Fund will reflect additional transaction costs and fees that are not included in the calculation of its Underlying Index. Also, the component equity securities, commodities or commodity futures contracts of a Fund may be unavailable in the secondary market due to other extraordinary circumstances. Corporate actions with respect to any equity securities (such as mergers and spin-offs) also may impact the variance between a Fund and its Underlying Index. Finally, because the shares of a Fund may be traded on NYSE Arca and may be subject to market supply and investor demand, the market value of one share of a Fund may differ from the net asset value per share of the Fund.

For all of the foregoing reasons, the performance of a Fund that is designed to track an Underlying Index may not correlate with the performance of its Underlying Index. Consequently, the return on the notes will not be the same as investing directly in any Fund or any relevant Underlying Index or in the equity securities, commodities or commodity futures contracts held by any Fund or included in any relevant Underlying Index, and will not be the same as investing in a debt security with a payment at maturity linked to the performance of any relevant Underlying Index.

For notes linked in whole or in part to a foreign Fund, the notes will be subject to risks associated with foreign Underlyings.

For notes linked in whole or in part to a foreign Fund, the notes will be subject to risks associated with foreign Underlyings. See “— Risks Relating to a Foreign Underlying” below.

For notes linked in whole or in part to a Commodity Fund, the notes will be subject to risks associated with Commodity Funds.

For notes linked in whole or in part to a Commodity Fund, the notes will be subject to risks associated with Commodity Funds. See “— Risks Relating to a Commodity Fund” below.

Risks Relating to a Foreign Underlying

For notes linked to a foreign Underlying, if the prices of its component non-U.S. equity securities are not converted into U.S. dollars for purposes of calculating the value of the foreign Underlying, the amount payable on the notes at maturity will not be adjusted for changes in exchange rates that might affect the foreign Underlying.

Because the prices of the non-U.S. equity securities composing the applicable foreign Underlying are not converted into U.S. dollars for purposes of calculating the value of that Underlying and although the non-U.S. equity securities composing that Underlying are traded in currencies other than U.S. dollars, and the notes, which are linked in part to that Underlying, are denominated in U.S. dollars, the amount payable on the notes at maturity, if any, will not be adjusted for changes in the exchange rate between the U.S. dollar and each of the currencies in which the non-U.S. equity securities composing that Underlying are denominated. Changes in exchange rates, however, may reflect changes in various non-U.S. economies that in turn may affect the payment on the notes. The amount we pay in respect of the notes on the maturity date, if any, will be determined solely in accordance with the procedures described in “Description of Notes — Payment at Maturity.”

For notes linked to a foreign Underlying, if the prices of its component non-U.S. equity securities are converted into U.S. dollars for purposes of calculating the value of that Underlying, the notes will be subject to currency exchange risk.

Because the prices of the non-U.S. equity securities composing the applicable foreign Underlying are converted into U.S. dollars for the purposes of calculating the value of that Underlying, the holders of the notes will be exposed to currency exchange rate risk with respect to each of the currencies in which the non-U.S. equity securities composing or held by that Underlying trade. An investor’s net exposure will depend on the extent to which such currencies strengthen or weaken against the U.S. dollar and the relative weight of the non-U.S. equity securities composing or held by that Underlying denominated in each applicable currency. If, taking into account the weighting, the U.S. dollar strengthens against those currencies, the value of that Underlying will be adversely affected and the payment at maturity of the notes may be reduced.

Of particular importance to potential currency exchange risk are:

- existing and expected rates of inflation;
- existing and expected interest rate levels;
- the balance of payments;
- political, civil or military unrest; and
- the extent of governmental surpluses or deficits in the component countries and the United States.

All of these factors are, in turn, sensitive to the monetary, fiscal and trade policies pursued by the governments of various component countries, the United States and other countries important to international trade and finance.

For notes linked in part to a foreign Underlying, if the prices of its component non-U.S. securities are converted into U.S. dollars for purposes of calculating the value of that Underlying, changes in the volatility of exchange rates, and the correlation between those rates and the values of the Underlying are likely to affect the market value of the notes.

The exchange rate between the U.S. dollar and each of the currencies in which the non-U.S. equity securities composing or held by the applicable foreign Underlying are denominated refers to a foreign exchange spot rate that measures the relative values of two currencies — the particular currency in which an equity security composing or held by that Underlying is denominated and the U.S. dollar. This exchange rate reflects the amount of the particular currency in which an equity security composing or held by an Underlying is denominated that can be purchased for one U.S. dollar and thus increases when the U.S. dollar appreciates relative to the particular currency in which that security is denominated. The volatility of the exchange rate between the U.S. dollar and each of the currencies in which the non-U.S. equity securities composing or held by an Underlying are denominated refers to the size and frequency of changes in that exchange rate.

Because the applicable foreign Underlying is calculated, in part, by converting the closing prices of the non-U.S. equity securities composing or held by that Underlying into U.S. dollars, the volatility of the exchange rate between the U.S. dollar and each of the currencies in which those non-U.S. equity securities are denominated could affect the market value of the notes.

The correlation of the exchange rate between the U.S. dollar and each of the currencies in which the non-U.S. equity securities held by a foreign Underlying are denominated and the value of that Underlying refers to the relationship between the percentage changes in that exchange rate and the percentage changes in the value of that Underlying. The direction of the correlation (whether positive or negative) and the extent of the correlation between the percentage changes in the exchange rate between the U.S. dollar and each of the currencies in which the non-U.S. equity securities composing or held by that foreign Underlying are denominated and the percentage changes in the value of that Underlying could affect the value of the notes.

For notes linked to a foreign Underlying, an investment in the notes is subject to risks associated with non-U.S. securities markets.

The equity securities that compose a foreign Underlying have been issued by non-U.S. companies. Investments in securities linked to the value of equity securities of non-U.S. issuers involve risks associated with the securities markets in those countries, including risks of volatility in those markets, governmental intervention in those markets and cross shareholdings in companies in certain countries. Also, there is generally less publicly available information about companies in some of these jurisdictions than about U.S. companies that are subject to the reporting requirements of the Securities and Exchange Commission (the “SEC”), and generally non-U.S. companies are subject to accounting, auditing and financial reporting standards and requirements and securities trading rules different from those applicable to U.S. reporting companies.

The prices of securities in non-U.S. markets may be affected by political, economic, financial and social factors in such markets, including changes in a country’s government, economic and fiscal policies, currency exchange laws or other laws or restrictions. Moreover, the economies of these countries may differ favorably or unfavorably from the economy of the United States in such respects as growth of gross national product, rate of inflation, capital reinvestment, resources and self-sufficiency. These countries may be subjected to different and, in some cases, more adverse economic environments.

The economies of emerging market countries in particular face several concerns, including relatively unstable governments that may present the risks of nationalization of businesses, restrictions on foreign ownership and prohibitions on the repatriation of assets, and which may have less protection of property rights than more developed countries. These economies may also be based on only a few industries, be highly vulnerable to changes in local and global trade conditions and may suffer from extreme and volatile debt burdens or inflation rates. In addition, local securities markets may trade a small number of securities and may be unable to respond effectively to increases in trading volume, potentially making prompt liquidation of holdings difficult or impossible at times. The risks of the economies of emerging market countries are relevant for notes linked to a foreign Underlying composed of securities traded in one or more emerging market countries.

Some or all of these factors may influence the level or price of a foreign Underlying. 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 a foreign Underlying based on its historical performance. The value of a foreign Underlying may decrease such that you may not receive any return of your investment. There can be no assurance that the level or price of a foreign Underlying will not decrease so that at maturity you will not lose some or all of your investment.

Risks Relating to a Commodity Fund

The commodity futures contracts underlying a Commodity Fund are subject to legal and regulatory regimes that may change in ways that could have a substantial adverse effect on the value of the notes.

Futures contracts and options on futures contracts markets, including the futures contracts underlying a Commodity Fund, are subject to extensive regulation and margin requirements. The Commodity Futures Trading Commission, commonly referred to as 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 non-U.S. governments have expressed concern regarding the disruptive effects of speculative trading in the commodity markets and the need to regulate the derivative markets in general. The effect on the value of the notes of any future regulatory change is impossible to predict, but could be substantial and adverse to the interests of noteholders.

Notably, with respect to agricultural and exempt commodities as defined in the Commodity Exchange Act (generally, physical commodities such as agricultural commodities, energy commodities and metals), the Dodd-Frank Act, which was enacted on July 21, 2010, requires 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 and other related derivatives, such as swaps, that are economically equivalent to those contracts. 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, which must be at least as stringent as the CFTC's where CFTC limits also apply.

Pursuant to the Dodd-Frank Act requirements, on October 18, 2011 the CFTC adopted final rules to establish position limits that will apply to any one of 28 futures and options contracts and that are traded on U.S. futures exchanges and to futures, options and swaps that are economically equivalent

to those contracts, as described in the rules. The limits will apply to a person's combined position across those related products. The limits cover a number of commodity futures contracts that may be held by a Commodity Fund, such as CBOT Soybeans, Soybean Meal and Wheat futures; ICE Futures US Cotton No. 2, Sugar No. 11 and Sugar No. 16 futures; NYMEX Light Sweet Crude Oil, NY Harbor No. 2 Heating Oil, NY Harbor Gasoline Blendstock and Henry Hub Natural Gas futures; and COMEX Gold, Silver and Copper futures and NYMEX Palladium and Platinum futures. The rules also narrow the existing exemption for hedge positions. The rules may interfere with our ability to enter into or maintain hedge positions to hedge our obligations under the notes.

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

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

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

The net proceeds to be received by us from the sale of the notes will not be used to purchase or sell any commodity futures contracts or options on futures contracts for your benefit. An investment in the notes thus neither constitutes an investment in futures contracts, options on futures contracts nor a collective investment vehicle that trades in these futures contracts (*i.e.*, the notes will not constitute a direct or indirect investment by you in the futures contracts), and you will not benefit from the regulatory protections of the CFTC. Among other things, this means that we are not registered with the CFTC as a futures commission merchant and you will not benefit from the CFTC's or any other non-U.S. regulatory authority's regulatory protections afforded to persons who trade in futures contracts on a regulated futures exchange through a registered futures commission merchant. For example, the price you pay to purchase notes will be used by us for our own purposes and will not be subject to customer funds segregation requirements provided to customers that trade futures on an exchange regulated by the CFTC.

Unlike an investment in the notes, an investment in a collective investment vehicle that invests in futures contracts on behalf of its participants may be subject to regulation as a commodity pool and its operator may be required to 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.

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

The commodity markets are subject to temporary distortions or other disruptions due to various factors, including lack of liquidity in the markets, the participation of speculators and government regulation and intervention. In addition, U.S. futures exchanges and some foreign exchanges have

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

An increase in the margin requirements for any commodity futures contracts underlying a Commodity Fund may adversely affect the value of the notes.

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

A Commodity Fund 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 a Commodity Fund that represents energy, it should be noted that due to the significant level of continuous consumption, limited reserves and oil cartel controls, energy commodities are subject to rapid price increases in the event of perceived or actual shortages. These factors (when combined or in isolation) may affect the price of futures contracts and, as a consequence, the price of a Commodity Fund and your payment at maturity.

Higher future prices of commodity futures contracts held by a Commodity Fund relative to their current prices may lead to a decrease in the payment at maturity on your notes.

A Commodity Fund holds, futures contracts on physical commodities. As the contracts underlying a Commodity Fund 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 price of a Commodity Fund and, accordingly, the amount payable at maturity.

Prices for the physical commodities upon which the futures contracts underlying a Commodity Fund 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 underlying a Commodity Fund 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 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 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 underlying a Commodity Fund 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 a Commodity Fund. It is not possible to predict the aggregate effect of all or any combination of these factors. A Commodity Fund each provide 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 relevant terms supplement or any relevant underlying supplement may provide additional risk factors relating to any relevant Commodity Fund.

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 commodity futures contracts to become extremely volatile and unpredictable. Also, sudden and dramatic changes in the futures market may occur, for example, upon a cessation of hostilities that may exist in countries producing energy commodities, the introduction of new or previously withheld supplies into the market or the introduction of substitute products or commodities. In particular, supplies of crude oil may increase or decrease depending on, among other factors, production decisions by the Organization of the Oil and Petroleum Exporting Countries ("OPEC") and other crude oil producers. Crude oil prices are determined with significant influence by OPEC, which has the capacity to influence oil prices worldwide because its members possess a significant portion of the world's oil supply. Crude oil prices are generally more volatile and 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 and the economic situation of the main consuming countries. Platinum is used in a variety of industries, primarily 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.

A separate underlying supplement or the relevant terms supplement may provide additional risk factors relating to any Underlying to which the notes are linked.

USE OF PROCEEDS AND HEDGING

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. The original issue price of the notes includes each agent's commissions (as shown on the cover page of the relevant terms supplement) paid with respect to the notes and the estimated cost of hedging our obligations under the notes. We may have hedged our obligations under the notes through certain affiliates or unaffiliated counterparties.

If so specified in the relevant terms supplement, each agent's commission will include the projected profit that our affiliates expect to realize in consideration for assuming the risks inherent in hedging our obligations under the notes. If the relevant terms supplement does not specify that such projected profit is included in each agent's commission, the original issue price of the notes will include the reimbursement of certain issuance costs and the estimated cost of hedging our obligations under the notes. Under these circumstances, the estimated cost of hedging will include the projected profit, which will not exceed \$50.00 per \$1,000 principal amount note. Because hedging our obligations entails risk and may be influenced by market forces beyond our control, this 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.

On or prior to the date of the relevant terms supplement, we, through our affiliates or others, expect to hedge some or all of our anticipated exposure in connection with the notes. In addition, from time to time after we issue the notes, we, through our affiliates or others, may enter into additional hedging transactions and close out or unwind those we have entered into, in connection with the notes and possibly in connection with our or our affiliates' exposure to one or more Underlyings, the equity securities composing one or more Underlying or the commodities or commodity futures contracts underlying one or more Funds. To accomplish this, we, through our affiliates or others, may take positions in one or more Underlyings, the equity securities composing one or more Underlying or the commodities or commodity futures contracts underlying one or more Funds, or instruments the value of which is derived from one or more Underlyings, the equity securities composing one or more Underlying or the commodities or commodity futures contracts underlying one or more Funds. From time to time, prior to maturity of the notes, we may pursue a dynamic hedging strategy that may involve taking long or short positions in the instruments described above.

While we cannot predict an outcome, any of these hedging activities or other trading activities of ours could potentially increase the level or price of one or more of the Underlyings as well as their respective Starting Underlying Levels, and, therefore, effectively establish higher levels or prices that the Underlyings must achieve for you to receive the High Digital Return or to avoid a loss of principal at maturity. It is possible that such hedging or trading activities could result in substantial returns for us or our affiliates while the value of the notes declines. See "Risk Factors — Risks Relating to the Notes Generally — We or our affiliates may have economic interests that are adverse to those of the holders of the notes as a result of our hedging and other trading activities" above.

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. We may hedge our exposure on the notes directly or we may aggregate this exposure with other positions taken by us and our affiliates with respect to our exposure to one or more Underlyings, the equity securities composing one or more Underlying or the commodities or commodity futures contracts underlying one or more Funds. No note holder will have any rights or interest in our hedging activity or any positions that we or any unaffiliated counterparties may take in connection with our hedging activity.

THE UNDERLYINGS

Indices and Funds

A separate underlying supplement or the relevant terms supplement will provide additional information relating to any Underlying to which the notes are linked.

Conflicts of Interest

See the relevant terms supplement, any relevant underlying supplement and “Risk Factors — Risks Relating to the Notes Generally — We or our affiliates may have economic interests that are adverse to those of the holders of the notes as a result of our business activities” for information about economic interests with respect to any Underlying that we or our affiliates make may have that are adverse to your interests.

Historical Performance of the Underlying

We will provide historical price or level information on any Underlying in the relevant terms supplement. You should not take any of those historical prices or levels as an indication of future performance. Neither we nor any of our affiliates makes any representation to you as to the performance of any Underlying.

GENERAL TERMS OF NOTES

Calculation Agent

J.P. Morgan Securities LLC, one of our affiliates, will act as the calculation agent. The calculation agent will determine, among other things, each Starting Underlying Level (or Underlying Strike Level, if applicable), each Ending Underlying Level, each Underlying Return, each Buffer Amount, the payment at maturity, if any, on the notes, any closing level or closing price of any Underlying, any Index level or trading price of any Underlying, if applicable, whether a Knock-Out Event has occurred and each Share Adjustment Factor. The calculation agent will also determine, among other things:

- whether there has been a market disruption event with respect to an Underlying;
- adjustments to any Share Adjustment Factor;
- whether an Index has been discontinued, whether the method of calculating an Index has changed in a material respect or whether an Index has been otherwise modified so that it does not, in the opinion of the calculation agent, fairly represent the level of that Index had those changes or modifications not been made and, if applicable, which index to select as a successor index; and
- whether a Fund has been delisted, liquidated or otherwise terminated, whether a Fund or its Underlying Index, if applicable, has been changed in a material respect or a Fund or its Underlying Index, if applicable, has been otherwise modified so that it does not, in the opinion of the calculation agent, fairly represent the price of that Fund had those changes or modifications not been made and, if applicable, which exchange-traded fund to select as a successor fund.

All determinations made by the calculation agent will be at the sole discretion of the 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 calculation agent from time to time after the date of the relevant terms supplement without your consent and without notifying you.

The 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, if any, at maturity on or prior to 11:00 a.m., New York City time, on the business day preceding the maturity date.

All calculations with respect to any Starting Underlying Level (or Underlying Strike Level, if applicable), Ending Underlying Level, Underlying Return, Buffer Amount, closing level or closing price of any Underlying, as applicable, or Index level or trading price of any Underlying, as applicable, will be rounded to the nearest one hundred-thousandth, with five one-millionths rounded upward (*e.g.*, 0.876545 would be rounded to 0.87655); all dollar amounts related to determination of any payment on the notes per \$1,000 principal amount note will be rounded to the nearest ten-thousandth, with five one hundred-thousandths rounded upward (*e.g.*, 0.76545 would be rounded up to 0.7655); 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 calculation agent from properly determining the closing level or closing price, as applicable, of an Underlying on a Determination Date, and consequently, calculating the Underlying Return of an Underlying and the amount, if any, that we will pay you at maturity. These events may include disruptions or suspensions of trading in the markets as a whole.

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

- the occurrence or existence of a suspension, absence or material limitation of trading of equity securities then constituting 20% or more of the level of that Index (or that successor index) on the relevant exchanges (as defined below) for those securities for more than two hours of trading during, or during the one-hour period preceding the close of, the principal trading session on that relevant exchange;
- a breakdown or failure in the price and trade reporting systems of any relevant exchange as a result of which the reported trading prices for equity securities then constituting 20% or more of the level of that Index (or that successor index) during the one hour preceding the close of the principal trading session on that relevant exchange are materially inaccurate;
- the occurrence or existence of a suspension, absence or material limitation of trading on the primary exchange or market for trading in futures or options contracts related to that Index (or that successor index) for more than two hours of trading during, or during the one-hour period preceding the close of, the principal trading session on that exchange or market; or
- a decision to permanently discontinue trading in those related futures or options contracts,

in each case, as determined by the calculation agent in its sole discretion; and

- a determination by the 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.

For purposes of determining whether a market disruption event with respect to an Index (or the relevant successor index) exists at any time, if trading in a security included in that Index (or that successor index) is materially suspended or materially limited at that time, then the relevant percentage contribution of that security to the level of that Index (or that successor index) will be based on a comparison of:

- the portion of the level of that Index (or that successor index) attributable to that security relative to
- the overall level of that Index (or that successor index),

in each case immediately before that suspension or limitation.

For purposes of determining whether a market disruption event with respect to an Index (or the relevant successor index) has occurred, unless otherwise specified in the relevant terms supplement:

- a limitation on the hours or number of days of trading will not constitute a market disruption event if it results from an announced change in the regular business hours of the relevant exchange, or the primary exchange or market for trading in futures or options contracts related to that Index (or that successor index);
- limitations pursuant to the rules of any relevant exchange similar to NYSE Rule 80B (or any applicable rule or regulation enacted or promulgated by any other self-regulatory organization or any government agency of scope similar to NYSE Rule 80B as determined by the calculation agent) on trading during significant market fluctuations will constitute a suspension, absence or material limitation of trading;
- a suspension of trading in futures or options contracts on that Index (or that successor index) by the primary exchange or market for trading in those contracts by reason of:
 - a price change exceeding limits set by that exchange or market,

- an imbalance of orders relating to those contracts or
- a disparity in bid and ask quotes relating to those contracts

will, in each case, constitute a suspension, absence or material limitation of trading in futures or options contracts related to that Index (or that successor index); and

- a “suspension, absence or material limitation of trading” on any relevant exchange or on the primary exchange or market on which futures or options contracts related to that Index (or that successor index) are traded will not include any time when that exchange or market is itself closed for trading under ordinary circumstances.

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

- the occurrence or existence of a suspension, absence or material limitation of trading of the shares of that Fund (or that successor fund) on the relevant exchange for the shares of that Fund (or that successor fund) for more than two hours of trading during, or during the half-hour period preceding the close of, the principal trading session on that relevant exchange;
- a breakdown or failure in the price and trade reporting systems of the relevant exchange for the shares of that Fund (or that successor fund) as a result of which the reported trading prices for the shares of that Fund (or that successor fund) during the last half-hour preceding the close of the principal trading session on that relevant exchange are materially inaccurate;
- the occurrence or existence of a suspension, absence or material limitation of trading on the primary exchange or market for trading in futures or options contracts related to the shares of that Fund (or that successor fund), if available, during the half-hour period preceding the close of the principal trading session in that exchange or market;
- if applicable, the occurrence or existence of a suspension, absence or material limitation of trading of equity securities, commodities or commodity futures contracts then constituting 20% or more of the level of the applicable Underlying Index on the relevant exchanges for those securities for more than two hours of trading during, or during the half-hour period preceding the close of, the principal trading session on that relevant exchange; or
- the occurrence or existence of a suspension, absence or material limitation of trading on the primary exchange or market for trading in futures or options contracts related to the applicable Underlying Index, if any, or shares of that Fund (or that successor fund) for more than two hours of trading during, or during the half-hour period preceding the close of, the principal trading session on that exchange or market,

in each case, as determined by the calculation agent in its sole discretion; and

- a determination by the 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.

For purposes of determining whether a market disruption event with respect to a Fund (or the relevant successor fund) exists at any time, unless otherwise specified in the relevant terms supplement, if trading in a security, commodity or commodity futures contract included in the applicable Underlying Index, if any, is materially suspended or materially limited at that time, then the relevant percentage contribution of that security, commodity or commodity futures contract to the level of the applicable Underlying Index, if any, will be based on a comparison of (x) the portion of the level of the applicable Underlying Index, if any, attributable to that security, commodity or commodity futures contract relative to (y) the overall level of the applicable Underlying Index, if any, in each case immediately before that suspension or limitation.

For purposes of determining whether a market disruption event with respect to a Fund (or the relevant successor fund) has occurred, unless otherwise specified in the relevant terms supplement:

- a limitation on the hours or number of days of trading will not constitute a market disruption event if it results from an announced change in the regular business hours of the relevant exchange or the primary exchange or market for trading in futures or options contracts related to the shares of that Fund (or that successor fund);
- a decision to permanently discontinue trading in the relevant futures or options contract or exchange traded fund will not constitute a market disruption event;
- limitations pursuant to the rules of any relevant exchange similar to NYSE Rule 80B (or any applicable rule or regulation enacted or promulgated by any other self-regulatory organization or any government agency of scope similar to NYSE Rule 80B as determined by the calculation agent) on trading during significant market fluctuations will constitute a suspension, absence or material limitation of trading;
- a suspension of trading in futures or options contracts on the applicable Underlying Index, if any, or shares of that Fund (or that successor fund) by the primary exchange or market for trading in those contracts by reason of:
 - a price change exceeding limits set by that exchange or market,
 - an imbalance of orders relating to those contracts or
 - a disparity in bid and ask quotes relating to those contracts

will, in each that case, constitute a suspension, absence or material limitation of trading in futures or options contracts related to the applicable Underlying Index, if any, or the shares of that Fund (or that successor fund); and

- a “suspension, absence or material limitation of trading” on any relevant exchange or on the primary exchange or market on which futures or options contracts related to the applicable Underlying Index, if any, or the shares of that Fund (or that successor fund) are traded will not include any time when that exchange or market is itself closed for trading under ordinary circumstances.

Discontinuation of an Index; Alteration of Method of Calculation

Unless otherwise specified in the relevant terms supplement or any relevant underlying supplement, if the sponsor of an Index (an “**Index Sponsor**”) discontinues publication of that Index and that Index Sponsor or another entity publishes a successor or substitute index that the 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 (a) the closing level of that Index on any Determination Date, any day during the Monitoring Period, if applicable, or any other relevant date on which the closing level of that Index is to be determined will be determined by reference to the level of that successor index published with respect to that day and (b) the Index level, if applicable, of that Index at any time on any Determination Date or any other relevant date on which the Index level of that Index is to be determined will be determined by reference to the level of that successor index as reported by Bloomberg at that time.

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

Unless otherwise specified in the relevant terms supplement or any relevant underlying supplement, if the Index Sponsor for an Index discontinues publication of that Index prior to, and that discontinuation is continuing on, a Determination Date, any day during the Monitoring Period, if applicable, or any other relevant date on which the closing level of that Index is to be determined, and the calculation agent determines, in its sole discretion, that no successor index for that Index is available at such time, or the calculation agent has previously selected a successor index for that Index and publication of that successor index is discontinued prior to, and that discontinuation is continuing on, that Determination Date, any day during the Monitoring Period, if applicable, or that other relevant date, then the calculation agent will determine the closing level for that Index on such date. If the relevant terms supplement provides for continuous Index monitoring and a Knock-Out Event has not previously occurred, the notes will nonetheless thereafter be deemed to be subject to daily Index monitoring with respect to that Index, and a Knock-Out Event will be deemed to have occurred if the closing level for that Index is less than its Initial Index Level by more than its Buffer Amount on any subsequent day during the Monitoring Period. The closing level of that Index will be computed by the calculation agent in accordance with the formula for and method of calculating that Index or successor index, as applicable, last in effect prior to that discontinuation, using the closing price (or, if trading in the relevant securities has been materially suspended or materially limited, the calculation agent's good faith estimate of the closing price that would have prevailed but for that suspension or limitation) at the close of the principal trading session on that date of each security most recently composing that Index or successor index, as applicable. Notwithstanding these alternative arrangements, discontinuation of the publication of an Index or its successor index, as applicable, may adversely affect the value of the notes.

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

Discontinuation of a Fund; Alternate Calculation of Closing Price and Trading Price

Unless otherwise specified in the relevant terms supplement, if a Fund (or a successor fund (as defined herein)) is delisted from the relevant exchange for that Fund (or that successor fund), liquidated or otherwise terminated, the calculation agent will substitute an exchange-traded fund that the calculation agent determines, in its sole discretion, to be comparable to the discontinued Fund (or that successor fund) (such substitute fund being referred to herein as a "**successor fund**"). If a Fund (or a successor fund) is delisted, liquidated or otherwise terminated and the calculation agent determines that no successor fund is available, then the calculation agent will, in its sole discretion, calculate the appropriate closing price of one share of that Fund by a computation methodology that the calculation agent determines will as closely as reasonably possible replicate that Fund. If a successor fund is selected or if the calculation agent calculates a closing price by a computation methodology that the calculation agent determines will as closely as reasonably possible replicate that Fund, that successor fund or closing price will be substituted for that Fund (or that successor fund) for all purposes of the notes.

If the calculation agent has determined to calculate an alternate closing price for a Fund as described above, and the relevant terms supplement provides for continuous Fund monitoring and a Knock-Out Event has not previously occurred, the notes will nonetheless thereafter be deemed to be subject to daily Fund monitoring with respect to such Fund, and a Knock-Out Event will be deemed to have occurred if the closing price of one share of that Fund is less than its Initial Share Price by more than its Buffer Amount on any subsequent day during the Monitoring Period.

Upon any selection by the calculation agent of a successor fund, the calculation agent will cause written notice thereof to be promptly furnished to the trustee, to us and to the holders of the notes.

Unless otherwise specified in the relevant terms supplement, if at any time, a Fund (or a successor fund) or an Underlying Index, if applicable, is changed in a material respect, or a Fund or a successor fund in any other way is modified so that it does not, in the opinion of the calculation agent, fairly represent the price of the shares of that Fund (or that successor fund) had those changes or modifications not been made, then the calculation agent will, at the close of business in New York City on each date on which the closing price of one share of that Fund or that successor fund is to be determined, make such calculations and adjustments as, in the good faith judgment of the calculation agent, may be necessary in order to arrive at a closing price of one share of an exchange-traded fund comparable to that Fund (or that successor fund) as if those changes or modifications had not been made, and calculate the closing price with reference to that Fund (or that successor fund), as adjusted. The calculation agent may also determine that no adjustment is required by the modification of the method of calculation.

The calculation agent will be solely responsible for the method of calculating the closing price of one share of a Fund (or any successor fund) and of any related determinations and calculations, and its determinations and calculations with respect thereto will be conclusive in the absence of manifest error.

The calculation agent will provide information as to the method of calculating the closing price of the shares of a Fund upon written request by any investor in the notes.

Anti-Dilution Adjustments

The Share Adjustment Factor for a Fund (or the relevant successor fund) is subject to adjustment by the calculation agent as a result of the anti-dilution adjustments described in this section.

Unless otherwise specified below, no adjustments to the Share Adjustment Factor for a Fund (or the relevant successor fund) will be required unless the Share Adjustment Factor adjustment would require a change of at least 0.1% in the applicable Share Adjustment Factor then in effect. The applicable Share Adjustment Factor resulting from any of the adjustments specified in this section will be rounded to the nearest ten-thousandth with five one hundred-thousandths being rounded upward. The calculation agent will not be required to make any adjustments to the Share Adjustment Factor for a Fund (or the relevant successor fund) after the close of business on the business day immediately preceding the maturity date.

No adjustments to the Share Adjustment Factor for a Fund (or the relevant successor fund) will be required other than those specified below. The required adjustments specified in this section do not cover all events that could affect the closing price of one share of a Fund (or the relevant successor fund) on any relevant day during the term of the notes.

With respect to a Fund (or the relevant successor fund), anti-dilution adjustments will be calculated as follows:

Share Splits and Reverse Share Splits

If the shares of a Fund (or the relevant successor fund) are subject to a share split or reverse share split, then once that split has become effective, the applicable Share Adjustment Factor will be adjusted so that the new Share Adjustment Factor will equal the product of:

- the prior Share Adjustment Factor, and
- the number of shares that a holder of one share of that Fund (or that successor fund) before the effective date of the share split or reverse share split would have owned immediately following the applicable effective date.

Share Dividends or Distributions

If a Fund (or the relevant successor fund) is subject to (i) a share dividend, *i.e.*, an issuance of additional shares of that Fund (or that successor fund) that is given ratably to all or substantially all holders of shares of that Fund (or that successor fund) or (ii) a distribution of shares of that Fund (or that successor fund) as a result of the triggering of any provision of the corporate charter of that Fund (or that successor fund), then, once the dividend or distribution has become effective and the shares of that Fund (or that successor fund) are trading ex-dividend, the applicable Share Adjustment Factor will be adjusted so that the new Share Adjustment Factor will equal the prior Share Adjustment Factor *plus* the product of:

- the prior Share Adjustment Factor, and
- the number of additional shares issued in the share dividend or distribution with respect to one share of that Fund (or that successor fund).

Non-Cash Dividends or Distributions

If a Fund (or the relevant successor fund) distributes shares of capital stock, evidences of indebtedness or other assets or property of that Fund (or that successor fund) to all or substantially all holders of shares of that Fund (or that successor fund) (other than (i) share dividends or distributions referred to under “— Share Splits and Reverse Share Splits” or “— Share Dividends or Distributions” above and (ii) cash dividends referred to under “— Cash Dividends or Distributions” below), then, once the distribution has become effective and the shares of that Fund (or that successor fund) are trading ex-dividend, the applicable Share Adjustment Factor will be adjusted so that the new Share Adjustment Factor will equal the product of:

- the prior Share Adjustment Factor, and
- a fraction, the numerator of which is the Current Market Price of one share of that Fund (or that successor fund) and the denominator of which is the amount by which the Current Market Price exceeds the Fair Market Value of that distribution.

The “**Current Market Price**” of a Fund (or the relevant successor fund) means the closing price of one share of that Fund (or that successor fund) on the trading day immediately preceding the ex-dividend date of the dividend or distribution requiring an adjustment to the applicable Share Adjustment Factor.

The “**Fair Market Value**” of any distribution means the value of that distribution on the ex-dividend date for that distribution, as determined by the calculation agent. If that distribution consists of property traded on the ex-dividend date on a U.S. national securities exchange, the Fair Market Value will equal the closing price of the distributed property on that ex-dividend date.

“Ex-dividend date,” with respect to a dividend or other distribution for a Fund (or the relevant successor fund), means the first trading day on which transactions in the shares of that Fund (or that successor fund) trade on the relevant exchange without the right to receive that dividend or other distribution.

Cash Dividends or Distributions

If a Fund (or the relevant successor fund) pays dividends or makes other distributions consisting exclusively of cash to all or substantially all holders of shares of that Fund (or that successor fund) during any dividend period during the term of the notes, in an aggregate amount that, together with other cash dividends or distributions made previously during that dividend period with respect to which an adjustment to the Share Adjustment Factor has not previously been made under this “— Cash Dividends or Distributions” section, exceeds the Dividend Threshold, then, once the dividend or distribution has become effective and the shares of that Fund (or that successor fund) are trading ex-dividend, the applicable Share Adjustment Factor will be adjusted so that the new Share Adjustment Factor will equal the product of:

- the prior Share Adjustment Factor, and
- a fraction, the numerator of which is the Current Market Price of one share of that Fund (or that successor fund) and the denominator of which is the amount by which the Current Market Price exceeds the aggregate amount in cash per share of that Fund (or that successor fund) distributed in that cash dividend or distribution together with any cash dividends or distributions made previously during that dividend period with respect to which an adjustment to the Share Adjustment Factor has not previously been made under this “— Cash Dividends or Distributions” section to holders of shares of that Fund (or that successor fund) in excess of the Dividend Threshold.

For the avoidance of doubt, the Share Adjustment Factor for a Fund (or the relevant successor fund) may be adjusted more than once in any particular dividend period because of cash dividends or distributions that exceed the Dividend Threshold. If the applicable Share Adjustment Factor has been previously adjusted in a particular dividend period because of cash dividends or distributions that exceed the Dividend Threshold, subsequent adjustments will be made if the relevant Fund (or the relevant successor fund) pays cash dividends or makes other distributions during that dividend period in an aggregate amount that, together with other cash dividends or distributions since the last adjustment to the Share Adjustment Factor (because of cash dividends or distributions that exceed the Dividend Threshold) exceeds the Dividend Threshold. Those subsequent adjustments to the applicable Share Adjustment Factor will only take into account the cash dividends or distributions during that dividend period made since the last adjustment to that Share Adjustment Factor because of cash dividends or distributions that exceed the Dividend Threshold.

The **“Dividend Threshold”** of a Fund (or the relevant successor fund) is equal to the sum of (x) the immediately preceding cash dividend(s) or other cash distribution(s) paid in the preceding dividend period, if any, per share of that Fund (or that successor fund) *plus* (y) 10% of the closing price of one share of that Fund (or that successor fund) on the trading day immediately preceding the ex-dividend date, unless otherwise specified in the relevant terms supplement.

The **“dividend period”** of a Fund (or the relevant successor fund) means any period during the term of the notes for which dividends are paid on a regular and consistent basis to shareholders of that Fund (or that successor fund).

The calculation agent will be solely responsible for the determination and calculation of any adjustments to the Share Adjustment Factor and of any related determinations and calculations, and its determinations and calculations with respect thereto will be conclusive in the absence of manifest error.

The calculation agent will provide information as to any adjustments to the Share Adjustment Factor for a Fund (or the relevant successor fund) upon written request by any investor in the notes.

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 \$1,000 principal amount note upon any acceleration of the notes will be determined by the calculation agent and will be an amount in cash equal to the amount payable at maturity per \$1,000 principal amount note as described in the relevant terms supplement under the caption “Payment at Maturity,” calculated as if the date of acceleration were (a) the final Valuation Date, (b) if continuous monitoring or daily monitoring applies, the final day of the Monitoring Period and (c) the Final Disrupted Determination Date (if the date of acceleration is a Disrupted Day). If the notes have more than one Valuation Date, then, for each Valuation Date scheduled to occur after the date of acceleration, the trading days immediately preceding the date of acceleration (in such number equal to the number of Valuation Dates in excess of one) will be the corresponding Valuation Dates, unless otherwise specified in the relevant terms supplement.

If the maturity of the notes is accelerated because of an event of default as described above, we will, or will cause the 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 heading "Description of Notes — Forms of Notes" and in the accompanying prospectus under the heading "Forms of Securities — Book-Entry System."

Registrar, Transfer Agent and Paying Agent

Payment of amounts due at maturity on 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.

MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES

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

This discussion 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 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 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 "straddle" or conversion 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 discussion 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. 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 treatments 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 treatment of the notes, and we do not intend to request a ruling from the IRS regarding the notes. Unless otherwise indicated in the relevant terms supplement, insofar as we have tax reporting responsibilities with respect to your notes, we intend to treat them as "open transactions" that are not debt instruments for U.S. federal income tax purposes.

At the time of the relevant offering, we may seek an opinion of counsel regarding the tax consequences of owning and disposing of the notes. In this event, whether or not counsel is able to opine regarding the correctness of the treatment of the notes described above, we generally expect that counsel will be able to opine that the following are the material tax consequences of owning and disposing of the notes if the treatment of the notes described above is respected, as well as material tax consequences that may apply if it is not respected. The following discussion assumes this treatment is respected, except where otherwise indicated. The relevant terms supplement may indicate other issues applicable to a particular offering of notes.

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 individual resident of the United States;
- a corporation, or other entity taxable as a corporation, created or organized in or under the laws of the United States, any state therein or the District of Columbia; or
- an estate or trust the income of which is subject to U.S. federal income taxation regardless of its source.

Tax Treatment as Open Transactions That Are Not Debt Instruments. Under this treatment, you should not recognize taxable income or loss over the term of the notes prior to maturity other than pursuant to a sale or exchange. Upon a sale or exchange of a note (including 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 is subject to limitations.

Uncertainties Regarding Tax Treatment as Open Transactions That Are Not Debt Instruments. If the notes are treated as open transactions that are not debt instruments, due to the lack of controlling authority there remain significant uncertainties regarding the tax consequences of your ownership and disposition of the notes. For instance, you might be required to include amounts in income during the term of your notes and/or to treat all or a portion of the gain or loss on the sale or exchange of your notes 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 may 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.

Tax Consequences if Treated as Debt Instruments. If the notes are treated as debt instruments, your tax consequences will be governed by 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, (i) in each year that you hold your notes, you will 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 (even though you will not receive any cash with respect to the notes prior to maturity) and (ii) any income recognized upon a sale or exchange of your notes generally will be treated as interest income. Additionally, if you recognize a loss above certain thresholds, you might be required to file a disclosure statement with the IRS.

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.

If you are a Non-U.S. Holder of a note and if the treatment of the notes as “open transactions” that are not debt instruments 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—Uncertainties Regarding Tax Treatment as Open Transactions That Are Not Debt Instruments” is the degree, if any, to which income with respect to instruments described therein, which may include the notes, should be subject to U.S. withholding tax. 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 are treated as debt instruments, any income or gain from a note will be exempt from U.S. federal income tax (including withholding tax) if you provide a properly completed IRS Form W-8BEN and these amounts are not effectively connected with your conduct of a U.S. trade or business.

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 generally will be taxed in the same manner as a U.S. Holder. You will not be subject to withholding if you provide a properly completed IRS Form W-8ECI. 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.

Recent Legislation

Recent legislation generally imposes a withholding tax of 30% on payments to certain foreign entities (including financial intermediaries) with respect to certain financial instruments issued after March 18, 2012, unless various U.S. information reporting and due diligence requirements (that are in addition to, and potentially significantly more onerous than, the requirement to deliver an IRS Form W-8BEN) have been satisfied. Pursuant to published guidance from Treasury and the IRS, this legislation will apply to payments of interest made after December 31, 2013 and to payments of gross proceeds of the sales of certain financial instruments made after December 31, 2014. Accordingly, if the notes are treated as debt instruments, as described above in “—Tax Consequences to U.S. Holders—Tax Consequences if Treated as Debt Instruments,” these rules will apply to sales or exchanges after December 31, 2014 of notes issued after March 18, 2012.

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. You may also be subject to backup withholding on payments in respect of your notes 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 provide a properly completed IRS Form W-8 appropriate to your circumstances. 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 J.P. Morgan Securities LLC, as agent (an “Agent” or “JPMS”), and certain other agents that are or may become party to the Master Agency Agreement, as amended or supplemented, from time to time (each an “Agent” and collectively with JPMS, the “Agents”), JPMS has agreed and any additional Agents will agree to use reasonable efforts to solicit offers to purchase the principal amount of notes set forth in the cover page of the relevant terms supplement. We will have the sole right to accept offers to purchase the notes and may reject any offer in whole or in part. Each Agent may reject, in whole or in part, any offer it solicited to purchase notes. We will pay an Agent, in connection with sales of these notes resulting from a solicitation that Agent made or an offer to purchase the Agent received, a commission as set forth in the relevant terms supplement. An Agent will allow a concession to other dealers, or we may pay other fees, in the amount set forth on the cover page of the relevant terms supplement.

We may also sell notes to an Agent as principal for its own account at discounts to be agreed upon at the time of sale as disclosed in the relevant terms supplement. That Agent may resell notes to investors and other purchasers at a fixed offering price or at prevailing market prices, or prices related thereto at the time of resale or otherwise, as that Agent determines and as we will specify in the relevant terms supplement. An Agent may offer the notes it has purchased as principal to other dealers. That Agent may sell the notes to any dealer at a discount and, unless otherwise specified in the relevant terms supplement, the discount allowed to any dealer will not be in excess of the discount that Agent will receive from us. After the initial public offering of notes that the Agent is to resell on a fixed public offering price basis, the Agent may change the public offering price, concession and discount.

Our affiliates, including JPMS, may use this product supplement no. 22-1, any related underlying supplement and the accompanying prospectus supplement, prospectus or terms supplement in connection with offers and sales of the notes in the secondary market. 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.

Unless otherwise specified in the relevant terms supplement, there is currently no public trading market for the notes. In addition, unless otherwise specified in the relevant terms supplement, we have not applied and do not intend to apply to list the notes on any securities exchange or to have the notes quoted on a quotation system. JPMS may act as a market maker for the notes. However, JPMS is not obligated to do so and may discontinue any market-making in the notes at any time in its sole discretion. Therefore, we cannot assure you that a liquid trading market for the notes will develop, that you will be able to sell your notes at a particular time or that the price you receive if you sell your notes will be favorable.

In connection with an offering of the notes, JPMS may engage in overallotment, stabilizing transactions and syndicate covering transactions in accordance with Regulation M under the Securities Exchange Act of 1934. Overallotment involves sales in excess of the offering size, which create a short position for JPMS. Stabilizing transactions involve bids to purchase the notes in the open market for the purpose of pegging, fixing or maintaining the price of the notes. Syndicate covering transactions involve purchases of the notes in the open market after the distribution has been completed in order to cover short positions. Stabilizing transactions and syndicate covering transactions may cause the price of the notes to be higher than it would otherwise be in the absence of those transactions. If JPMS engages in stabilizing or syndicate covering transactions, it may discontinue them at any time.

Certain of the Agents engage in transactions with and perform services for us and our subsidiaries in the ordinary course of business.

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. 22-l, any related underlying supplement or 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. 22-l, any related underlying supplement or 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 that it will not offer or sell the notes in any non-U.S. jurisdiction (i) if that offer or sale would not be in compliance with any applicable law or regulation or (ii) if any consent, approval or permission is needed for that offer or sale by that Agent or for or on our behalf, unless the consent, approval or permission has been previously obtained. We will have no responsibility for, and the applicable Agent will obtain, any consent, approval or permission required by that Agent for the subscription, offer, sale or delivery by that Agent of the notes, or the distribution of any offering materials, under the laws and regulations in force in any non-U.S. jurisdiction to which that Agent is subject or in or from which that Agent makes any subscription, offer, sale or delivery. 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).

Conflicts of Interest

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 its affiliates in connection with hedging our obligations under the notes. The underwriting arrangements for an offering of the notes 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 an offering of the notes to any of its discretionary accounts without the specific written approval of the customer.

NOTICE TO INVESTORS

We will offer to sell, and will seek offers to buy, the notes only in jurisdictions where offers and sales are permitted. None of the accompanying prospectus supplement and prospectus, this product supplement no. 22-1, any related underlying supplement and the terms supplement (each, a “**Disclosure Document**” and, collectively, the “**Disclosure Documents**”) will constitute an offer to sell, or a solicitation of an offer to buy, the notes by any person in any jurisdiction in which it is unlawful for that person to make an offer or solicitation. Neither the delivery of any Disclosure Document nor any sale made thereunder implies that our affairs have not changed or that the information in any Disclosure Document is correct as of any date after the date thereof.

You must (i) comply with all applicable laws and regulations in force in any jurisdiction in connection with the possession or distribution of the Disclosure Documents 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 those 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 that 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) Targeted 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 will 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

The Disclosure Documents have not been and will not be registered or filed with any regulatory authority in Bermuda. The offering of the notes pursuant to the Disclosure Documents 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, including the Disclosure Documents, as well as the information contained 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

The Disclosure Documents and the notes 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 the Disclosure Documents. The notes will not be offered or sold, directly or indirectly, in the Cayman Islands.

Chile

The Agents, we and the notes have not been and will not be 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 will not be offered or sold within Chile or to, or for the account of benefit of, persons in Chile, except in circumstances that 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 that will not result in a “public offering” as such term is defined in Article 4 of the Chilean Securities Act, and/or 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 be sold only 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 our respective affiliates, regarding the determination of the convenience or suitability of notes as an investment for the buyer or any other person; and that it 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 will 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 distribution lists to market the notes.

The Disclosure Documents are for your sole and exclusive use, including any of your shareholders, administrators or employees, as applicable. You acknowledge the Colombian laws and regulations (specifically foreign exchange and tax regulations) applicable to any transaction or investment consummated pursuant thereto and represent that you are the sole liable party for full compliance with those laws and regulations.

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 any Disclosure Document 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, that are not directed to the Salvadoran public. The offering of the notes will not be 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 will be negotiated only on an individual basis with determinate individuals or entities in strict compliance with the aforementioned Article 2 of the Salvadoran Securities Market Law, and will, 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 that 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 will not make an offer of the notes to the public in that Relevant Member State except that it may, with effect from and including the Relevant Implementation Date, make an offer of the notes to the public in that Relevant Member State:

- (i) at any time to any legal entity that is a qualified investor as defined in the Prospectus Directive;
- (ii) at any time to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive), subject to obtaining the prior consent of the Agent; or
- (iii) at any time in any other circumstances falling within Article 3(2) of the Prospectus Directive,

provided that no offer of notes will require us or any Agent to publish a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an “offer of the notes to the public” 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, the expression “**Prospectus Directive**” means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State), and includes any relevant implementing measure in the Relevant Member State and the expression “**2010 PD Amending Directive**” means Directive 2010/73/EU.

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

Hong Kong

Each Agent has represented and agreed that:

- (i) it will not offer or sell in Hong Kong, by means of any document, the notes (except for notes which are a “structured product” as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong) other than (a) to “professional investors” as defined in the Securities and Futures Ordinance and any rules made under that Ordinance; or (b) in other circumstances that do not result in the document being a “prospectus” as defined in the Companies Ordinance (Cap. 32) of Hong Kong or that do not constitute an offer to the public within the meaning of that Ordinance; and
- (ii) it has not issued or had in its possession for the purposes of issue, and will not issue or have in its possession for the purposes of issue, whether in Hong Kong or elsewhere, any advertisement, invitation or document relating to the notes that is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to notes that are or are intended to be disposed of only to persons outside Hong Kong or only to “professional investors” as defined in the Securities and Futures Ordinance and any rules made under that Ordinance.

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 the notes that 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. The Disclosure Documents 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

Each Agent has represented and agreed that with effect from and including January 1, 2012, it will not make an offer of notes that are the subject of the offering contemplated by the Disclosure Documents to the public in The Netherlands in reliance on Article 3(2) of the Prospectus Directive if and to the extent article 5:20(5) of the Dutch Financial Supervision Act (*Wet op het financieel toezicht*, the “**DFSA**”) will be applied, unless such offer is made exclusively to qualified investors in The Netherlands as defined in the Prospectus Directive, *provided* that no offer of the notes will require us or any Agent to publish a prospectus pursuant to Article 3 of the Prospectus Directive. For the purposes of this provision, the expressions (i) an “offer of notes to the public” in The Netherlands; and (ii) “**Prospectus Directive**” have the meaning given to them above under the section entitled “European Economic Area.”

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 not been and will not be registered with or approved by the regulator of the Peruvian securities market or the stock exchange. Accordingly, the notes 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

None of the Disclosure Documents has been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, the Disclosure Documents 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 pursuant to Section 275(1) of the SFA, or to any person pursuant to Section 275(1A) of the SFA, 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.

Where the notes are subscribed or purchased under Section 275 of the SFA by a relevant person, which is: (a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor, securities (as defined in Section 239(1) of the SFA) of that corporation or the beneficiaries’ rights and interest (howsoever described) in that trust will not be transferred within six months after that corporation or that trust has acquired the notes pursuant to an offer made under Section 275 of the SFA except: (1) to an institutional investor or to a relevant person defined in Section 275(2) of the SFA, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA; (2) where no consideration is or will be given for the transfer; (3) where the transfer is by operation of law; or (4) as specified in Section 276(7) of the SFA.

Switzerland

The Disclosure Documents are not intended to constitute an offer or solicitation to purchase or invest in the notes described therein. The notes may not be publicly offered, sold or advertised, directly or indirectly, in, into or from Switzerland and will not be listed on the SIX Swiss Exchange or on any other exchange or regulated trading facility in Switzerland. Neither the Disclosure Documents nor any other offering or marketing material relating to the notes constitutes a prospectus as such term is understood pursuant to article 652a or article 1156 of the Swiss Code of Obligations or the Swiss Collective Investment Scheme Act, and neither the Disclosure Documents nor any other offering or marketing material relating to the notes may be publicly distributed or otherwise made publicly available in Switzerland.

Neither the Disclosure Documents nor any other offering or marketing material relating to us, the offering or the notes have been or will be filed with or approved by any Swiss regulatory authority. The notes are not subject to the supervision by any Swiss regulatory authority, *e.g.*, the Swiss Financial Markets Supervisory Authority (FINMA), and investors in the notes will not benefit from protection or supervision by any such authority.

United Kingdom

Each Agent has represented and agreed that:

- (a) in relation to any notes that have a maturity of less than one year, (i) 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 we will not be registered with the Central Bank of Uruguay pursuant to section 2 of Uruguayan law 16.749.

Venezuela

The notes will not be registered with the Venezuelan National Securities Commission (*Comisión Nacional de Valores*) and will not be 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 statutory or administrative exemptive relief were available.

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 is appropriate for, or meets all relevant legal requirements with respect to investments by, Plans or Non-ERISA Arrangements generally or any particular Plan or Non-ERISA Arrangement.