

CITIGROUP INC  
Form 424B2  
November 19, 2018

**Filed Pursuant to Rule 424(b)(2)**

**Registration Nos. 333-216372 and 333-216372-01**

Pricing Supplement No. 2018–USNCH1687, Dated November 15, 2018  
(To Prospectus Supplement and Prospectus each dated April 7, 2017)

US\$14,700,000 Stated Principal Amount

Citigroup Global Markets Holdings Inc.

Medium-Term Senior Notes, Series N

All payments due on the securities are fully and unconditionally guaranteed by Citigroup Inc.

**Securities Due December 23, 2019**

**Based on the Citi Commodities F3 vs F0 – 4x Leveraged Index**

The return on the securities, which may be positive or negative, will be based upon the performance of the Citi § Commodities F3 vs F0 – 4x Leveraged Index (the “underlying index”). See “Description of the Underlying Index” in this pricing supplement. Unless redeemed by you or called by us, the securities will mature on December 23, 2019.

§ All payments on the securities are subject to the credit risk of Citigroup Global Markets Holdings Inc. and Citigroup Inc.

The securities will bear interest at a floating rate per annum equal to 1-month U.S. dollar LIBOR *minus* 0.15%, subject to a minimum of 0.00%. Interest on the securities will be paid on the maturity date (except that in the event § of a redemption or call, accrued interest will be paid on the date when payment is made in connection with such redemption or call). **The amount you receive at maturity or upon your redemption or our call of the securities may be less, and possibly significantly less, than your initial investment in the securities.**

On any commodity business day prior to the scheduled final valuation date, you may redeem all or any portion (subject to the minimum redemption amount) of the securities you then hold in exchange for (i) the stated principal amount of the securities you have elected to redeem *plus* (ii) the supplemental return amount with respect to those § securities as determined as of the commodity business day on which the notice of redemption is effective. The supplemental return amount may be negative, zero or positive. Therefore, the amount you receive upon your redemption of the securities may be less than your initial investment in the securities. If you elect to exercise your redemption option, you must offer to redeem at least 100 securities (US\$100,000 aggregate stated principal amount) at one time.

§

If on any commodity business day prior to the scheduled final valuation date the closing value of the underlying index is less than or equal to 85% of the initial index value of the underlying index, we will call the securities in exchange for (i) the stated principal amount of the securities you then hold *plus* (ii) the supplemental return amount with respect to those securities as determined as of the commodity business day following that commodity business day. In these circumstances, the supplemental return amount is almost certain to be negative and is likely to result in a loss of more than 45%, and possibly up to all, of your initial investment.

If you do not redeem and we do not call the securities, you will receive at maturity (i) the stated principal amount of the securities you then hold *plus* (ii) the supplemental return amount with respect to those securities as determined as of the final valuation date (scheduled to be December 16, 2019). The supplemental return amount may be negative, zero or positive. Therefore, the amount you receive at maturity may be less than your initial investment in the securities.

On any commodity business day during the term of the securities, the supplemental return amount will be based on three times the percentage change in the value of the underlying index from the initial valuation date (November 15, 2018) to that commodity business day and will be determined after deducting a 0.80% annual fee (which will be § magnified by the leverage factor of three that is included in the calculation of the supplemental return amount) accrued from and including the initial valuation date to and including that commodity business day. See “Description of the Securities—Supplemental Return Amount.”

The three times leverage embedded in the supplemental return amount will magnify the four times leverage § embedded in the underlying index, as described in more detail in “Description of the Underlying Index” in this pricing supplement. **The securities are a highly leveraged, highly risky investment.**

Investing in the securities is not equivalent to investing directly in any commodity or commodity futures contract. The securities are not commodity futures contracts and are not regulated under the Commodity Exchange Act of § 1936, as amended (the “CEA”). The securities are offered pursuant to an exemption from regulation under the CEA. Accordingly, you are not afforded any protection provided by the CEA or any regulation promulgated by the Commodity Futures Trading Commission.

§ We will not apply to list the securities on any exchange.

§ The CUSIP for the securities is 17326YCU8. The ISIN for the securities is US17326YCU82.

**Investing in the securities involves significant risks. See “Risk Factors Relating to the Securities” beginning on page PS-2.**

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the securities or determined that this pricing supplement and the accompanying prospectus supplement and prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

Edgar Filing: CITIGROUP INC - Form 424B2

The securities are not deposits or savings accounts but are unsecured debt obligations of Citigroup Global Markets Holdings Inc. and guaranteed by Citigroup Inc. The securities are not insured or guaranteed by the Federal Deposit Insurance Corporation or by any other governmental agency or instrumentality.

	Per Security	Total
Public Offering Price	\$1,000.00	\$14,700,000.00
Underwriting Discount <sup>(1)</sup>	\$0.00	\$0.00
Proceeds to Citigroup Global Markets Holdings Inc.	\$1,000.00	\$14,700,000.00

<sup>(1)</sup> Citigroup Global Markets Inc. ("CGMI"), an affiliate of the issuer, is the underwriter of the securities and is acting as principal. CGMI and its affiliates will receive the annual fee and may profit from hedging activity related to this offering, even if the value of the securities declines.

## RISK FACTORS RELATING TO THE SECURITIES

An investment in the securities is significantly riskier than an investment in conventional debt securities. The securities are subject to all of the risks associated with an investment in our conventional debt securities (guaranteed by Citigroup Inc.), including the risk that we and Citigroup Inc. may default on our obligations under the securities, and are also subject to risks associated with the underlying index. Accordingly, the securities are suitable only for investors who are capable of understanding the complexities and risks of the securities. You should consult your own financial, tax and legal advisers as to the risks of an investment in the securities and the suitability of the securities in light of your particular circumstances.

The following is a description of certain key risk factors for investors in the securities. You should also carefully read the risk factors included in the accompanying prospectus supplement and in the documents incorporated by reference in the accompanying prospectus, including Citigroup Inc.'s most recent Annual Report on Form 10-K and any subsequent Quarterly Reports on Form 10-Q, which describe risks relating to the business of Citigroup Inc. more generally.

**You will receive less than your initial investment at maturity or upon your redemption or our call of the securities if the value of the underlying index declines or does not increase sufficiently.**

The amount payable at maturity or upon your exercise of the redemption option or our call of the securities will be based on the performance of the underlying index from the initial valuation date to the commodity business day on which the supplemental return amount is determined. That amount will be determined after deducting a 0.80% annual fee (which will be magnified by the leverage factor of three that is included in the calculation of the supplemental return amount). If the value of the underlying index declines or does not increase sufficiently to offset the deducted fee (after taking into account the accrued interest), the amount you receive for each security will be less than the US\$1,000 you paid for each security. This will be true even if the value of the underlying index at one or more other times during the term of the securities exceeds the value of the underlying index on the initial valuation date.

**The securities are a highly leveraged, highly risky investment.**

The underlying index includes four times leverage, reset monthly, with respect to the difference, or "spread," between (i) the aggregate performance of the 3 month forward versions of the single-commodity sub-indices for each of the commodities included in the Bloomberg Commodity Index<sup>SM</sup> (the "BCOMF3 Sub-Indices") and (ii) the aggregate performance of the standard (i.e., non-forward) versions of the same single-commodity sub-indices (the "BCOMF0 Sub-Indices"). In turn, the supplemental return amount includes three times leverage with respect to the cumulative performance of the underlying index from the initial valuation date to the commodity business day on which the

supplemental return amount is determined.

As a result of the four times leverage embedded in the underlying index, any underperformance of the BCOMF3 Sub-Indices relative to the BCOMF0 Sub-Indices over any given month will cause a percentage decline in the value of the underlying index that is four times greater than that underperformance. As a result of the three times leverage embedded in the calculation of the supplemental return amount, any percentage decline in the value of the underlying index over the term of the securities will result in a loss on your investment that is three times that percentage decline (subject to further deduction of the annual fee, as offset by any accrued interest). This three times leverage with respect to the cumulative performance of the underlying index, on top of the underlying index's four times leverage, reset monthly, with respect to the spread between the BCOMF3 Sub-Indices and the BCOMF0 Sub-Indices, results in very significant overall leverage with respect to the performance of that spread. As a result, the securities are a highly leveraged, highly risky investment. You should not invest in the securities unless you are prepared to accept the potential for significant losses on a leveraged basis if the spread strategy underlying the underlying index is not successful.

PS-2

**The underlying index may experience a significant “decay” effect as a result of the monthly resetting of its four times leverage.**

The underlying index reflects four times leveraged exposure, reset monthly, to the spread between the aggregate performance of the BCOMF3 Sub-Indices and the aggregate performance of the BCOMF0 Sub-Indices from each monthly balancing day to the next. The monthly resetting of the underlying index’s four times leveraged exposure to this spread may cause the underlying index to experience a potentially significant “decay” effect. The decay effect refers to the potential for the underlying index to lose value over time independent of the cumulative performance of this spread. The decay effect results any time the underlying index moves in a direction over one month that is different from the direction it moved over the prior month—in other words, when the BCOMF3 Sub-Indices outperform the BCOMF0 Sub-Indices over one month and then underperform over the next month, or vice versa. If the underlying index increases over one month and decreases over the next, the resetting of the leveraged exposure based on the higher value after the first month means that a greater amount of value is exposed to the decrease over the next month than if the leveraged exposure had not been reset; and if the underlying index decreases over one month and increases over the next, the resetting of the leveraged exposure based on the lower value after the first month means that a smaller amount is exposed to the increase over the next month.

One consequence of this monthly resetting of leverage is that, if the BCOMF3 Sub-Indices outperform the BCOMF0 Sub-Indices over one month and then underperform over the next month by the same amount, the value of the underlying index will be lower at the end of that two-month period than it was at the beginning, even though the cumulative performance of the BCOMF3 Sub-Indices and the BCOMF0 Sub-Indices was identical over that full two-month period (*i.e.*, the cumulative spread over that period was zero). The same outcome would result if the BCOMF3 Sub-Indices underperform the BCOMF0 Sub-Indices over one month and then outperform over the next month by the same amount.

The examples below are designed to illustrate the hypothetical decay effect on the value of the underlying index over a period of 13 months. In each table below, the “cumulative spread” for each month represents the percentage by which the BCOMF3 Sub-Indices have in the aggregate either outperformed (resulting in a positive cumulative spread) or underperformed (resulting in a negative cumulative spread) the BCOMF0 Sub-Indices on a cumulative basis from the beginning of the 13-month period to the balancing day for the relevant month. For example, a cumulative spread of 1% corresponding to Month 9 means that the BCOMF3 Sub-Indices have in the aggregate outperformed the BCOMF0 Sub-Indices by 1% on a cumulative basis as measured from the beginning of the 13-month period to the balancing day for Month 9.

Each table below indicates, for each hypothetical cumulative spread on the balancing day for each month, the corresponding underlying index value, underlying index decay and securities decay. The “underlying index decay” represents the difference between the value of the underlying index on the relevant monthly balancing day and the value that would have resulted if the underlying index reflected four times the cumulative spread as of the relevant monthly balancing day (expressed as a percentage of the initial underlying index value). The “securities decay” is equal to the corresponding “underlying index decay” *multiplied by three*, reflecting the three times leverage vis-a-vis the underlying index embedded in the calculation of the supplemental return amount in order to represent the impact of

the decay on the value of the securities.

In each of the examples below, the cumulative spread is zero at the end of each 13-month period. We are showing examples on this basis to illustrate how the decay effect may have an impact on the underlying index that is independent from the directional performance of the cumulative spread. If the cumulative spread were to be negative—that is, if the BCOMF3 Sub-Indices were to underperform the BCOMF0 Sub-Indices over the 13-month period—the underlying index values would likely be lower than in the examples illustrated below.

The examples below are based on a hypothetical closing value of the underlying index of 100 at the beginning of the 13-month period.

***Example 1. The cumulative spread fluctuates between 1% and -1% over the 13-month period.***

In this example, the cumulative spread fluctuates between 1% and -1% on each monthly balancing day before returning to 0% at the end of the 13-month period.

PS-3

Month	Cumulative Spread	Underlying Index Value	Underlying Index Decay	Securities Decay
0	—	100	—	—
1	1%	104	—	—
2	-1%	95.7624	-0.2376%	-0.7129%
3	1%	103.5008	-0.4992%	-1.4977%
4	-1%	95.3027	-0.6973%	-2.0920%
5	1%	103.0039	-0.9961%	-2.9883%
6	-1%	94.8452	-1.1548%	-3.4645%
7	1%	102.5094	-1.4906%	-4.4717%
8	-1%	94.3899	-1.6101%	-4.8304%
9	1%	102.0173	-1.9827%	-5.9480%
10	-1%	93.9368	-2.0632%	-6.1897%
11	1%	101.5276	-2.4724%	-7.4172%
12	-1%	93.4858	-2.5142%	-7.5426%
13	0%	97.2630	-2.7370%	-8.2110%

In this example, although the cumulative spread is 0% at the end of the 13-month period, the closing value of the underlying index is 2.7370% less at the end of the 13-month period than it was at the beginning of the period. Taking into account the three times leverage vis-a-vis the underlying index embedded in the calculation of the supplemental return amount, the total decay effect on the securities is 8.2110%. This means that, even though the BCOMF3 Sub-Indices and the BCOMF0 Sub-Indices had identical cumulative performances over the 13-month term, you would have lost 8.2110% of your investment (disregarding the effects of accrued interest and the annual fee).

***Example 2. The cumulative spread fluctuates between 3% and -3% over the 13-month period.***

In this example, the cumulative spread fluctuates between 3% and -3% on each monthly balancing day before returning to 0% at the end of the 13-month period.

Month	Cumulative Spread	Underlying Index Value	Underlying Index Decay	Securities Decay
0	—	100	—	—
1	3%	112	—	—
2	-3%	85.9029	-2.0971%	-6.2913%
3	3%	107.1572	-4.8428%	-14.5283%
4	-3%	82.1886	-5.8114%	-17.4343%
5	3%	102.5239	-9.4761%	-28.4284%
6	-3%	78.6348	-9.3652%	-28.0955%
7	3%	98.0909	-13.9091%	-41.7274%
8	-3%	75.2347	-12.7653%	-38.2958%
9	3%	93.8495	-18.1505%	-54.4515%
10	-3%	71.9817	-16.0183%	-48.0550%
11	3%	89.7916	-22.2084%	-66.6253%
12	-3%	68.8693	-19.1307%	-57.3922%



13	0%	77.3892	-22.6108%	-67.8325%
----	----	---------	-----------	-----------

In this example, the greater magnitude of the monthly fluctuations in the cumulative spread as compared to the prior example results in significantly greater decay. In this example, although the cumulative spread is 0% at the end of the 13-month period, the closing value of the underlying index is 22.6108% less at the end of the 13-month period than it was at the beginning of the period. Taking into account the three times leverage vis-a-vis the underlying index embedded in the calculation of the supplemental return amount, the total decay effect on the securities is 67.8325%. This means that you would have lost 67.8325% of your investment even though the BCOMF3 Sub-Indices and the BCOMF0 Sub-Indices had identical cumulative performances over the 13-month

PS-4

term (for the sake of simplicity, disregarding the call provision and disregarding the effects of accrued interest and the annual fee).

In this example, if we take into account that the securities will be called by us if the closing value of the underlying index on any commodity business day is less than or equal to 85% of its initial index value, the securities would have been called by us on or before the fourth monthly balancing day as a result of the decay effect. Were it not for the decay effect – that is, if the underlying index reflected four times leverage with respect to the cumulative spread, instead of four times leverage that is reset monthly, and assuming that the underlying index value were not lower on any other commodity business day than it is on the monthly balancing days – the securities would not have been called by us prior to maturity in this example.

A comparison of Example 2 to Example 1 illustrates the important point that the size of the decay effect will depend on the size of monthly fluctuations in the cumulative spread. A more volatile cumulative spread will result in a greater decay effect.

**The four times leverage embedded in the underlying index is reset monthly, and as a result the effective leverage embedded in the underlying index as measured over the term of the securities may differ from four times.**

The underlying index reflects four times leveraged exposure to the spread between the aggregate performance of the BCOMF3 Sub-Indices and the aggregate performance of the BCOMF0 Sub-Indices from one monthly balancing day to the next. The four times leveraged relationship will not necessarily hold over any longer period of time. Over the term of the securities, the relationship between the cumulative spread and the percentage change in the value of the underlying index may reflect more or less than four times leverage or even inverse exposure.

For example, in Example 2 in the prior risk factor, the cumulative spread on the balancing day for Month 12 is -3%, whereas the underlying index has declined by 31.1307% up to that balancing day, for effective leverage relative to the cumulative spread of 10.3769.

To take another example, in Example 2 in the prior risk factor, the cumulative spread on the balancing day for Month 11 is 3%, whereas the underlying index has declined by 10.2084% up to that balancing day. In this case, the cumulative spread is positive, while the performance of the underlying index is negative, resulting in inverse leverage relative to the cumulative spread. As this example illustrates, it is possible for the BCOMF3 Sub-Indices to outperform the BCOMF0 Sub-Indices over the term of the securities while the underlying index (and, in turn, the securities) nevertheless experiences a significant negative return over the same period.

For this reason, the securities cannot be thought of as simply providing 12 times leverage with respect to the cumulative spread (*i.e.*, the four times leverage embedded in the underlying index multiplied by the three times leverage embedded in the supplemental return amount). The effective leverage provided by the securities with respect to the cumulative spread can be more or less, and potentially quite significantly more or less, than 12 times.

**Unless the initial valuation date is a monthly balancing day, the leveraged exposure of the underlying index will differ from four times from the initial valuation date to the first monthly balancing day following the initial valuation date.**

If the initial valuation date is not a monthly balancing day, the effective amount of leverage provided by the underlying index from the initial valuation date until the next monthly balancing day will differ from four times. In general, if the closing value of the underlying index on the initial valuation date is higher than it was on the most recent monthly balancing day prior to the initial valuation date, the effective leverage will be less than four times, and if the closing value of the underlying index on the initial valuation date is less than it was on the most recent monthly balancing day prior to the initial valuation date, the effective leverage will be greater than four times. The greater the deviation of the closing value of the underlying index from the most recent monthly balancing day to the initial valuation date, the greater the deviation from four times leverage.

PS-5

**The securities have a mandatory call feature, which increases the likelihood of loss on your investment.**

We will call the securities if, on any commodity business day, the closing value of the underlying index is less than or equal to 85% of the initial index value. If we call the securities in this circumstance, you will receive the stated principal amount of the securities you then hold *plus* (ii) the supplemental return amount as determined on the commodity business day following that commodity business day. In this circumstance, the supplemental return amount will almost certainly be negative and is likely to result in a loss of more than 45% (reflecting the 15% decline in the value of the underlying index multiplied by the leverage factor of three embedded in the calculation of the supplemental return amount), and possibly up to all, of your initial investment. If we call the securities, it is possible that your resulting losses on the securities will be greater than they would have been had the securities remained outstanding until maturity and had the supplemental return amount been determined instead on the final valuation date.

The fact that the underlying index embeds four times leverage with respect to the underlying spread significantly increases the likelihood that the mandatory call feature of the securities will be triggered. Because of the four times leverage, a relatively small, short-term period of underperformance of the BCOMF3 Sub-Indices relative to the BCOMF0 Sub-Indices may cause the mandatory call feature to be triggered, crystallizing your losses and preventing you from being able to participate in the recovery when the short-term underperformance is reversed.

**The securities do not provide directional exposure to commodities or commodity futures contracts, but rather provide exposure solely to the “spread” strategy reflected in the underlying index, and there can be no assurance that this strategy will be successful.**

The underlying index reflects four times leveraged exposure, reset monthly, to the difference, or “spread,” between the aggregate performance of the 3 month forward versions of the single-commodity sub-indices for each of the commodities included in the Bloomberg Commodity Index<sup>SM</sup> and (ii) the aggregate performance of the standard (i.e., non-forward) versions of the same single-commodity sub-indices. Accordingly, the performance of the underlying index does not depend on the directional performance of the commodities or commodity future contracts underlying the single-commodity sub-indices for the commodities included in the Bloomberg Commodity Index<sup>SM</sup>, but rather depends on the extent to which the longer-dated futures contracts underlying the 3 month forward versions of these sub-indices would either outperform or underperform the shorter-dated futures contracts on the same commodities underlying the standard (i.e., non-forward) versions of these sub-indices. In general, if the longer-dated futures contracts underperform their shorter-dated counterparts, the value of the underlying index will decline on a four times leveraged basis with respect to that underperformance. It is possible that the underlying index may experience a significant decline even at a time when there is a bull market in the underlying commodities and the longer-dated and shorter-dated futures contracts both experience significant appreciation.

**There are a number of reasons why longer-dated futures contracts may underperform shorter-dated futures contracts on the same commodities, resulting in negative underlying index performance.**

One important circumstance in which longer-dated futures contracts are likely to significantly underperform shorter-dated futures contracts is when the futures market flips from “contango” (where the settlement prices of longer-dated futures contracts are higher than the settlement prices of shorter-dated futures contracts) to “backwardation” (where the settlement prices of shorter-dated futures contracts are higher than the settlement prices of longer-dated futures contracts). In that circumstance, there will typically have been a significant increase in the settlement price of shorter-term futures contracts that causes the settlement price of shorter-term futures contracts, which was previously lower than the settlement price of longer-term futures contracts, to exceed the settlement price of longer-term futures contracts. This increase in the settlement price of shorter-term futures contracts may cause shorter-term futures contracts to significantly outperform longer-term futures contracts at the time when the increase occurs. A significant increase in the settlement price of shorter-term futures contracts may occur, for example, as a result of a sudden increase in demand for, or an interruption in supply of, the underlying commodity—for example, as a result of adverse weather conditions or supply shortages caused by cartel activity, labor disruptions, accidents affecting production infrastructure or other events. If a significant increase in the settlement price of shorter-term futures contracts occurs during the term of the securities, the securities may be significantly and adversely affected.

PS-6

In addition, at any time when the underlying futures markets are in backwardation, longer-dated futures contracts are likely to underperform shorter-dated futures contracts on the same commodities. This is because the effects of backwardation are often more pronounced on shorter-dated futures contracts than on longer-dated futures contracts because of the near-term supply-demand imbalance that drives the backwardation. In that market condition, as the delivery months of a shorter-dated futures contract and a longer-dated futures contract become nearer, the settlement price of the shorter-dated futures contract would increase more rapidly than the price of the longer-dated futures contract, and the shorter-dated futures contract would therefore outperform the longer-dated futures contract.

If the shorter-dated futures contracts are in a backwardated condition while the longer-dated futures contracts are in contango, the settlement price of the shorter-dated futures contracts will increase as time passes while the settlement price of the longer-dated futures contracts will decrease as time passes, potentially leading to an especially significant underperformance of longer-dated futures contracts relative to shorter-dated futures contracts.

**Because the underlying index is composed of a basket of futures contracts, any favorable performance with respect to some of these futures contracts may be offset by unfavorable performance by other futures contracts.**

The underlying index tracks a basket composed of futures contracts on all of the commodities in the Bloomberg Commodity Index<sup>SM</sup>, of which there are currently 22. If the relevant longer-dated versions of some of these 22 futures contracts outperform their shorter-dated counterparts and the relevant longer-dated versions of other of these 22 futures contracts underperform their shorter-dated counterparts, the gains from the outperforming longer-dated futures contracts may be partially or wholly offset, or more than offset, by the losses from the underperforming longer-dated futures contracts. Therefore, even if the “spread” strategy reflected in the underlying index is successful with some futures contracts underlying the underlying index, the underlying index may nevertheless decline if it is not successful with other of the futures contracts underlying the underlying index.

**Even if it generally proves to be the case that longer-dated futures contracts outperform shorter-dated futures contracts, there can be no assurance that the particular futures contracts underlying the sub-indices tracked by the underlying index are the optimal futures contracts for capturing that dynamic, or that they will successfully do so at all.**

The futures contracts that, for any commodity, are the shorter-dated and longer-dated futures contracts for that commodity in the underlying index at any time will be the relevant designated futures contracts included in the Bloomberg Commodity Index<sup>SM</sup> and its 3 month forward counterpart, respectively, at that time. See “Description of the Bloomberg Commodity Indices—Index Calculation—Determining the Lead Future and the Next Future.” As of any given month for any given commodity, the futures contract that will be the shorter-dated futures contract may have a delivery month ranging from one month in the future to five months in the future, and the length of time between the delivery months for the shorter-dated futures contract and the longer-dated futures contract for that commodity may range from zero months (meaning that, in some cases, the shorter-dated futures contract and the longer-dated futures contract are the same) to seven months. Given this variability, it is possible that the shorter-dated futures contracts

used by the underlying index will not be sufficiently short-dated, or that the longer-dated futures contracts will be too short-dated or not long-dated enough, to capture the “spread” that the underlying index seeks to capture.

**An investment in the securities is fundamentally different from other investments and requires an assessment of factors that are unique to the underlying index.**

Unlike other investments that may be available to you, an investment in the securities is not based on the performance of widely held assets that have intrinsic value, like stocks or commodities. Instead, the securities will have a return based on the underlying index, which is a mathematical calculation of the extent to which the longer-dated futures contracts underlying the 3 month forward versions of the sub-indices for each of the commodities included in the Bloomberg Commodity Index<sup>SM</sup> outperform or underperform the standard (i.e., non-forward) versions of the same sub-indices. Many investors may be comfortable assessing the potential performance of investments linked to assets such as stocks or commodities, because the factors that affect the prices of such assets are widely understood by many investors. By contrast, the factors that will affect the performance of the underlying

PS-7

index and, therefore, the performance of the securities are completely unique to the underlying index. In order to assess how the securities may perform, you must have a detailed understanding of the way the underlying index works and, in addition, of the way in which each of the relevant sub-indices of the Bloomberg Commodity Index<sup>SM</sup> works. Accordingly, you should carefully review the information set forth in “Description of the Underlying Index” and “Description of the Bloomberg Commodity Indices” in this pricing supplement. You should not invest in the securities unless you fully understand that information.

**The securities are subject to the credit risk of Citigroup Global Markets Holdings Inc. and Citigroup Inc., and any actual or anticipated changes to either of their credit ratings and credit spreads may adversely affect the value of the securities.**

You are subject to the credit risk of Citigroup Global Markets Holdings Inc. and Citigroup Inc. If we default on our obligations under the securities and Citigroup Inc. defaults on its guarantee obligations, your investment would be at risk and you could lose some or all of your investment.

**Your redemption option is subject to certain important conditions and limitations.**

Your right to require us to redeem the securities on any commodity business day prior to the scheduled final valuation date is subject to certain important conditions and limitations. If you elect to exercise your redemption option, you must do so with respect to at least 100 securities (US\$100,000 aggregate stated principal amount) at one time. In addition, to redeem your securities on any commodity business day, you must instruct your broker to take the following steps through normal clearing system channels by the relevant deadlines: (1) fill out an official notice of redemption; (2) deliver your official notice of redemption to us (which must be acknowledged by us) on any day during the term of the securities; and (3) transfer your book-entry interest in the securities to the trustee or paying agent on our behalf on the fifth business day following the day on which your redemption is effective. If we receive your official notice of redemption at or before 10:00 a.m. New York City time on any commodity business day, your redemption will be effective on that commodity business day. If we receive your official notice of redemption on a day that is not a commodity business day or after 10:00 a.m. New York City time on any commodity business day, your redemption will be effective on the first commodity business day following that day. In all cases, at the time you submit your notice of redemption, you will not know the final index value and, therefore, will not know the amount that you will receive upon redemption. Accordingly, if the value of the underlying index declines from the time you submit your notice of redemption until the time when the final index value is determined, the amount you receive upon redemption will be less than you expected at the time you submitted your notice of redemption.

**The underlying index is a new index with limited actual performance history.**



The underlying index was established on January 24, 2017. Accordingly, the underlying index has no actual performance history by which to evaluate its performance prior to January 24, 2017. Although this pricing supplement contains hypothetical back-tested historical performance information for the underlying index, that information is hypothetical, intended for illustrative purposes only and subject to inherent limitations. The underlying index administrator developed the rules of the underlying index with the benefit of hindsight—that is, with the benefit of being able to evaluate how the underlying index rules would have caused the underlying index to perform had it existed during the hypothetical back-tested period. The fact that the underlying index generally appreciated over the hypothetical back-tested period may not therefore be an accurate or reliable indication of any fundamental aspect of the underlying index methodology. Furthermore, the hypothetical back-tested performance of the underlying index might look different if it covered a different historical period. The market conditions that existed during the hypothetical back-tested period may not be representative of market conditions that will exist in the future.

The hypothetical back-tested historical performance information for the underlying index included in this pricing supplement begins on December 31, 2014. Therefore, it covers only a limited period of time and does not cover a variety of market conditions. As a result, it provides a limited basis on which to assess the hypothetical historical performance of the underlying index and may not provide any indication of how the underlying index would perform in future market conditions if those market conditions differ from those that prevailed in the limited period since December 31, 2014.

PS-8

It is impossible to predict whether the underlying index will rise or fall. The actual future performance of the underlying index may bear little relation to the hypothetical back-tested or historical performance of the underlying index. Past performance is not indicative of future performance for any investment, but especially for an investment linked to the underlying index. The underlying index is based on the performance of commodity futures contracts, which can be highly volatile and unpredictable. Accordingly, there is heightened potential for the underlying index to perform in an unexpected and unpredictable way.

**The yield on the securities may be lower than the yield on a standard debt security of comparable maturity.**

You will receive a coupon at a floating rate equal to 1-month U.S. dollar LIBOR *minus* 0.15%, payable only at maturity (except that in the event of a redemption or call, accrued interest will be paid on the date when payment is made in connection with such redemption or call). As a result, unless the underlying index appreciates sufficiently, the effective yield on the securities may be less than that which would be payable on a conventional fixed-rate, non-callable debt security of Citigroup Global Markets Holdings Inc. (guaranteed by Citigroup Inc.) of comparable maturity.

**The underlying index administrator is an affiliate of ours and, in its role as sponsor of the underlying index, may have economic interests that are adverse to yours as an investor in the securities.**

The underlying index administrator (which is also the underlying index calculation agent) is an affiliate of ours. In addition to calculating and publishing the level of the underlying index, the underlying index administrator may be required to make certain determinations in connection with the underlying index that require it to exercise judgment. These determinations may include, if an adjustment event occurs, determining whether to suspend the calculation of the underlying index, select a replacement for the Bloomberg Commodity Index<sup>SM</sup> or any of its sub-indices or discontinue the underlying index. In addition, if any data or information required to calculate the value of the underlying index is not available, the underlying index administrator may use its own estimate of the relevant data or information to calculate the value of the underlying index. These determinations may have an impact, positive or negative, on the value of the underlying index and the securities. In making these determinations, the underlying index administrator, as an affiliate of ours, is not acting as an advisor to you as an investor in the securities, is under no obligation to consider your interests as an investor in the securities and may have economic interests that are adverse to yours as an investor in the securities.

**Changes in the composition or calculation of the Bloomberg Commodity Index<sup>SM</sup> or any of its sub-indices may adversely affect your return on the securities.**

Bloomberg may modify the methodology for determining the composition and calculation of the Bloomberg Commodity Index<sup>SM</sup> or any of its sub-indices at any time. Because the value of the underlying index depends on the performance of sub-indices of the Bloomberg Commodity Index<sup>SM</sup>, the value of the underlying index will be affected if Bloomberg makes any change to these sub-indices or the manner in which they are calculated. Any such changes could adversely affect the supplemental return amount and the value of the securities.

**If a commodity hedging disruption event occurs during the term of the securities, we may call the securities early for an amount that may result in a significant loss on your investment.**

See “Additional Terms of the Securities—Commodity Hedging Disruption Event” in this pricing supplement for information about the events that may constitute a commodity hedging disruption event. If a commodity hedging disruption event occurs, we may call the securities prior to the maturity date for an amount equal to the early call amount determined as of the early call notice date. The early call amount will be equal to the stated principal amount of your securities *plus* the supplemental return amount, as determined with respect to the early call notice date (or, if such day is not a commodity business day, the next succeeding commodity business day). This amount could be less than your initial investment and, therefore, could result in a loss on your investment in the securities.

The early call amount may be significantly less than the amount you would have received had we not elected to call the securities and had you been able instead to hold them to maturity. For example, the early call

amount may be determined during a market disruption that has a significant adverse effect on the early call amount. That market disruption may be resolved by the time of the originally scheduled maturity date and, had your payment on the securities been determined on the scheduled final valuation date rather than on the early call notice date, you might have achieved a significantly better return.

The calculation agent will be required to exercise discretion in determining whether a commodity hedging disruption event has occurred. If the calculation agent determines that a commodity hedging disruption event has occurred and as a result we elect to call the securities upon the occurrence of a commodity hedging disruption event, you may incur a significant loss on your investment in the securities.

**Prices of commodity futures contracts are characterized by high and unpredictable volatility, which could lead to high and unpredictable volatility in the underlying index.**

Market prices of the commodity futures contracts included in the underlying index tend to be highly volatile and may fluctuate rapidly based on numerous factors. The prices of commodities and commodity futures contracts are subject to variables that may be less significant to the values of traditional securities, such as stocks and bonds. These variables may create additional investment risks that cause the value of the securities to be more volatile than the values of traditional securities.

**Holders of the securities will not benefit from regulatory protections of the Commodity Futures Trading Commission.**

The securities are our direct obligations. The net proceeds to be received by us from the sale of the securities will not be used to purchase or sell futures contracts for the benefit of the holders of securities. An investment in the securities does not constitute an investment in futures contracts, and holders of the securities will not benefit from the regulatory protections of the Commodity Futures Trading Commission (the "CFTC") afforded to persons who trade in such contracts. 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 the securities 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 securities, 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 securities will not be interests in a commodity pool, the securities 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.

**Legal and regulatory changes could adversely affect the return on and value of the securities.**

Futures contracts, including those underlying the underlying index, are subject to extensive statutes, regulations and margin requirements. The CFTC and the exchanges on which such futures contracts trade are authorized to take extraordinary actions in the event of a market emergency, including, for example, the retroactive implementation of speculative position limits or higher margin requirements, the establishment of daily limits and the suspension of trading. Furthermore, the exchanges have regulations designed to limit the amount of fluctuations in futures contract prices.

In addition, the regulation of commodity transactions in the United States is subject to ongoing modification by government and judicial action. The effect on the performance of the underlying index of any future regulatory change is impossible to predict, but could be substantial and adverse to the interests of holders of the securities. For example, the Dodd–Frank Wall Street Reform and Consumer Protection Act, which was enacted on July 21, 2010, requires the CFTC to establish limits on the size of the positions any person may hold in futures contracts on a commodity, options on such futures contracts and swaps that are economically equivalent to such

PS-10

contracts. In particular, the CFTC has proposed rules to establish position limits that will apply to 28 agricultural, metals and energy futures contracts and futures, options and swaps that are economically equivalent to those futures contracts. The limits will apply to a person's combined position in futures, options and swaps on a particular commodity. The rules, if enacted in their proposed form, may reduce liquidity in the exchange-traded market for certain futures contracts, but any reduction may not be uniform across delivery months. If any such reduction in liquidity affects shorter-dated futures contracts differently from longer-dated futures contracts, the underlying index may be adversely affected. The potential effects of these or other regulatory developments are impossible to predict. Any such effects may adversely affect the value of the securities.

**Distortions or disruptions of market trading in the futures contracts underlying the underlying index could adversely affect the value of and return on the securities.**

The commodity markets are subject to temporary distortions or other disruptions due to various factors, including the lack of liquidity in the markets, the participation of speculators and government regulation and intervention. These circumstances could adversely affect the settlement price of any of the futures contracts underlying the underlying index in a way that adversely affects the underlying index.

**The offering of the securities does not constitute a recommendation of the underlying index by us or our affiliates.**

You should not take the offering of the securities as an expression of our views or the views of our affiliates regarding how the underlying index will perform in the future or as a recommendation to invest in the underlying index, including through an investment in the securities. As we are part of a global financial institution, we and our affiliates may, and often do, have positions that conflict with an investment in the securities. You should undertake an independent determination of whether an investment in the securities is suitable for you in light of your specific investment objectives and financial resources.

**Our affiliates may have published research, expressed opinions or provided recommendations that are inconsistent with investing in the securities and may do so in the future, and any such research, opinions or recommendations could adversely affect the value of the underlying index.**

CGMI and other of our affiliates may publish research from time to time relating to commodity futures contracts and/or the spread strategy reflected in the underlying index. Any research, opinions or recommendations provided by CGMI and other of our affiliates may influence prices of the underlying futures contracts and, therefore, the value of the underlying index, and they may be inconsistent with purchasing or holding the securities. CGMI and other of our affiliates may have published or may publish research or other opinions that call into question the investment view implicit in an investment in the securities. Investors should make their own independent investigation of the

underlying index and the merits of investing in the securities.

**The level of the underlying index may be affected by our or our affiliates' hedging and other trading activities.**

In connection with the sale of the securities, we have hedged our obligations under the securities through CGMI or other of our affiliates, who have taken positions in the futures contracts underlying the underlying index. We or our counterparties may also adjust this hedge during the term of the securities and close out or unwind this hedge on or before any commodity business day on which the supplemental return amount is determined, which may involve, among other things, our counterparties purchasing or selling such futures contracts. This hedging activity on or prior to the initial valuation date could potentially affect the level of the underlying index on the initial valuation date and, accordingly, potentially increase the initial index value, which may adversely affect your return on the securities. Additionally, this hedging activity during the term of the securities, including on or near any relevant commodity business day, could negatively affect the closing value of the underlying index on that day and, therefore, adversely affect your return on the securities. This hedging activity may present a conflict of interest between your interests as a holder of the securities and the interests we and/or our counterparties, which may be our affiliates, have in executing, maintaining and adjusting hedging transactions.

CGMI and other of our affiliates may also trade the underlying futures contracts on a regular basis (taking long or short positions or both), for their accounts, for other accounts under their management or to facilitate

PS-11

transactions, including block transactions, on behalf of customers. As with our or our affiliates' hedging activity, this trading activity could affect the closing value of the underlying index and, therefore, adversely affect the performance of the securities.

**Although it is not intended to provide exposure to commodities, the underlying index will nevertheless be subject to certain risks associated with an investment in commodity futures contracts.**

As discussed above, the underlying index is not intended to provide directional exposure to commodities. Nevertheless, you should understand that the performance of the underlying index is ultimately determined by the performance of commodity futures contracts. Accordingly, the underlying index is subject to risks associated with an investment in commodity futures contracts.

The underlying index is rebalanced monthly to match the weights of the underlying constituent indices to the weights of their associated commodities in the Bloomberg Commodity Index<sup>SM</sup> as of the end of the most recent month (multiplied by the four times leverage factor). This matching of weights is intended to cause the underlying index to have neutral exposure to the directional movement of commodities. However, between monthly rebalancings, the levels of the underlying constituent indices will fluctuate, such that the weighted values of corresponding underlying constituent indices will no longer exactly offset each other. The resulting difference will be attributable to the value of the underlying futures contracts, and you will have exposure to these futures contracts and their underlying commodities to the extent of that difference.

The prices of commodity futures contracts are determined by many factors, including the expected spot price of the underlying commodity at the expiration of the futures contract, the cost of storing the underlying commodity for the term of the futures contract and interest charges incurred to finance the purchase of the underlying commodity. They may also be affected by a number of unpredictable factors that may lead to volatility, disruptions and distortions in the prices of futures contracts, such as:

- governmental regulation and intervention, which may be difficult to predict and in recent years has been subject to significant uncertainty and change in relation to commodity futures contracts;
- the actions of speculators, which may cause both sudden run-ups and sudden declines in futures contract prices;
- the rules and actions of the exchanges or markets on which futures contracts trade, such as the imposition of price limits; and



interruptions in the supply of the underlying commodity, such as through the actions of cartels or as a result of weather or political events.

As a result of these factors, disruptions and distortions tend to be more common in futures markets than in other markets, such as stock markets. The volatility, disruptions and distortions associated with futures contract prices may adversely affect the performance of the underlying index.

**1-month U.S. dollar LIBOR and the manner in which it is calculated may change in the future.**

The method by which 1-month U.S. dollar LIBOR is calculated may change in the future, as a result of governmental actions, actions by the publisher of 1-month U.S. dollar LIBOR or otherwise. We cannot predict whether the method by which 1-month U.S. dollar LIBOR is calculated will change or what the impact of any such change might be. Any such change could affect the level of 1-month U.S. dollar LIBOR in a way that has a significant adverse effect on the securities.

**You will not have any rights with respect to any futures contracts or commodities underlying the underlying index.**

You will not own or have any beneficial or other legal interest in, and will not be entitled to any rights with respect to, the future contracts or commodities underlying the underlying index. The securities are debt securities

PS-12

issued by Citigroup Global Markets Holdings Inc. and guaranteed by Citigroup Inc., not an interest in the futures contracts or commodities underlying the underlying index.

**The underlying index administrator may discontinue the underlying index at any time and may substitute an alternative index for the Bloomberg Commodity Index<sup>SM</sup> or any of its sub-indices under certain circumstances.**

The underlying index administrator may discontinue the underlying index at any time. If the underlying index administrator discontinues the underlying index, we will have the right to call the securities prior to maturity for the amount described below under “Description of the Securities—Discontinuance of the Underlying Index,” and this amount may be less than the amount you would have received if we had not called the securities. If we do not call the securities, the calculation agent may, in its sole discretion, select a successor underlying index or, if it does not select a successor index, perform its own calculation of the underlying index level.

Alternatively, if certain events occur with respect to the Bloomberg Commodity Index<sup>SM</sup> or any of its sub-indices and the underlying index administrator does not discontinue the underlying index, the underlying index administrator may, in its sole discretion, select a substitute index for the Bloomberg Commodity Index<sup>SM</sup> or any of its sub-indices, including an index that may be sponsored by the underlying index administrator or another one of our affiliates, and make such adjustments to the index conditions for the underlying index as it determines appropriate. Any such substitution and adjustment may adversely affect the performance of the underlying index.

**The calculation agent, which is an affiliate of the issuer, will make determinations with respect to the securities.**

Citibank, N.A. – Commodity Derivatives Calculations, which is acting as the calculation agent for the securities, is an affiliate of ours. As calculation agent, Citibank, N.A. will make certain determinations with respect to the securities. Citibank, N.A. may be required to exercise judgment in making certain of these determinations, including in:

determining whether a market disruption event has occurred;

if a market disruption event occurs with respect to an underlying constituent index and continues until the relevant cut-off day, determining the level of that underlying constituent index for purposes of determining the final index value and the supplemental return amount;

if the underlying index is discontinued and we do not exercise our right to call the securities, identifying a successor underlying index or, if none is available, calculating the level of the underlying index for purposes of determining the final index value and the supplemental return amount; and

determining whether a commodity hedging disruption event has occurred.

Any of these determinations made by Citibank, N.A., in its capacity as calculation agent, may adversely affect any payments to you. The fact that Citibank, N.A. is our affiliate may cause it to have economic interests that are adverse to yours in making these determinations.

**The U.S. federal tax consequences of an investment in the securities are uncertain.**

There is no direct legal authority regarding the proper U.S. federal tax treatment of the securities, and we do not plan to request a ruling from the Internal Revenue Service (the “IRS”). Consequently, significant aspects of the tax treatment of the securities are uncertain, and the IRS or a court might not agree with the treatment of each security as a prepaid forward contract with an associated coupon payment, as described in this pricing supplement under “United States Federal Tax Considerations.” If the IRS were successful in asserting an alternative treatment for the securities, the tax consequences of ownership and disposition of the securities might be materially and adversely affected. Because of the uncertain treatment of the securities, Non-U.S. Holders (as defined in “United States Federal Tax Considerations” below) should expect to be subject to withholding tax in respect of the coupon payment on the securities at a rate of 30% or a lower treaty rate. In addition, as described below under “United

PS-13

States Federal Tax Considerations,” the U.S. Treasury Department and the IRS have requested comments on various issues regarding the U.S. federal income tax treatment of “prepaid forward contracts” and similar financial instruments and have indicated that such transactions may be the subject of future regulations or other guidance. In addition, members of Congress have proposed legislative changes to the tax treatment of derivative contracts. Any legislation, Treasury regulations or other guidance promulgated after consideration of these issues could materially and adversely affect the tax consequences of an investment in the securities, possibly with retroactive effect. **You should review carefully the section of this pricing supplement entitled “United States Federal Tax Considerations.” You should also consult your tax adviser regarding the U.S. federal tax consequences of an investment in the securities, as well as tax consequences arising under the laws of any state, local or non-U.S. taxing jurisdiction.**

PS-14

## DESCRIPTION OF THE SECURITIES

The following description of the particular terms of the Securities supplements the description of the general terms set forth in the accompanying prospectus supplement and prospectus. It is important for you to consider the information contained in this pricing supplement together with the accompanying prospectus supplement and prospectus before making your decision to invest in the Securities. If any specific information regarding the Securities in this pricing supplement is inconsistent with the more general terms of the Securities described in the accompanying prospectus supplement or prospectus, you should rely on the information contained in this pricing supplement.

You may access the prospectus supplement and prospectus on the SEC Web site at [www.sec.gov](http://www.sec.gov) as follows (or if such address has changed, by reviewing our filings for April 7, 2017 on the SEC Web site):

§ Prospectus Supplement and Prospectus each dated April 7, 2017:

<https://www.sec.gov/Archives/edgar/data/831001/000119312517116348/d370918d424b2.htm>

### General

The securities offered by this pricing supplement (the “Securities”) are index-linked securities issued by Citigroup Global Markets Holdings Inc. and guaranteed by Citigroup Inc. At maturity or upon your earlier redemption or our call, you might receive less than the stated principal amount of your investment in the Securities.

The Securities will bear interest at a floating rate per annum equal to 1-month U.S. dollar LIBOR *minus* 0.15%, subject to a minimum of 0.00%. At maturity or upon your redemption or our call of the Securities, you will receive (i) the stated principal amount of the Securities *plus* (ii) the Supplemental Return Amount, as determined as of the applicable Commodity Business Day specified below. The Supplemental Return Amount may be negative, zero or positive. Therefore, the amount you receive at maturity or upon your redemption or our call of the Securities may be less than your initial investment in the Securities.

The Supplemental Return Amount includes a leverage factor of three, will be based on the change in the value of the Citi Commodities F3 vs F0 – 4x Leveraged Index (the “Underlying Index”) from the Initial Valuation Date to the relevant Commodity Business Day and will be determined after deducting a 0.80% annual fee (which will be magnified by the leverage factor of three that is included in the calculation of the Supplemental Return Amount) accrued from and including the Initial Valuation Date to and including that Commodity Business Day. The deduction of the aforementioned fee will reduce the Supplemental Return Amount and therefore the return on your Securities.

The Securities will be issued only in fully registered form and in denominations of US\$1,000 per Security and integral multiples thereof. The Securities are part of a series of unsecured debt securities issued by Citigroup Global Markets Holdings Inc. under the senior debt indenture described in the accompanying prospectus supplement and prospectus. The Securities will rank equally with all other unsecured and unsubordinated debt of Citigroup Global Markets Holdings Inc. All payments due on the Securities are guaranteed by Citigroup Inc. The guarantee of payments due on the Securities will constitute part of the senior indebtedness of Citigroup Inc. and will rank on an equal basis with all other unsecured and unsubordinated debt of Citigroup Inc. The return of the stated principal amount of your investment in the Securities is not guaranteed. All payments on the Securities are subject to the credit risk of Citigroup Global Markets Holdings Inc. and Citigroup Inc.

Reference is made to the accompanying prospectus supplement and prospectus for a detailed summary of additional provisions of the Securities and of the senior debt indenture under which the Securities will be issued.

### **Coupon**

Interest on the Securities will be paid in cash on the Maturity Date (except that in the event of a redemption or call, accrued interest will be paid on the date when payment is made in connection with such redemption or call) (the "Interest Payment Date"). The 1-month U.S. dollar LIBOR rate applicable to any interest period will be determined on the second Business Day prior to November 27, 2018 (the "Issue Date"), in the case of the initial

PS-15

interest period, or the second Business Day prior to the 27th day of each month commencing in December 2018 (each an “Interest Reset Date”), in the case of all other interest periods. An interest period is the period from, and including, each Interest Reset Date to, but excluding, the following Interest Reset Date; *provided* that the initial interest period is the period from, and including, the Issue Date to, but excluding, the first Interest Reset Date and the final interest period will end on, but exclude, the Interest Payment Date.

The amount of the coupon payment (the “Coupon Amount”) will be calculated as follows (but will in no event be less than zero):

Stated Principal Amount × Accrued Interest Factor

For purposes of calculating the Coupon Amount, “Accrued Interest Factor” means the sum of the Daily Interest Factors from, and including, the Issue Date to, but excluding, the Interest Payment Date.

“Daily Interest Factor” means, for each calendar day during any interest period, (a) the 1-month U.S. dollar LIBOR rate applicable to such interest period *minus* 0.15%, subject to a minimum of 0.00%, *divided* by (b) 360.

A “Business Day” is any day on which banking institutions in the City of New York and London, England are open for business.

#### *Determination of 1-month U.S. Dollar LIBOR*

1-month U.S. dollar LIBOR is a daily reference rate fixed in U.S. dollars based on the interest rates at which banks borrow funds from each other for a term of one month, in marketable size, in the London interbank market. For each interest period, 1-month U.S. dollar LIBOR will equal the rate for 1-month U.S. dollar LIBOR appearing on Reuters screen LIBOR01 at approximately 11:00 a.m. (London time) on the second Business Day prior to the first day of that interest period, which we refer to as an interest determination date. If Reuters screen LIBOR01 is replaced by another page, or if Reuters is replaced by a successor service, then “Reuters screen LIBOR01” means the replacement page or service selected to display the London interbank offered rates of major banks for U.S. dollars.

If 1-month U.S. dollar LIBOR cannot be determined on any day on which 1-month U.S. dollar LIBOR is required as described above, then the Calculation Agent will determine 1-month U.S. dollar LIBOR as follows:

- The Calculation Agent (after consultation with us) will select four major banks in the London interbank market.

The Calculation Agent will request that the principal London offices of those four selected banks provide their offered quotations to prime banks in the London interbank market at approximately 11:00 a.m., London time, on the relevant date. These quotations shall be for deposits in U.S. dollars for the period of one month, commencing on the relevant date. Offered quotations must be based on a principal amount equal to at least \$1,000,000.

(1) If two or more quotations are provided, 1-month U.S. dollar LIBOR for the interest period will be the arithmetic average of those quotations.

(2) If fewer than two quotations are provided, the Calculation Agent (after consultation with us) will select three major banks in New York City and follow the steps in the two bullet points below.

The Calculation Agent will then determine 1-month U.S. dollar LIBOR for the interest period as the arithmetic average of rates quoted by those three major banks in New York City to leading European banks at approximately 11:00 a.m., New York City time, on the relevant date. The rates quoted will be for loans in U.S. dollars for the period of one month, commencing on the relevant date. Rates quoted must be based on a principal amount of at least \$1,000,000.

If fewer than three New York City banks selected by the Calculation Agent are quoting rates, 1-month U.S. dollar LIBOR for the interest period will be the same as for the immediately preceding interest period.

PS-16



Notwithstanding the foregoing, if, on or prior to any interest determination date, the issuer (or one of its affiliates) determines that 1-month U.S. dollar LIBOR has been discontinued or is permanently no longer being published, the issuer (or such affiliate) will use a substitute or successor rate that it has determined, in its sole discretion after consulting any source it deems to be reasonable, is (a) the industry-accepted substitute or successor rate for 1-month U.S. dollar LIBOR or (b) if there is no such industry-accepted substitute or successor rate, a substitute or successor rate that is most comparable to 1-month U.S. dollar LIBOR.

Upon selection of a substitute or successor rate, the issuer (or such affiliate) may determine, in its sole discretion after consulting any source it deems to be reasonable, the day count, the business day convention, the definition of Business Day, the relevant date on which the substitute or successor rate is determined for each interest period and any other relevant methodology or definition for calculating such substitute or successor rate, including any adjustment factor it determines is needed to make such substitute or successor rate comparable to 1-month U.S. dollar LIBOR, in a manner that is consistent with any industry-accepted practices for such substitute or successor rate.

#### Payment at Maturity

Unless redeemed by you or called by us, the Securities will mature on December 23, 2019 (the “Maturity Date”). You will receive at maturity (i) the stated principal amount of the Securities you then hold *plus* (ii) the Supplemental Return Amount with respect to those Securities as determined with respect to December 16, 2019 (or, if such day is not a Commodity Business Day, the next succeeding Commodity Business Day but in no event later than the Business Day immediately preceding the Maturity Date) (the “Final Valuation Date”). If the Maturity Date falls on a day that is not a Business Day, the payment to be made on the Maturity Date will be made on the next succeeding Business Day with the same force and effect as if made on the Maturity Date, and no additional interest will accrue as a result of such delayed payment.

#### Payment Upon Your Redemption

On any Commodity Business Day prior to the scheduled Final Valuation Date, you may redeem all or any portion of the Securities you then hold (subject to the Minimum Redemption Amount) in exchange for (i) the stated principal amount of the Securities you elect to redeem *plus* (ii) the Supplemental Return Amount with respect to the Securities you elect to redeem as determined with respect to the same Commodity Business Day on which the notice of redemption is effective.

#### Exercise of Your Redemption Option

If you elect to exercise your redemption option, you must do so with respect to at least 100 Securities (US\$100,000 aggregate stated principal amount) at one time (the “Minimum Redemption Amount”). To redeem your Securities on any Commodity Business Day, you must instruct your broker to take the following steps through normal clearing system channels: (1) fill out an official notice of redemption; (2) deliver your official notice of redemption to us (which must be acknowledged by us) on any Commodity Business Day from and including the Issue Date to but excluding the scheduled Final Valuation Date; and (3) transfer your book-entry interest in the Securities to the trustee or the paying agent on our behalf on the fifth Business Day following the day on which your redemption is effective. If we receive your official notice of redemption at or before 10:00 a.m. New York City time on any Commodity Business Day from and including the Issue Date to but excluding the scheduled Final Valuation Date, your redemption will be effective on that Commodity Business Day. If we receive your official notice of redemption on a day that is not a Commodity Business Day or after 10:00 a.m. New York City time on any Commodity Business Day, your redemption will be effective on the first Commodity Business Day following that day. You will receive the amount payable to you upon your redemption on the fifth Business Day following the date your redemption is effective.

### **Payment Upon Our Call**

If on any Commodity Business Day prior to the scheduled Final Valuation Date the closing value of the Underlying Index is less than or equal to 85% of the Initial Index Value, we will call the Securities for (i) the stated principal amount of the Securities you then hold *plus* (ii) the Supplemental Return Amount with respect to those Securities as determined with respect to the Commodity Business Day following that Commodity Business Day

PS-17

(such following Commodity Business Day, the “Call Date”). You will receive the amount payable to you upon our call on the fifth Business Day following the Call Date.

### **Supplemental Return Amount**

The “Supplemental Return Amount” will be calculated as follows, whether at maturity or upon your redemption or our call:

$$\text{Stated Principal Amount} \times \left[ 3 \times \left\{ \text{Underlying Index Performance} - \left( 0.80\% \times \frac{\text{Elapsed Days}}{365} \right) \right\} \right]$$

For the purpose of calculating the Supplemental Return Amount, “Elapsed Days” shall mean the number of calendar days from and including the Initial Valuation Date to and including the Commodity Business Day with respect to which the Supplemental Return Amount is determined.

The “Underlying Index Performance” will be calculated with respect to any relevant Commodity Business Day as (a) (i) Final Index Value *divided by* (ii) Initial Index Value *minus* (b) 1.

The “Initial Index Value” is the closing value of the Underlying Index published by the Underlying Index Calculation Agent with respect to the Initial Valuation Date, which was 119.758.

The “Final Index Value” is the closing value of the Underlying Index published by the Underlying Index Calculation Agent with respect to the Commodity Business Day with respect to which the Supplemental Return Amount is specified to be determined at maturity or pursuant to redemption or call, as applicable.

The “Initial Valuation Date” is November 15, 2018.

The “Underlying Index Calculation Agent” is Citigroup Global Markets Limited.

“Commodity Business Day” means a day, as determined in good faith by the Calculation Agent, on which trading is generally conducted on the Relevant Exchanges for each Underlying Index Contract then underlying the Underlying Index.

“Underlying Index Contract” means, at any time, a Designated Contract (as defined under “Description of the Bloomberg Commodities Indices” below) used at that time to calculate an Underlying Constituent Index that is used to calculate the closing value of the Underlying Index at that time.

If a Market Disruption Event has occurred and is continuing on any relevant Commodity Business Day, the Calculation Agent will calculate the closing value of the Underlying Index with respect to that Commodity Business Day in good faith in accordance with the formula for and method of calculating the Underlying Index last in effect prior to commencement of the Market Disruption Event, using:

for each Underlying Constituent Index that **did not** suffer a Market Disruption Event on that Commodity Business Day, the published closing level of that Underlying Constituent Index on that Commodity Business Day (or, if the BCOM Index Providers do not publish the closing level of that Underlying Constituent Index on that Commodity Business Day, the Calculation Agent’s estimate of the closing level of that Underlying Constituent Index on that Commodity Business Day, determined in good faith in accordance with the formula for and method of calculating that Underlying Constituent Index last in effect prior to commencement of the Market Disruption Event), and

for each Underlying Constituent Index that **did** suffer a Market Disruption Event on that Commodity Business Day, the published closing level of that Underlying Constituent Index on the immediately succeeding trading day on which no Market Disruption Event occurs or is continuing with respect to that Underlying Constituent Index (or, if the BCOM Index Providers do not publish the closing level of that Underlying Constituent Index on that Commodity Business Day, the Calculation Agent’s estimate of the closing level of that Underlying Constituent Index on that Commodity Business Day, determined in good faith in accordance with the formula for and method of calculating that Underlying Constituent Index last in effect prior to commencement of the Market Disruption Event);

PS-18

*provided*, however, that if a Market Disruption Event has occurred or is continuing with respect to that Underlying Constituent Index on each scheduled trading day from and including that Commodity Business Day to and including the earlier of (a) the fifth scheduled trading day following that Commodity Business Day and (b) the Business Day immediately preceding the Maturity Date (the earlier of (a) and (b), the “Cut-Off Day”), then the Calculation Agent will determine the level of the Underlying Constituent Index on the Cut-Off Day acting in good faith and in a commercially reasonable manner, taking into account the latest available quotation for the settlement price of the Underlying Index Contract for that Underlying Constituent Index and any other information that in good faith it deems relevant (which level shall be used to determine the Final Index Value).

A “Market Disruption Event” means any of the following events, as determined in good faith by the Calculation Agent:

(A) the closing value of the Underlying Index is not published by the Underlying Index Calculation Agent on the applicable Commodity Business Day; or

(B) with respect to any Underlying Constituent Index:

i. the termination or suspension of, or material limitation or disruption in, the trading on the Relevant Exchange of the Underlying Index Contract with respect to that Underlying Constituent Index;

ii. the settlement price on the Relevant Exchange of the Underlying Index Contract with respect to that Underlying Constituent Index has increased or decreased by an amount equal to the maximum permitted price change from the previous day’s settlement price; or

iii. the settlement price of the Underlying Index Contract with respect to that Underlying Constituent Index is not published by the Relevant Exchange.

Notwithstanding the foregoing, a limitation on the hours in a trading day and/or number of days of trading, if it results from an announced change in the regular business hours of the Relevant Exchange, will not constitute a Market Disruption Event.

For purposes of the above, (a) “Relevant Exchange” means the exchange on which the Underlying Index Contract is traded; and (b) “trading day” means a day, as determined in good faith by the Calculation Agent, on which trading is generally conducted on the Relevant Exchange applicable to the relevant Underlying Index Contract.

Discontinuance of the Underlying Index

If the Underlying Index Administrator discontinues publication of the Underlying Index, we will have the right, but not the obligation, to call the Securities on the terms described in this paragraph. If we elect to call the Securities, we will provide notice of such call to the trustee, and we or the trustee will provide notice to the holders of the Securities (which shall be DTC for so long as the Securities are in book-entry form), at least five Business Days prior to the date on which the call price is to be paid, which will be the fifth Business Day following the date the Supplemental Return Amount with respect to the call is determined. If we call the Securities, we will pay you, for each Security you hold on the date of payment, an amount equal to (i) the stated principal amount of your Securities *plus* (ii) the Supplemental Return Amount with respect to those Securities as determined with respect to the last Commodity Business Day on which the closing value of the Underlying Index is scheduled to be published.

If the Underlying Index Administrator discontinues publication of the Underlying Index and we do not call the Securities, and it or another entity (including another of our affiliates) publishes a successor or substitute index that the Calculation Agent determines, in its sole discretion, to be comparable to the discontinued Underlying Index, then the value of the Underlying Index for purposes of the Securities will be determined by reference to the value of that index, which we refer to as a "Successor Underlying Index." In such an event, the Calculation Agent will, in its sole discretion, make any adjustment to any value of the Underlying Index or the Successor Underlying Index used for purposes of the Securities as it may deem appropriate in order to account for the effect of the substitution.

PS-19

Upon any selection by the Calculation Agent of a Successor Underlying Index, the Calculation Agent will cause notice to be furnished to the trustee, us and to DTC, as holder of the Securities, within three Business Days of such selection. We expect that such notice will be made available to you, as a beneficial owner of the Securities, in accordance with the standard rules and procedures of DTC and its direct and indirect participants.

If the Underlying Index Administrator discontinues publication of the Underlying Index prior to, and such discontinuance is continuing on, any Commodity Business Day on which the Supplemental Return Amount is to be determined and the Calculation Agent determines, in its sole discretion, that no Successor Underlying Index is available at such time, then a Market Disruption Event will occur and the Calculation Agent will determine the closing value for the Underlying Index for such date pursuant to the provisions set forth above with respect to Market Disruption Events. Notwithstanding these alternative arrangements, discontinuance of the publication of the Underlying Index may adversely affect the value of the Securities.

### **Commodity Hedging Disruption Event**

If, on any day during the term of the Securities up to but excluding the Final Valuation Date or any earlier date on which the Supplemental Return Amount for all outstanding Securities has been determined, the Calculation Agent determines that a Commodity Hedging Disruption Event has occurred, we will have the right, but not the obligation, to call the Securities, in whole and not in part, by providing written notice of our election to exercise that right to the trustee (the date of such notice, the “Early Call Notice Date”) on a date of our choosing that is no later than the 30th Business Day immediately following the Early Call Notice Date or earlier than the fifth Business Day following the Early Call Notice Date. A Commodity Hedging Disruption Event need not be continuing on the Early Call Notice Date or on the date on which the call price is paid. The amount due and payable on the Securities upon such call will be equal to the Early Call Amount determined as of the Early Call Notice Date.

A “Commodity Hedging Disruption Event” means any event or condition on or after the Initial Valuation Date following which we or our affiliates are unable, after using commercially reasonable efforts, to (i) acquire, establish, re-establish, substitute, maintain, unwind or dispose of any security, option, future, derivative, currency, instrument, transaction, asset or arrangement that references the Underlying Index, any Underlying Constituent Index or any Underlying Index Contract that the Calculation Agent deems necessary to hedge the risk of entering into and performing our obligations with respect to the Securities (each a “Hedge Position”) or (ii) realize, recover or remit the proceeds of any such Hedge Position, in each case including (without limitation) if those Hedge Positions (in whole or in part) are (or, but for the consequent disposal thereof, would otherwise be) in excess of any allowable position limit(s) in relation to any commodity traded on any exchange(s) or other trading facility.

The “Early Call Amount” will be equal to (i) the stated principal amount of the Securities then outstanding *plus* (ii) the Supplemental Return Amount with respect to those Securities as determined with respect to the Early Call Notice Date (or, if such day is not a Commodity Business Day, the next succeeding Commodity Business Day).

Under the terms of the Securities, the Calculation Agent will be required to exercise discretion under certain circumstances, including (i) determining whether a Market Disruption Event or a Commodity Hedging Disruption Event has occurred; (ii) if a Market Disruption Event occurs with respect to an Underlying Index Contract and has not been resolved by the Cut-Off Day, determining the price for that Underlying Index Contract to be used in the determination of the Final Index Value; and (iii) if the Underlying Index is discontinued and we do not exercise our call right, selecting a Successor Underlying Index or, if no Successor Underlying Index is available, performing an alternative calculation of the level of the Underlying Index. In exercising this discretion, the Calculation Agent will be required to act in good faith and in a commercially reasonable manner, but it may take into account any factors it deems relevant, including, without limitation, whether the applicable event materially interfered with our or our affiliates' ability to adjust or unwind all or a material portion of any hedge with respect to the Securities.

#### Events of Default and Acceleration

In case an Event of Default (as defined in the accompanying prospectus) with respect to the Securities shall have occurred and be continuing, the amount declared due and payable upon any acceleration of the Securities will be determined by the Calculation Agent and will equal, for each Security, the amount to be received at maturity, calculated as though the date of acceleration were the Final Valuation Date. The coupon payment will reflect accrued interest from, and including, the Issue Date to, but excluding, the date of acceleration.

PS-20



In case of default under the Securities, whether in the payment of interest or any other payment due under the Securities, no interest will accrue on such overdue payment either before or after the Maturity Date.

Calculation Agent

The Calculation Agent for the Securities will be Citibank, N.A – Commodity Derivatives Calculations. All determinations made by the Calculation Agent will be made in good faith and will, in the absence of manifest error, be conclusive for all purposes and binding on Citigroup Global Markets Holdings Inc., Citigroup Inc. and the holders of the Securities. Citibank, N.A. is obligated to carry out its duties and functions as Calculation Agent in good faith and using its reasonable judgment.

PS-21

## DESCRIPTION OF THE UNDERLYING INDEX

## Overview

The “Underlying Index” is the Citi Commodities F3 vs F0 – 4x Leveraged Index. The Underlying Index was developed and is calculated and maintained by Citigroup Global Markets Limited (the “Underlying Index Administrator”). The Underlying Index was launched on January 24, 2017 and, therefore, has no actual performance history prior to that date.

The Underlying Index reflects four times leveraged exposure, reset monthly, to the difference, or “spread,” between (i) the aggregate performance of the 3 month forward versions of the BCOM Sub-Indices for each of the commodities included in the Bloomberg Commodity Index<sup>SM</sup> (the “BCOMF3 Sub-Indices”) and (ii) the aggregate performance of the standard (i.e., non-forward) versions of the same BCOM Sub-Indices (the “BCOMF0 Sub-Indices”). The weights of each BCOMF3 Sub-Index and corresponding BCOMF0 Sub-Index in the Underlying Index are reset monthly to correspond to the weights of the relevant underlying commodities in the Bloomberg Commodity Index<sup>SM</sup> as of the last Benchmark Index Business Day of the immediately preceding month, *multiplied* by the four times leverage factor. In general, over the course of a month, if the aggregate performance of the BCOMF3 Sub-Indices is better than the aggregate performance of the BCOMF0 Sub-Indices, the value of the Underlying Index will increase in a manner that reflects four times the outperformance of the BCOMF3 Sub-Indices relative to the BCOMF0 Sub-Indices. Conversely, if the aggregate performance of the BCOMF3 Sub-Indices is worse than the aggregate performance of the BCOMF0 Sub-Indices over the course of a month, the value of the Underlying Index will decline in a manner that reflects four times the underperformance of the BCOMF3 Sub-Indices relative to the BCOMF0 Sub-Indices. In other words, the Underlying Index is “leveraged long” the BCOMF3 Sub-Indices and “leveraged short” the BCOMF0 Sub-Indices on the same commodities. Accordingly, the performance of the Underlying Index does not depend on the directional performance of the commodities or commodity future contracts underlying the BCOM Sub-Indices, but rather on the extent to which the longer-dated futures contracts underlying the BCOMF3 Sub-Indices either outperform or underperform the shorter-dated futures contracts on the same commodities underlying the BCOMF0 Sub-Indices. See “Description of the Bloomberg Commodity Indices” below for important information about the BCOMF3 Sub-Indices and BCOMF0 Sub-Indices. We refer to the BCOMF3 Sub-Indices and BCOMF0 Sub-Indices collectively as the “Underlying Constituent Indices.”

A commodity futures contract is an agreement between two parties for the purchase and sale of a specified quantity of a particular commodity on a specified future date, at a price fixed at the time of entry into the contract. For example, a futures contract entered into in January may specify a March delivery month, which would mean that the parties to the contract would be required to pay for and deliver the underlying commodity in March for a price agreed upon in January. Any two futures contracts on the same commodity but specifying different delivery months are likely to have different settlement prices. This difference in settlement prices may reflect various factors, including storage costs and financing costs, both of which will vary based on the amount of time to delivery, as well as the adequacy of near-term supply in light of near-term demand, differences in liquidity and differing market expectations about spot prices at different points of time in the future, among other factors.

If at any time the settlement price for longer-dated futures contracts is greater than the settlement price for shorter-dated futures contracts on the same commodities, those futures contracts are said to be in “contango.” Conversely, if at any time the settlement price for longer-dated futures contracts is less than the settlement price for shorter-dated futures contracts on the same commodities, those futures contracts are said to be in “backwardation.” As time passes, the settlement price of a futures contract will fluctuate based on changes in the spot price (i.e., the price for immediate delivery) of the underlying commodity, but also, among other reasons, to reflect the effect of the passage of time on the futures contract pricing factors that vary depending on the amount of time remaining to delivery. In either a contango market or a backwardated market, as the delivery month of a futures contract nears, the price generally will tend toward the spot price. Therefore, as time passes (assuming a constant spot price), this results in the price of the futures contract *falling* with the passage of time in a contango market and *rising* with the passage of time in a backwardated market.

The effect of the passage of time on the settlement price of a futures contract may not be uniform for futures contracts on the same underlying commodity but with different delivery months. The Underlying Index is

PS-22

designed to generate positive returns if, in the aggregate, the passage of time has a more favorable (or less unfavorable) effect on the longer-dated futures contracts underlying the BCOMF3 Sub-Indices than on the shorter-dated futures contracts underlying the BCOMF0 Sub-Indices. In other words, if the underlying futures contracts are in contango, the Underlying Index is designed to generate positive returns if the effects of contango are more pronounced on the shorter-dated futures contracts underlying the BCOMF0 Sub-Indices than on the longer-dated futures contracts underlying the BCOMF3 Sub-Indices (i.e., if the shorter-dated futures contracts lose value with the passage of time more rapidly than the longer-dated futures contracts). Conversely, if the underlying futures contracts are in backwardation, the Underlying Index is designed to generate positive returns if the effects of backwardation are more pronounced on the longer-dated futures contracts underlying the BCOMF3 Sub-Indices than on the shorter-dated futures contracts underlying the BCOMF0 Sub-Indices (i.e., if the longer-dated futures contracts gain value with the passage of time more rapidly than the shorter-dated futures contracts).

**There can be no assurance, however, that the market conditions that would result in favorable returns for the Underlying Index, as described above, will exist at any time. There are a variety of market conditions that would result in negative Underlying Index returns, and if those conditions exist, the Underlying Index will experience negative returns on a four times leveraged basis. See “Risk Factors Relating to the Securities—There are a number of reasons why longer-dated futures contracts may underperform shorter-dated futures contracts.” If the shorter-dated futures contracts underlying the BCOMF0 Sub-Indices outperform the longer-dated futures contracts on the same commodities underlying the BCOMF3 Sub-Indices over any given month, the Underlying Index will experience a decline that is four times the percentage by which the BCOMF3 Sub-Indices underperform the BCOMF0 Sub-Indices.**

Although the BCOMF3 Sub-Indices are referred to as “3 month forward” indices, you should understand that the reference to “3 months” does not necessarily mean that the futures contracts underlying the BCOMF3 Sub-Indices have delivery months that are either 3 months in the future or 3 months later than the delivery months for the futures contracts underlying the corresponding BCOMF0 Sub-Indices. The length of time to the delivery months of the futures contracts underlying the BCOMF3 and the BCOMF0 Sub-Indices, and the length of time between the delivery months for the futures contracts underlying each pair of corresponding BCOMF3 and BCOMF0 Sub-Indices, varies. In fact, for some commodities, there are certain months when the futures contract underlying the relevant BCOMF3 Sub-Index is the same (i.e., has the same delivery month) as the futures contract underlying the relevant BCOMF0 Sub-Index. You should carefully review the section “Description of the Bloomberg Commodity Indices—Index Calculation—Determination of the Lead Future and the Next Future” to understand which futures contracts will underlie the Underlying Constituent Indices at any given time and the length of time between the delivery months for the corresponding BCOMF3 and BCOMF0 Sub-Indices.

This section provides only a summary of the methodology by which the Underlying Index is constructed and calculated. For the complete methodology, you should consult the index conditions for the Underlying Index, which are attached as Annex A to this pricing supplement.

The Underlying Index is merely a mathematical calculation that is performed by reference to the published levels of the Underlying Constituent Indices, as described in this section. By investing in the securities, investors will not have

any ownership or other interest in any of the commodity futures contracts or commodities underlying the Underlying Constituent Indices.

### **Underlying Index Calculation**

The Underlying Index Calculation Agent will calculate the official level of the Underlying Index (which we refer to as the “closing value”) once on each Underlying Index Business Day. An “Underlying Index Business Day” is a day when the New York floor of the CME Group is scheduled to be open for its regular trading session. The official level of the Underlying Index with respect to any Underlying Index Business Day will be published on Bloomberg under the ticker “CVIC4X30<Index>”, generally on the following Underlying Index Business Day.

On each monthly Balancing Day, each BCOMF3 Sub-Index and its corresponding BCOMF0 Sub-Index will be given a weight equal to four times the weight of the relevant underlying commodity in the Bloomberg Commodity Index<sup>SM</sup> as published by Bloomberg with respect to the last Benchmark Index Business Day of the immediately preceding calendar month. This weight will be the same for each BCOMF3 Sub-Index and the corresponding BCOMF0 Sub-Index on the same commodity, except that the weight for the BCOMF0 Sub-Index

PS-23

will be multiplied by  $-1$  so that it is a negative number, reflecting the Underlying Index's short exposure to the BCOMF0 Sub-Indices. The sum of the weights of all of the BCOMF3 Sub-Indices will be 400%, and the sum of the weights of all of the BCOMF0 Sub-Indices will be  $-400%$ , reflecting the Underlying Index's four times leverage. During the period between monthly Balancing Days, the effective weight of each BCOMF3 Sub-Index and BCOMF0 Sub-Index in the Underlying Index will fluctuate and is likely to diverge from four times the weight of the corresponding commodity in the Bloomberg Commodity Index<sup>SM</sup>. In fact, because the weight of each BCOMF3 Sub-Index and BCOMF0 Sub-Index is set on each monthly Balancing Day based on the weight of the corresponding commodity in the Bloomberg Commodity Index<sup>SM</sup> on an earlier day, the weight of each BCOMF3 Sub-Index and BCOMF0 Sub-Index is likely to diverge from four times the weight of the corresponding commodity in the Bloomberg Commodity Index<sup>SM</sup> even on that day.

The weight determined on each Balancing Day is used to calculate a Number of Units for each BCOMF3 Sub-Index and BCOMF0 Sub-Index on that Balancing Day. The Number of Units is calculated for each BCOMF3 Sub-Index and BCOMF0 Sub-Index so that it has an effective weight in the Underlying Index on the Balancing Day equal to the weight determined pursuant to the preceding paragraph. Once calculated on a Balancing Day, the Number of Units for each BCOMF3 Sub-Index and BCOMF0 Sub-Index will remain the same until the next Balancing Day. The Number of Units for each BCOMF3 Sub-Index and BCOMF0 Sub-Index is used to calculate the official level of the Underlying Index on each Underlying Index Business Day. The Number of Units of each BCOMF3 Sub-Index is a positive number, and the Number of Units of each BCOMF0 Sub-Index is a negative number.

To calculate the official level of the Underlying Index on each Underlying Index Business Day, the Underlying Index Calculation Agent will calculate, for each Underlying Constituent Index, the product of the Number of Units for that Underlying Constituent Index on the immediately preceding Underlying Index Business Day and the change in the published closing level of that Underlying Constituent Index from the prior Underlying Index Business Day (calculated as the published closing level of the relevant Underlying Constituent Index on the current Underlying Index Business Day *minus* the published closing level of the relevant Underlying Constituent Index on the immediately preceding Underlying Index Business Day). The official level of the Underlying Index on each Underlying Index Business Day is equal to the official level of the Underlying Index on the immediately preceding Underlying Index Business Day *plus* the sum (which may be a positive or negative number) of the amount determined pursuant to the preceding sentence for each BCOMF3 Sub-Index and BCOMF0 Sub-Index included in the Underlying Index.

The "Balancing Day" for each calendar month is the first Scheduled Transacting Day of that month, subject to postponement as set forth under "—Postponement of a Balancing Day" below.

A "Scheduled Transacting Day" is an Underlying Index Business Day on which the exchange for the Designated Contract underlying each Underlying Constituent Index is scheduled to be open for trading during its regular trading session, notwithstanding such exchange closing prior to its scheduled closing time, without regard to after-hours trading or other trading outside the hours of the regular trading session on such exchange.

### **Postponement of a Balancing Day**

If any scheduled Balancing Day is a Disrupted Day for any Underlying Constituent Index, the Balancing Day will be postponed to the first succeeding Scheduled Transacting Day that is not a Disrupted Day for any Underlying Constituent Index (the “Effective Balancing Day”). On each Scheduled Transacting Day that is a Disrupted Day for any Underlying Constituent Index from (and including) the scheduled Balancing Day to (but excluding) the Effective Balancing Day (each such day, an “Interim Balancing Day”): (i) the Number of Units in respect of each Underlying Constituent Index for which such day is not a Disrupted Day will be determined as if that day were the Balancing Day and (ii) the Number of Units in respect of each Underlying Constituent Index for which such day is a Disrupted Day will be equal to the Number of Units in respect of that Underlying Constituent Index on the Underlying Index Business Day immediately preceding the current day. For the avoidance of doubt, for any Underlying Constituent Index for which an Interim Balancing Day is not a Disrupted Day, the Number of Units in respect of that Underlying Constituent Index will be reset on each such Interim Balancing Day and again on the Effective Balancing Day.

PS-24

Any Scheduled Trading Day on which (1) the level of the relevant Constituent Index is not published by or on behalf of the relevant Constituent Index Sponsor; or (2) an Exchange Disruption occurs in respect of any ETD Contract.

A “Disrupted Day” means, in respect of any Underlying Constituent Index, any Scheduled Trading Day on which (1) the level of the relevant Underlying Constituent Index is not published by or on behalf of its index sponsor; or (2) an Exchange Disruption occurs in respect of any ETD Contract.

A “Scheduled Trading Day” means, in respect of any Underlying Constituent Index, any day on which the relevant index sponsor (or an agent appointed by such index sponsor) is scheduled to publish the level of the relevant Underlying Constituent Index.

“ETD Contract” shall mean, with respect to an Underlying Constituent Index, each exchange-traded futures contract and each exchange-traded option contract (a) constituting such Underlying Constituent Index or any index which is a constituent of such Underlying Constituent Index, whether directly or as a constituent of a further index; or (b) with reference to which such Underlying Constituent Index is determined.

“Exchange” shall mean, in respect of an ETD Contract:

(1) the primary exchange, trading system or quotation system in respect of such ETD Contract (in each case, the “Trading Venue” in respect of such ETD Contract); or

(2) any successor to such Trading Venue; or

(3) any substitute Trading Venue to which trading in such ETD Contract has temporarily relocated, provided that there is comparable liquidity in such ETD Contract on such temporary substitute Trading Venue as on the original Trading Venue.

“Exchange Disruption” shall mean, in respect of an ETD Contract:

(1) the relevant Exchange fails to open or fails to open for trading during its regular trading session; or

(2) the occurrence or existence at any time during the one hour period which ends at the end of the Scheduled Closing Time (on the relevant Exchange) of any suspension of or limitation imposed (for any reason, including movements



in price exceeding permitted limits) on the trading on the relevant Exchange; or

(3) the occurrence or existence at any time during the one hour period which ends at the end of the Scheduled Closing Time (on the relevant Exchange) of any other event (other than an event described in sub-paragraph (4)) which disrupts or impairs the ability of market participants in general on the relevant Exchange to effect transactions in or to obtain market values for such ETD Contract; or

(4) the closure on any day (on which the relevant Exchange is scheduled to be open for its regular trading session) prior to the Scheduled Closing Time on such Exchange on such day, at least one hour prior to the earlier of (a) the actual closing for the regular trading session of the relevant Exchange on such day; and (b) the deadline for the submission of orders to be entered into the relevant Exchange system for execution at such scheduled weekday closing time on the relevant Exchange on such day; or

(5) the Settlement Price of such ETD Contract has increased or decreased by an amount equal to the maximum permitted price change for the previous day's Settlement Price; or

(6) the Settlement Price of such ETD Contract is not published or otherwise made available by or on behalf of the relevant Exchange.

“Scheduled Closing Time” shall mean, in respect of an Exchange and a day on which such Exchange is scheduled to be open for its regular trading session, the scheduled weekday closing time of such Exchange on such day, without regard to after-hours trading or other trading outside the hours of the regular trading session on such Exchange.

PS-25

“Settlement Price” shall mean, in respect of an ETD Contract, the daily settlement price or the final settlement price (as the case may be, and however described by the relevant Exchange) of such ETD Contract, as published or otherwise made available by the relevant Exchange.

### **Changes to the Underlying Constituent Indices**

In the event that Bloomberg removes a commodity from the Bloomberg Commodity Index<sup>SM</sup>, the Underlying Index Calculation Agent will, with effect from the first scheduled Balancing Day following the effective date of such removal (or with effect from such effective date if such effective date is a scheduled Balancing Day), remove from the Underlying Index the two Underlying Constituent Indices referencing the relevant commodity.

In the event that Bloomberg adds a new component to the Bloomberg Commodity Index<sup>SM</sup> (such new component, an “Additional BCOM Component”), the Underlying Index Calculation Agent will, with effect from the first scheduled Balancing Day following the effective date of such addition (or with effect from such effective date if such effective date is a scheduled Balancing Day), add to the Underlying Index two new Underlying Constituent Indices (each, an “Additional Component Index”), as follows:

the commodity underlying each Additional Component Index will be the commodity which is represented by the Additional BCOM Component;

one Additional Component Index will be the “3 Month Forward” sub-index of the Bloomberg Commodity Index<sup>SM</sup> corresponding with the Additional BCOM Component and will be a BCOMF3 Sub-Index; and

the other Additional Component Index will be the sub-index of the Bloomberg Commodity Index<sup>SM</sup> which tracks near-dated commodity futures contracts corresponding with the Additional BCOM Component and will be a BCOMF0 Sub-Index.

### **Successor Underlying Constituent Indices**

If the Bloomberg Commodity Index<sup>SM</sup> or an Underlying Constituent Index is:

not calculated and announced by Bloomberg but is calculated and announced by a successor sponsor acceptable to the Underlying Index Calculation Agent; or

is replaced by a successor index using, in the determination of the Underlying Index Calculation Agent, the same or a substantially similar formula for and method of calculation as used in the calculation of the Bloomberg Commodity Index<sup>SM</sup> or an Underlying Constituent Index (as relevant),

then in each case that index will be deemed to be substituted for the Bloomberg Commodity Index<sup>SM</sup> or Underlying Constituent Index (as relevant) with effect from the date determined by the Underlying Index Calculation Agent, and the Underlying Index Calculation Agent may (but is not obliged to) make such adjustment or adjustments to the index conditions for the Underlying Index as it determines appropriate to account for such change.

### **Adjustment Events**

If an Adjustment Event occurs in respect of the Bloomberg Commodity Index<sup>SM</sup> or an Underlying Constituent Index (the “Affected Element”), then:

the Underlying Index Calculation Agent may suspend the calculation, publication and dissemination of the Underlying Index and its official level until the first succeeding Underlying Index Business Day on which the Adjustment Event does not occur or continue to occur; and/or

the Underlying Index Calculation Agent may select a replacement for the Affected Element which has substantially similar characteristics to the Affected Element that is being replaced, having regard to the manner in which the Affected Element is used in the calculation of the Underlying Index, in which

PS-26

case (a) the Underlying Index Calculation Agent will determine the effective date of the replacement; and (b) the Underlying Index Calculation Agent will make such adjustment or adjustments to the index conditions for the Underlying Index as it determines appropriate to account for the effect on the Underlying Index of the replacement; and/or

the Underlying Index Administrator may discontinue and cancel the Underlying Index.

An “Adjustment Event” means, in respect of the Bloomberg Commodity Index<sup>SM</sup> or an Underlying Constituent Index, Bloomberg (or any successor):

fails to publish (directly or through an agent) relevant information in respect of the Bloomberg Commodity Index<sup>SM</sup> in respect of a Scheduled Trading Day; or

announces that it will make a material change in the formula for or method of calculating the Bloomberg Commodity Index<sup>SM</sup> or Underlying Constituent Index (as relevant) or in any other way materially modifies the Bloomberg Commodity Index<sup>SM</sup> or Underlying Constituent Index (as relevant), other than a modification prescribed in that formula or method to maintain the Bloomberg Commodity Index<sup>SM</sup> or Underlying Constituent Index (as relevant) in the event of routine events; or

permanently cancels the Bloomberg Commodity Index<sup>SM</sup> or Underlying Constituent Index.

## Calculations

The Underlying Index Administrator may discontinue and cancel the Underlying Index at any time and is under no obligation to continue, or to procure the continuation of, the calculation, publication and dissemination of the Underlying Index or its value.

If any Underlying Index Business Day is a Disrupted Day for any Underlying Constituent Index, then the Underlying Index Calculation Agent may:

(1) publish its good faith estimate of the Underlying Index value for such Underlying Index Business Day (notwithstanding the occurrence of a Disrupted Day), using its good faith estimate of the value of the Underlying Constituent Index(es) affected by the occurrence of a Disrupted Day. Any such estimated value may be subject to correction once the relevant event or circumstances giving rise to such Disrupted Day cease; and/or

- (2) suspend the calculation, publication and dissemination of the Underlying Index and its value until the first succeeding Underlying Index Business Day which is not a Disrupted Day for any Underlying Constituent Index.

The Underlying Index Calculation Agent will perform all calculations in connection with the Underlying Index in accordance with the index conditions for the Underlying Index, acting in its sole, absolute and unfettered discretion, but in good faith and in a commercially reasonable manner (having regard in each case to the criteria stipulated in the index conditions for the Underlying Index and, where relevant, on the basis of information provided to or obtained by employees or officers of the Underlying Index Administrator responsible for making relevant calculations). All calculations shall, in the absence of manifest error, be final, conclusive and binding for purposes of the Securities. The “Underlying Index Calculation Agent” is currently Citigroup Global Markets Limited. The Underlying Index Administrator may, in its sole discretion and without notice, appoint an alternative Underlying Index Calculation Agent at any time which may be one of the Underlying Index Administrator’s affiliates.

The Underlying Index Administrator may resolve, using Expert Judgment, any ambiguity, error or omission in connection with the index conditions for the Underlying Index and may amend the index conditions to reflect the resolution of such ambiguity, error or omission.

Each of the Underlying Index Administrator and the Underlying Index Calculation Agent, as relevant, shall exercise any discretion and make any determination in respect of the Underlying Index by using a standard of

PS-27

judgment (“Expert Judgment”) which shall consist of (1) acting in good faith and in a commercially reasonable manner; (2) to the extent practicable, reflecting the commercial objective of the Underlying Index and market practice; and (3) to the extent practicable, promoting consistency in the exercise of discretions and the making of determinations in respect of both the Underlying Index and other indices in respect of which it acts, as relevant, as index administrator or index calculation agent.

The Underlying Index Calculation Agent will perform the calculations described in the index conditions for the Underlying Index using the information, data sources or factors specified in the index conditions and may perform any calculation and any action required in respect of the index conditions in any sequence. However, in the event that the Underlying Index Calculation Agent is not able to obtain or use any necessary information, then (after using reasonable endeavors and after applying any fallback provision specified in the index conditions in respect of the relevant calculation) the Underlying Index Calculation Agent may, but shall not be obliged to, use its estimate of the relevant information in performing such calculation, should the Underlying Index Calculation Agent determine that such estimate is reasonably necessary in order to give effect to any provision or to perform any calculation necessary under the index conditions.

If the level in respect of any Underlying Constituent Index and any time and any day, that is (1) announced by or on behalf of the person or entity responsible for such publication or announcement; and (2) used for any calculation or determination in respect of the Underlying Index, is subsequently corrected, and the corrected level (the “Corrected Level”) is published by or on behalf of such person or entity within the Correction Period, then such Corrected Level shall be deemed to be the level in respect of such Underlying Constituent Index and the relevant time and the relevant day. If the Correction Period does not include a Balancing Day, then the Underlying Index Calculation Agent shall revise the Index value in respect of such day. If the Correction Period includes a Balancing Day, then the Underlying Index Calculation Agent may, but shall not be obliged to, make appropriate adjustments to the Index value in respect of such day. The “Correction Period” is 30 calendar days.

#### Hypothetical Back-Tested and Historical Performance Information for the Underlying Index

Set forth below is hypothetical back-tested performance information for the Underlying Index for the period from December 31, 2014 to January 23, 2017 and historical performance information for the Underlying Index from January 24, 2017 to November 15, 2018. All performance information for the Underlying Index prior to January 24, 2017 is hypothetical and back-tested, as the Underlying Index did not exist prior to January 24, 2017. There is no actual historical performance information by which to evaluate the Underlying Index prior to January 24, 2017. Hypothetical back-tested Underlying Index performance information is subject to significant limitations. The Underlying Index Administrator developed the rules of the Underlying Index with the benefit of hindsight—that is, with the benefit of being able to evaluate how the Underlying Index rules would have caused the Underlying Index to perform had it existed during the hypothetical back-tested period. The fact that the Underlying Index generally appreciated over the hypothetical back-tested period may not therefore be an accurate or reliable indication of any fundamental aspect of the Underlying Index methodology. Furthermore, the hypothetical back-tested performance of the Underlying Index might look different if it covered a different historical period. The market conditions that existed during the hypothetical back-tested period may not be representative of market conditions that will exist in the future.

The closing value of the Underlying Index on November 15, 2018 was 119.758.

The hypothetical back-tested Underlying Index levels have been calculated based on the published historical levels of the Underlying Constituent Indices, applying the Underlying Index methodology substantially as described above. However, the hypothetical back-tested performance information has been calculated without giving effect to any Disrupted Days or Adjustment Events that may have occurred during the hypothetical back-tested period. You should note that the hypothetical back-tested performance information below depicts only the hypothetical performance of the Underlying Index and does not take into account the three times leverage vis-a-vis the Underlying Index that will be reflected in the return on the Securities.

The hypothetical back-tested historical performance information below begins on December 31, 2014. Therefore, it covers only a limited period of time and does not cover a variety of market conditions. As a result, it provides a limited basis on which to assess the hypothetical historical performance of the Underlying Index and may not provide any indication of how the Underlying Index would perform in future market conditions if those market conditions differ from those that prevailed in the limited period since December 31, 2014.

PS-28

It is impossible to predict whether the Underlying Index will rise or fall. The actual future performance of the Underlying Index may bear little relation to the hypothetical back-tested or historical performance of the Underlying Index.

**Hypothetical Back-Tested and Historical\* Daily Closing Values of Underlying Index  
December 31, 2014 – November 15, 2018**

\* Historical performance information available only since January 24, 2017.

PS-29



## DESCRIPTION OF The Bloomberg Commodity Indices

### General

We have derived all information contained in this pricing supplement regarding the Bloomberg Commodity Index<sup>SM</sup>, its single-commodity sub-indices and the forward-month versions of the Bloomberg Commodity Index<sup>SM</sup> and its single-commodity sub-indices (collectively, the “Bloomberg Commodity Indices”), including, without limitation, their make-up, methods of calculation and changes in their components, from publicly available information provided by Bloomberg Finance L.P. (“Bloomberg”) and UBS Securities LLC (“UBS”). We have not independently verified any of this information. Bloomberg and UBS (collectively, the “BCOM Index Providers”) are not involved in the offer of the securities in any way and have no obligation to consider your interests as a holder of the securities. The BCOM Index Providers have no obligation to continue to publish the Bloomberg Commodity Indices, and may discontinue publication of the Bloomberg Commodity Indices at any time in their sole discretion. The methodology for determining the composition, weighting and value of the Bloomberg Commodity Indices is subject to modification by the BCOM Index Providers at any time.

On July 1, 2014, the indices formerly known as the Dow Jones-UBS Commodity Indices<sup>SM</sup> were renamed as the Bloomberg Commodity Indices, and Bloomberg became responsible for the governance, calculation, distribution and licensing of the Bloomberg Commodity Indices. The Bloomberg Commodity Indices are the exclusive property of UBS.

This section provides only a summary of the published methodology by which the Bloomberg Commodity Indices are constructed and calculated. For the complete methodology, you should consult the published materials made available by the BCOM Index Providers.

### Overview

The Bloomberg Commodity Index<sup>SM</sup> is currently composed of 22 exchange-traded futures contracts on physical commodities and is designed to provide a broad-based measure of the performance of commodities as an asset class. The table below lists the commodities that are included in the Bloomberg Commodity Index<sup>SM</sup> for 2018, together with the designated futures contract (the “Designated Contract”) that is used for each commodity in the calculation of the Bloomberg Commodity Index<sup>SM</sup>, the exchange on which that Designated Contract trades and the target weight for that Designated Contract in the Bloomberg Commodity Index<sup>SM</sup> as of January 2018.

### **Table 1. 2018 Commodities, Designated Contracts and Target Weights**

<b>Commodity Group</b>	<b>Commodity</b>	<b>Designated Contract</b>	<b>Exchange</b>	<b>2018 Target Weight</b>
	Natural Gas	Henry Hub Natural Gas	New York Mercantile Exchange ("NYMEX")	8.0140970%
Energy	Brent Crude Oil	Brent Crude Oil	ICE Futures Europe	7.6806710%
	WTI Crude Oil	Light, Sweet Crude Oil	NYMEX	7.3193290%
	Unleaded Gasoline (RBOB)	Reformulated Gasoline Blendstock for Oxygen Blending	NYMEX	3.7506600%
	Heating Oil	Ultra-Low Sulfur Diesel	NYMEX	3.6652400%
Grains	Corn	Corn	Chicago Board of Trade ("CBOT")	6.1344250%
	Soybeans	Soybeans	CBOT	5.9596950%
	Wheat (Chicago)	Soft Wheat	CBOT	3.2589240%
	Soybean Meal	Soybean Meal	CBOT	3.0355430%
	Soybean Oil	Soybean Oil	CBOT	2.7481210%
	Wheat (Kansas City)	Hard Red Winter Wheat	Kansas City Board of Trade	1.3048540%
Industrial Metals	Copper	Copper	Commodity Exchange, Inc. ("COMEX")	7.1586790%
	Aluminum	High Grade Primary Aluminum	London Metal Exchange	4.5087010%

PS-30

Commodity Group	Commodity	Designated Contract	Exchange ("LME")	2018 Target Weight
	Zinc	Special High Grade Zinc	LME	3.0976320%
	Nickel	Primary Nickel	LME	2.7616480%
Precious Metals	Gold	Gold	COMEX	11.9458820%
	Silver	Silver	COMEX	3.6729800%
	Sugar	World Sugar No. 11	NYBOT	3.5366250%
Softs	Coffee	Coffee "C"	NYBOT	2.6050390%
	Cotton	Cotton	NYBOT	1.4537110%
Livestock	Live Cattle	Live Cattle	Chicago Mercantile Exchange ("CME")	31.15070%
	Lean Hogs	Lean Hogs	CME	2.0760360%

In addition to the broad-based Bloomberg Commodity Index<sup>SM</sup>, Bloomberg calculates a single-commodity sub-index for each of the commodities included in the Bloomberg Commodity Index<sup>SM</sup>. We refer to each of these as a "BCOM Sub-Index." Each BCOM Sub-Index is calculated in the same manner as the Bloomberg Commodity Index<sup>SM</sup> is calculated, but solely with respect to the relevant commodity for that BCOM Sub-Index.

The Bloomberg Commodity Index<sup>SM</sup> and each BCOM Sub-Index are designed to reflect the performance of a hypothetical continuously maintained rolling position in commodity futures contracts. A commodity futures contract is an agreement between two parties for the purchase and sale of a specified quantity of a particular commodity on a specified future date, at a price fixed at the time of entry into the contract. For example, a futures contract entered into in January may specify a March delivery month, which would mean that the parties to the contract would be required to pay for and deliver the underlying commodity in March for a price agreed upon in January. Unlike stocks, which entitle the holder to a continuing stake in a corporation, futures contracts have a limited life and, upon expiration, require actual delivery of the underlying commodity. In order to reflect continuing exposure to the underlying commodity and avoid physical delivery, the Bloomberg Commodity Index<sup>SM</sup> and each BCOM Sub-Index must therefore include a mechanism so that, as the delivery month of the relevant underlying futures contract nears, the exposure is "rolled" out of the current underlying futures contract and into a futures contract on the same commodity with a later delivery month. See "—Index Calculation" below for the relevant delivery month at any given time for the Designated Contracts underlying the Bloomberg Commodity Index<sup>SM</sup> and each BCOM Sub-Index and for a description of the mechanism for periodically rolling exposure into Designated Contracts with later delivery months.

Bloomberg also calculates forward-month versions of the Bloomberg Commodity Index<sup>SM</sup> and each BCOM Sub-Index. The forward-month version of the Bloomberg Commodity Index<sup>SM</sup> and each BCOM Sub-Index is calculated in the same manner as the Bloomberg Commodity Index<sup>SM</sup> or the relevant BCOM Sub-Index, as applicable, except that the underlying Designated Contracts have more distant delivery months. For example, at the beginning of January, a BCOM Sub-Index may track the value of a Designated Contract with a March delivery month, while a forward version of that BCOM Sub-Index may track the value of a Designated Contract on the same commodity but with a May delivery month. See "—Index Calculation" below.

Bloomberg determines the commodities that will compose the Bloomberg Commodity Index<sup>SM</sup> and their respective weights on an annual basis pursuant to the methodology described below under “—Index Construction.” Bloomberg calculates the level of the Bloomberg Commodity Index<sup>SM</sup> and each BCOM Sub-Index on each Benchmark Index Business Day (as defined below) as described below under “—Index Calculation.”

The Bloomberg Commodity Indices described in this pricing supplement are all “excess return” indices, which means that the performance of each index is calculated based solely on changes in the value of the underlying Designated Contracts and does not reflect the additional return that a direct investor in futures contracts could achieve on cash collateral posted in connection with its investment.

PS-31

## Index Construction

Bloomberg determines the commodities that will compose the Bloomberg Commodity Index<sup>SM</sup> and their respective weights on an annual basis. These determinations are made by Bloomberg in the third or fourth quarter of each year (the “Calculation Period”) and are implemented in the following January.

### *Selection of Eligible Commodities and Designated Futures Contracts*

To make these determinations each year, Bloomberg first identifies a list of commodities that are eligible for inclusion in the Bloomberg Commodity Index<sup>SM</sup> in the next year. In identifying these commodities, Bloomberg has stated that it seeks to select commodities that are sufficiently significant to the world economy to merit consideration and that are tradable through a qualifying related futures contract. For each eligible commodity, Bloomberg then identifies the Designated Contract that will be the reference futures contract for that commodity. Historically, Bloomberg has chosen for each commodity one Designated Contract that is traded in North America and denominated in U.S. dollars (with the exception of several London Metals Exchange contracts and with the exception of crude oil and wheat, which each have two Designated Contracts). It is possible that Bloomberg will in the future select more than one Designated Contract for additional commodities or may select other Designated Contracts that are traded outside of the United States or in currencies other than the U.S. dollar.

### *Determination of Target Weights (Commodity Index Percentages)*

#### *Determination of Interim Commodity Index Percentage Based on Liquidity and Production Data*

Bloomberg determines the target weight for each commodity in the Bloomberg Commodity Index<sup>SM</sup> based on the relative liquidity and production percentages for each of the eligible commodities. The “Commodity Liquidity Percentage” for each commodity is determined by taking the average of the product of the annual trading volume and the average U.S. dollar settlement price, observed monthly, of the relevant Designated Contract (or, in the case of copper, the LME copper contract) for the five-year period ending in the year most recently ended prior to the Calculation Period, and dividing the result by the sum of such products for all such contracts for all eligible commodities. The “Commodity Production Percentage” is determined for each commodity by taking the average of annual production figures for that commodity, valued at the average U.S. dollar settlement price, observed monthly, of the applicable Designated Contract (or, in the case of copper, the LME copper contract), for the most recent five-year period for which production figures are available for all commodities included in the Bloomberg Commodity Index<sup>SM</sup> and dividing the result by the sum of such amounts for all eligible commodities. In calculating production figures, Bloomberg applies special rules to avoid double-counting eligible commodities that are derivative of other eligible commodities. The Commodity Liquidity Percentage and the Commodity Production Percentage are then combined, using 2/3 of the Commodity Liquidity Percentage and 1/3 of the Commodity Production Percentage, to establish the

interim “Commodity Index Percentage” for each eligible commodity.

*Adjustments to Interim Commodity Index Percentage to Determine Final Commodity Index Percentage*

Following that determination, any eligible commodity with an interim Commodity Index Percentage of less than 0.4% will be excluded from the Bloomberg Commodity Index<sup>SM</sup>, and each eligible commodity with an interim Commodity Index Percentage of 0.4% or greater will be included in the Bloomberg Commodity Index<sup>SM</sup> for the next year. The interim Commodity Index Percentages of all excluded commodities are allocated equally among the Designated Contracts for the commodities that will be included in the Bloomberg Commodity Index<sup>SM</sup>. The resulting interim Commodity Index Percentage for each of the commodities that will be included in the Bloomberg Commodity Index<sup>SM</sup> is then further adjusted in accordance with the following diversification rules:

No single commodity, together with its derivatives (*e.g.*, crude oil, together with heating oil and unleaded gasoline), may constitute more than 25% of the Bloomberg Commodity Index<sup>SM</sup>.

No single commodity (*e.g.*, natural gas or silver) may constitute more than 15% of the Bloomberg Commodity Index<sup>SM</sup>.

PS-32

No related group of commodities designated by Bloomberg as a “Commodity Group” (e.g., energy, precious metals, livestock or grains) may constitute more than 33% of the Bloomberg Commodity Index<sup>SM</sup>.

No single commodity included in the Bloomberg Commodity Index<sup>SM</sup> may constitute less than 2% of the Bloomberg Commodity Index<sup>SM</sup>, as liquidity allows.

An adjustment is also made so that the Commodity Index Percentages for gold and silver reflect solely their Commodity Liquidity Percentages, without taking into account their Commodity Production Percentages. Finally, an adjustment is made, if necessary, to prevent the Commodity Index Percentage for any commodity from exceeding 3.5 times its Commodity Liquidity Percentage. If the interim Commodity Index Percentage for any commodity is reduced following application of the above rules, the excess is allocated among the other commodities. If the Commodity Index Percentage for any commodity is increased following application of the last bullet above, that amount is drawn from the other commodities. The Commodity Index Percentage for each commodity that results from the application of the above rules is the target weight for that commodity in the Bloomberg Commodity Index<sup>SM</sup> for the next year.

#### *Determination of Commodity Index Multipliers*

On the fourth Benchmark Index Business Day of each year, each Designated Contract in the Bloomberg Commodity Index<sup>SM</sup> is given a number of units (referred to as its “Commodity Index Multiplier”) such that its weight in the Bloomberg Commodity Index<sup>SM</sup>, based on the settlement price of that Designated Contract on its exchange on that day, represents its target weight. After that day, the Commodity Index Multiplier will remain fixed, and the actual weight of that Designated Contract in the Bloomberg Commodity Index<sup>SM</sup> will fluctuate based on changes in the settlement prices of that Designated Contract and each other Designated Contract in the Bloomberg Commodity Index<sup>SM</sup>. A “Benchmark Index Business Day” is a day on which the sum of the Commodity Index Percentages for the commodities in the Bloomberg Commodity Index<sup>SM</sup> that are open for trading is greater than 50%.

#### Index Calculation

##### *Overview*

Bloomberg calculates an official level for each of the Bloomberg Commodity Indices on each Benchmark Index Business Day.

In general, on each Benchmark Index Business Day, the official level of the Bloomberg Commodity Index<sup>SM</sup> will be equal to the level of the Bloomberg Commodity Index<sup>SM</sup> on the prior Benchmark Index Business Day *plus* any

percentage increase, or *minus* any percentage decrease, in the aggregate settlement price of the Designated Contracts then underlying the Bloomberg Commodity Index<sup>SM</sup> from the prior Benchmark Index Business Day to the current Benchmark Index Business Day. The aggregate settlement price of the Designated Contracts underlying the Bloomberg Commodity Index<sup>SM</sup> on any Benchmark Index Business Day is determined based on the Commodity Index Multiplier of each Designated Contract (representing the number of units of that Designated Contract in the Bloomberg Commodity Index<sup>SM</sup>) and the official settlement price, as reported by the exchange on which it trades, in U.S. dollars for that Designated Contract on that Benchmark Index Business Day. Each BCOM Sub-Index will be calculated in the same manner, but with reference only to the Designated Contract (and relevant delivery month) for the commodity underlying that BCOM Sub-Index.

*Determining the Lead Future and the Next Future*

At any given time, the Designated Contract for each commodity that will underlie the Bloomberg Commodity Index<sup>SM</sup> will be the Designated Contract that is either the Lead Future or the Next Future at that time. On any day in any given month, for the Bloomberg Commodity Index<sup>SM</sup> and each BCOM Sub-Index (excluding the forward month versions of each, which are discussed below), the “Lead Future” is the Designated Contract with the delivery month specified in the table below in the column that corresponds to that month, and the “Next Future” is the Designated Contract with the delivery month specified in the column immediately to the right of that column (or, in the case of the December column, the January column). For example, on any day in January, the Lead Future for



Natural Gas is the Designated Contract specifying a delivery month of March, because March is the month specified in the row for Natural Gas under the column for January. On any day in January, the Next Future for Natural Gas is also the Designated Contract specifying a delivery month of March, because March also appears under the column for February (which is the column immediately to the right of the column for January). On any day in February, the Lead Future for Natural Gas will continue to be the Designated Contract specifying a delivery month of March, because March appears in the row for Natural Gas under the column for February. However, the Next Future for any day in February is the Designated Contract specifying a delivery month of May, because May is specified in the column immediately to the right of the column for February.

**Table 2. Lead Futures for Bloomberg Commodity Index<sup>SM</sup> and BCOM Sub-Indices**

Commodity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Natural Gas	Mar	Mar	May	May	Jul	Jul	Sep	Sep	Nov	Nov	Jan	Jan
WTI Crude Oil	Mar	Mar	May	May	Jul	Jul	Sep	Sep	Nov	Nov	Jan	Jan
Brent Crude Oil	Mar	May	May	Jul	Jul	Sep	Sep	Nov	Nov	Jan	Jan	Mar
Unleaded Gas	Mar	Mar	May	May	Jul	Jul	Sep	Sep	Nov	Nov	Jan	Jan
Heating Oil	Mar	Mar	May	May	Jul	Jul	Sep	Sep	Nov	Nov	Jan	Jan
Live Cattle	Feb	Apr	Apr	Jun	Jun	Aug	Aug	Oct	Oct	Dec	Dec	Feb
Lean Hogs	Feb	Apr	Apr	Jun	Jun	Jul	Aug	Oct	Oct	Dec	Dec	Feb
Wheat (Chicago)	Mar	Mar	May	May	Jul	Jul	Sep	Sep	Dec	Dec	Dec	Mar
Wheat (KC HRW)	Mar	Mar	May	May	Jul	Jul	Sep	Sep	Dec	Dec	Dec	Mar
Corn	Mar	Mar	May	May	Jul	Jul	Sep	Sep	Dec	Dec	Dec	Mar
Soybeans	Mar	Mar	May	May	Jul	Jul	Nov	Nov	Nov	Nov	Jan	Jan
Soybean Oil	Mar	Mar	May	May	Jul	Jul	Dec	Dec	Dec	Dec	Jan	Jan
Soybean Meal	Mar	Mar	May	May	Jul	Jul	Dec	Dec	Dec	Dec	Jan	Jan
Aluminum	Mar	Mar	May	May	Jul	Jul	Sep	Sep	Nov	Nov	Jan	Jan
Copper	Mar	Mar	May	May	Jul	Jul	Sep	Sep	Dec	Dec	Dec	Mar
Zinc	Mar	Mar	May	May	Jul	Jul	Sep	Sep	Nov	Nov	Jan	Jan
Nickel	Mar	Mar	May	May	Jul	Jul	Sep	Sep	Nov	Nov	Jan	Jan
Gold	Feb	Apr	Apr	Jun	Jun	Aug	Aug	Dec	Dec	Dec	Dec	Feb
Silver	Mar	Mar	May	May	Jul	Jul	Sep	Sep	Dec	Dec	Dec	Mar
Sugar	Mar	Mar	May	May	Jul	Jul	Oct	Oct	Oct	Mar	Mar	Mar
Cotton	Mar	Mar	May	May	Jul	Jul	Dec	Dec	Dec	Dec	Dec	Mar
Coffee	Mar	Mar	May	May	Jul	Jul	Sep	Sep	Dec	Dec	Dec	Mar

For purposes of the forward month versions of the Bloomberg Commodity Index<sup>SM</sup> and each BCOM Sub-Index, the Lead Future and Next Future on any day in any given month are the Designated Contracts that would be the Lead Future and Next Future for the Bloomberg Commodity Index<sup>SM</sup> a specified number of months in the future. For example, for purposes of the 3-month forward version of either the Bloomberg Commodity Index<sup>SM</sup> or the BCOM Sub-Index for Natural Gas, on any day in January, the Lead Future for Natural Gas is the Designated Contract specifying the delivery month that appears in Table 2 above in the row for Natural Gas under the column for April (since April is 3 months forward from January), and the Next Future is the Designated Contract specifying the delivery month that appears under the column for May. In Table 3 below, Table 2 has been modified to indicate, in the column for each month, the 3-month forward Lead Future for each commodity.

PS-34

**Table 3. Lead Futures for 3-month forward versions of Bloomberg Commodity Index<sup>SM</sup> and BCOM Sub-Indices**

Commodity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Natural Gas	May	Jul	Jul	Sep	Sep	Nov	Nov	Jan	Jan	Mar	Mar	May
WTI Crude Oil	May	Jul	Jul	Sep	Sep	Nov	Nov	Jan	Jan	Mar	Mar	May
Brent Crude Oil	Jul	Jul	Sep	Sep	Nov	Nov	Jan	Jan	Mar	Mar	May	May
Unleaded Gas	May	Jul	Jul	Sep	Sep	Nov	Nov	Jan	Jan	Mar	Mar	May
Heating Oil	May	Jul	Jul	Sep	Sep	Nov	Nov	Jan	Jan	Mar	Mar	May
Live Cattle	Jun	Jun	Aug	Aug	Oct	Oct	Dec	Dec	Feb	Feb	Apr	Apr
Lean Hogs	Jun	Jun	Jul	Aug	Oct	Oct	Dec	Dec	Feb	Feb	Apr	Apr
Wheat (Chicago)	May	Jul	Jul	Sep	Sep	Dec	Dec	Dec	Mar	Mar	Mar	May
Wheat (KC HRW)	May	Jul	Jul	Sep	Sep	Dec	Dec	Dec	Mar	Mar	Mar	May
Corn	May	Jul	Jul	Sep	Sep	Dec	Dec	Dec	Mar	Mar	Mar	May
Soybeans	May	Jul	Jul	Nov	Nov	Nov	Nov	Jan	Jan	Mar	Mar	May
Soybean Oil	May	Jul	Jul	Dec	Dec	Dec	Dec	Jan	Jan	Mar	Mar	May
Soybean Meal	May	Jul	Jul	Dec	Dec	Dec	Dec	Jan	Jan	Mar	Mar	May
Aluminum	May	Jul	Jul	Sep	Sep	Nov	Nov	Jan	Jan	Mar	Mar	May
Copper	May	Jul	Jul	Sep	Sep	Dec	Dec	Dec	Mar	Mar	Mar	May
Zinc	May	Jul	Jul	Sep	Sep	Nov	Nov	Jan	Jan	Mar	Mar	May
Nickel	May	Jul	Jul	Sep	Sep	Nov	Nov	Jan	Jan	Mar	Mar	May
Gold	Jun	Jun	Aug	Aug	Dec	Dec	Dec	Dec	Feb	Feb	Apr	Apr
Silver	May	Jul	Jul	Sep	Sep	Dec	Dec	Dec	Mar	Mar	Mar	May
Sugar	May	Jul	Jul	Oct	Oct	Oct	Mar	Mar	Mar	Mar	Mar	May
Cotton	May	Jul	Jul	Dec	Dec	Dec	Dec	Dec	Mar	Mar	Mar	May
Coffee	May	Jul	Jul	Sep	Sep	Dec	Dec	Dec	Mar	Mar	Mar	May

*Rolling Process*

For the first through fifth Benchmark Index Business Days of each month, the level of the Bloomberg Commodity Index<sup>SM</sup> will reflect the percentage change in the aggregate settlement price of the Lead Futures for that month from the prior Benchmark Index Business Day to the current Benchmark Index Business Day. For the sixth through tenth Benchmark Index Business Days of each month, the Bloomberg Commodity Index<sup>SM</sup> will gradually shift its exposure, at a rate of 20% per Benchmark Index Business Day, from the Lead Futures for that month to the Next Futures for that month. For example, on the sixth Benchmark Index Business Day of a month, the level of the Bloomberg Commodity Index<sup>SM</sup> will reflect the percentage change from the prior Benchmark Index Business Day in the aggregate settlement price of a basket composed 80% of the Lead Futures for that month and 20% of the Next Futures for that month. On the seventh Benchmark Index Business Day of a month, the level of the Bloomberg Commodity Index<sup>SM</sup> will reflect the percentage change from the prior Benchmark Index Business Day in the aggregate settlement price of a basket composed 60% of the Lead Futures for that month and 40% of the Next Futures for that month, and so on until the tenth Benchmark Index Business Day of the month, when the level of the Bloomberg Commodity Index<sup>SM</sup> will reflect the percentage change from the prior Benchmark Index Business Day in the aggregate settlement price of a basket composed 100% of the Next Futures for that month. The level of the Bloomberg Commodity Index<sup>SM</sup> will continue to reflect the percentage change from the prior Benchmark Index Business Day in the aggregate settlement price of the

Next Futures for that month until the end of the month (and for the first five Benchmark Index Business Days of the following month, when those Next Futures will have become the Lead Futures for the new month). If Bloomberg determines that a market disruption event has occurred with respect to any Designated Contract on any day when the exposure of the Bloomberg Commodity Index<sup>SM</sup> to that Designated Contract would otherwise be rolled from the Lead Futures to the Next Futures, that roll will be postponed until the market disruption no longer exists. The BCOM Sub-Indices and the forward month versions of the Bloomberg Commodity Index<sup>SM</sup> and the BCOM-Indices are calculated in the same manner, but with reference

PS-35

only to the relevant Designated Contract in the case of a BCOM Sub-Index, and with reference to the forward delivery month versions of the relevant Designated Contracts in case of the forward month versions of these indices.

#### License Agreement

“Bloomberg®” and “Bloomberg Commodity Index” are service marks of Bloomberg and have been licensed for use for certain purposes by Citigroup Global Markets Inc. and its affiliates (“Licensee”). The license agreement requires the following statements to be made in this pricing supplement.

The Underlying Index and the Securities (together, the “Products”) are not sponsored, endorsed, sold or promoted by Bloomberg, UBS or any of their subsidiaries or affiliates. None of Bloomberg, UBS or any of their subsidiaries or affiliates makes any representation or warranty, express or implied, to the owners of or counterparties to the Products or any member of the public regarding the advisability of investing in securities or commodities generally or in the Securities particularly. The only relationship of Bloomberg, UBS or any of their subsidiaries or affiliates to the Licensee is the licensing of certain trademarks, trade names and service marks and of the Bloomberg Commodities Index<sup>SM</sup>, which is determined, composed and calculated by Bloomberg in conjunction with UBS without regard to the Licensee or the Products. Bloomberg and UBS have no obligation to take the needs of the Licensee or the owners of or counterparties to the Products into consideration in determining, composing or calculating the Bloomberg Commodities Index<sup>SM</sup>. None of Bloomberg, UBS or any of their respective subsidiaries or affiliates is responsible for or has participated in the determination of the timing of, prices at, or quantities of the Securities to be issued or in the determination or calculation of the equation by which the Securities are to be converted into cash. None of Bloomberg, UBS or any of their subsidiaries or affiliates shall have any obligation or liability, including, without limitation, to customers in respect of the Products, in connection with the administration, marketing or trading of the Products. Notwithstanding the foregoing, UBS and its subsidiaries and affiliates may independently issue and/or sponsor financial products unrelated to the Products currently being issued by Licensee, but which may be similar to and competitive with the Products. In addition, UBS and its subsidiaries and affiliates actively trade commodities, commodity indexes and commodity futures (including the Bloomberg Commodity Index<sup>SM</sup>), as well as swaps, options and derivatives which are linked to the performance of such commodities, commodity indexes and commodity futures. It is possible that this trading activity will affect the value of the Bloomberg Commodity Index<sup>SM</sup> and the Products.

The index conditions of the Underlying Index relate only to the Underlying Index, and this pricing supplement relates only to the Securities, and neither relates to the exchange-traded physical commodities underlying any of the Bloomberg Commodity Index<sup>SM</sup> components. Purchasers of the Securities should not conclude that the inclusion of a futures contract in the Bloomberg Commodity Index<sup>SM</sup> is any form of investment recommendation of the futures contract or the underlying exchange-traded physical commodity by Bloomberg, UBS or any of their subsidiaries or affiliates. The information in the index conditions of the Underlying Index, and in this pricing supplement, regarding the Bloomberg Commodity Index<sup>SM</sup> components has been derived solely from publicly available documents. None of Bloomberg, UBS or any of their subsidiaries or affiliates has made any due diligence inquiries with respect to the Bloomberg Commodity Index<sup>SM</sup> components in connection with Products. None of Bloomberg, UBS or any of their subsidiaries or affiliates makes any representation that these publicly available documents or any other publicly available information regarding the Bloomberg Commodity Index<sup>SM</sup> components, including without limitation a

description of factors that affect the prices of such components, are accurate or complete.

NONE OF BLOOMBERG, UBS OR ANY OF THEIR SUBSIDIARIES OR AFFILIATES GUARANTEES THE ACCURACY AND/OR THE COMPLETENESS OF THE BLOOMBERG COMMODITY INDEX<sup>SM</sup> OR ANY DATA RELATED THERETO AND NONE OF BLOOMBERG, UBS OR ANY OF THEIR SUBSIDIARIES OR AFFILIATES SHALL HAVE ANY LIABILITY FOR ANY ERRORS, OMISSIONS OR INTERRUPTIONS THEREIN. NONE OF BLOOMBERG, UBS OR ANY OF THEIR SUBSIDIARIES OR AFFILIATES MAKES ANY WARRANTY, EXPRESS OR IMPLIED, AS TO RESULTS TO BE OBTAINED BY THE LICENSEE, OWNERS OF OR COUNTERPARTIES TO THE PRODUCTS OR ANY OTHER PERSON OR ENTITY FROM THE USE OF THE BLOOMBERG COMMODITY INDEX<sup>SM</sup> OR ANY DATA RELATED THERETO. NONE OF BLOOMBERG, UBS OR ANY OF THEIR SUBSIDIARIES OR AFFILIATES MAKES ANY EXPRESS OR IMPLIED WARRANTIES AND EXPRESSLY DISCLAIMS ALL WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE WITH RESPECT TO THE

PS-36

BLOOMBERG COMMODITY INDEX<sup>SM</sup> OR ANY DATA RELATED THERETO. WITHOUT LIMITING ANY OF THE FOREGOING, TO THE MAXIMUM EXTENT ALLOWED BY LAW, BLOOMBERG, ITS LICENSORS (INCLUDING UBS), AND ITS AND THEIR RESPECTIVE EMPLOYEES, CONTRACTORS, AGENTS, SUPPLIERS, AND VENDORS SHALL HAVE NO LIABILITY OR RESPONSIBILITY WHATSOEVER FOR ANY INJURY OR DAMAGES—WHETHER DIRECT, INDIRECT, CONSEQUENTIAL, INCIDENTAL, PUNITIVE OR OTHERWISE—ARISING IN CONNECTION WITH ANY PRODUCT OR ANY DATA OR VALUES RELATING THERETO—WHETHER ARISING FROM THEIR NEGLIGENCE OR OTHERWISE, EVEN IF NOTIFIED OF THE POSSIBILITY THEREOF. THERE ARE NO THIRD PARTY BENEFICIARIES OF ANY AGREEMENTS OR ARRANGEMENTS AMONG BLOOMBERG, UBS AND THE LICENSEE, OTHER THAN UBS AG.

PS-37

UNITED STATES FEDERAL TAX CONSIDERATIONS

**You should note that the discussion under the section called “United States Federal Tax Considerations” in the accompanying prospectus supplement generally does not apply to the securities issued under this pricing supplement and is superseded by the following discussion. However, the discussion below is subject to the discussion in “United States Federal Tax Considerations—Assumption by Citigroup” in the accompanying prospectus supplement, and you should read it in conjunction with that discussion.**

The following is a discussion of the material U.S. federal income and certain estate tax consequences of the ownership and disposition of the securities. It applies to you only if you purchase a security for cash and hold it as a capital asset within the meaning of Section 1221 of the Internal Revenue Code of 1986, as amended (the “Code”). It does not address all of the tax consequences that may be relevant to you in light of your particular circumstances or if you are a holder subject to special rules, such as:

- a financial institution;
- a “regulated investment company”;
- a “real estate investment trust”;
- a tax-exempt entity, including an “individual retirement account” or “Roth IRA”;
- a dealer or trader subject to a mark-to-market method of tax accounting with respect to the securities;
- a person holding the securities as part of a “straddle” or conversion transaction or one who enters into a “constructive sale” with respect to the securities;
- a person subject to the alternative minimum tax;
- a U.S. Holder (as defined below) whose functional currency is not the U.S. dollar; or
- an entity classified as a partnership for U.S. federal income tax purposes.



If an entity that is classified as a partnership for U.S. federal income tax purposes holds the securities, the U.S. federal income tax treatment of a partner will generally depend on the status of the partner and the activities of the partnership. If you are a partnership holding the securities or a partner in such a partnership, you should consult your tax adviser as to your particular U.S. federal tax consequences of holding and disposing of the securities.

This discussion is based on the Code, administrative pronouncements, judicial decisions and final, temporary and proposed Treasury regulations, all as of the date hereof, changes to any of which subsequent to the date of this pricing supplement may affect the tax consequences described herein, possibly with retroactive effect. This discussion does not address the effects of any applicable state, local or non-U.S. tax laws, the potential application of the Medicare contribution tax on investment income or the consequences to taxpayers subject to special tax accounting rules under Section 451(b) of the Code. 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 securities), as well as any tax consequences arising under the laws of any state, local or non-U.S. jurisdiction.

### **Tax Treatment of the Securities**

Due to the absence of statutory, judicial or administrative authorities that directly address the U.S. federal tax treatment of the securities or similar instruments, significant aspects of the tax treatment of the securities are uncertain. In connection with any information reporting requirements we may have in respect of the securities under applicable law, we intend (in the absence of an administrative determination or judicial ruling to the contrary) to treat each security for U.S. federal income tax purposes as a prepaid forward contract with an associated coupon payment, with the consequences described below. In the opinion of our tax counsel, Davis Polk & Wardwell LLP,

PS-38

which is based on current market conditions, this treatment of the securities is reasonable under current law; however, our tax counsel has advised us that due to the lack of any controlling legal authority it is unable to conclude affirmatively that this treatment is more likely than not to be upheld, and that alternative treatments are possible.

**We do not plan to request a ruling from the IRS, and the IRS or a court might not agree with the treatment of each security as a prepaid forward contract with an associated coupon payment. Accordingly, you should consult your tax adviser regarding all aspects of the U.S. federal tax consequences of an investment in the securities and with respect to any tax consequences arising under the laws of any state, local or non-U.S. taxing jurisdiction. Unless otherwise stated, the following discussion is based on the treatment of each security as a prepaid forward contract with an associated coupon payment.**

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

This section applies only 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 security 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.

*Coupon Amount.* There is no direct authority under current law addressing the proper tax treatment of the coupon amount on a security or comparable payments on instruments similar to the securities. The coupon amount may be treated as ordinary income to you when received or accrued, in accordance with your method of accounting for U.S. federal income tax purposes. In the event that we are required to file information returns with respect to certain U.S. Holders, we intend to treat the coupon amount as ordinary income when paid. You should consult your tax adviser concerning the treatment of the coupon amount, including the possibility that it may be treated, in whole or in part, as includible in income on a current basis.

*Sale, Exchange or Retirement of the Securities.* Upon a sale, exchange or retirement of a security, you should recognize taxable gain or loss equal to the difference between the amount realized (other than the coupon amount) and your tax basis in the relevant security. Subject to the discussion under “Possible Taxable Event” below, (i) your tax basis in a security should equal the amount you paid to acquire it, and (ii) this gain or loss should generally be capital gain or loss and should be long-term capital gain or loss if you have held the security for more than one year. However, the

treatment of any sales proceeds attributable to the accrued but unpaid coupon amount is unclear. The deductibility of capital losses is subject to limitations.

*Possible Taxable Event.* In the event of a change in the methodology by which the Underlying Index is calculated, a change in the components of the Underlying Index, the designation of a Successor Index or other similar circumstances resulting in a material change to the Underlying Index, it is possible that the securities could be treated, in whole or part, as terminated and reissued for U.S. federal income tax purposes. In such a case, you might be required to recognize gain or loss (subject to the possible application of the wash sale rules) with respect to the securities.

*Possible Alternative Tax Treatments of an Investment in the Securities.* Due to the lack of direct legal authority, there is significant uncertainty regarding the U.S. federal income tax consequences of your ownership and disposition of the securities. You may be required to include amounts in income during the term of the securities in addition to any amount you include in respect of the coupon amount and/or to treat all or a portion of your gain or loss on the sale or retirement of the securities (in addition to any amounts attributable to the accrued but unpaid coupon amount, as discussed above) as short-term capital gain or loss, without regard to how long you have held the securities. It is also possible that the securities could be treated in their entirety as debt instruments issued by us. Under this treatment, the securities would be governed by Treasury regulations relating to the taxation of contingent

payment debt instruments. In that event, regardless of your regular method of tax accounting, in each year that you held the securities you would be required to accrue income, subject to certain adjustments, based on our comparable yield for similar non-contingent debt, determined as of the time of issuance of your securities, even though we are not required to make any payment with respect to the securities until retirement. In addition, any income from the sale, exchange or retirement of the securities would be treated as ordinary income. Moreover, if you recognized a loss above certain thresholds, you could be required to file a disclosure statement with the IRS.

In addition, the U.S. Treasury Department and the IRS have requested comments on various issues regarding the U.S. federal income tax treatment of “prepaid forward contracts” and similar financial instruments and have indicated that such transactions may be the subject of future regulations or other guidance. In addition, members of Congress have proposed legislative changes to the tax treatment of derivative contracts. Any legislation, Treasury regulations or other guidance promulgated after consideration of these issues could materially and adversely affect the tax consequences of an investment in the securities, possibly with retroactive effect.

## **Reportable Transactions**

A taxpayer that participates in a “reportable transaction” is subject to information reporting requirements under Section 6011 of the Code. “Reportable transactions” include, among other things, certain transactions identified by the IRS. In October 2015, the U.S. Treasury Department and the IRS released notices designating certain “basket options,” “basket contracts” and substantially similar transactions as reportable transactions. The notices apply to specified transactions in which a taxpayer or its “designee” has, and exercises, discretion to change the assets or an algorithm underlying the transaction. While an exercise of the type of discretion that would give rise to such reporting requirements in respect of the securities is not expected, if the Calculation Agent were to exercise discretion under the terms of the securities, or the Underlying Index Calculation Agent or the Underlying Index Administrator were to exercise discretion under the terms of the Underlying Index, and the person exercising discretion were treated as a holder’s “designee” for these purposes, unless an exception applied certain holders of the securities would be required to report certain information to the IRS, as set forth in the applicable Treasury regulations, or be subject to penalties. We might also be required to report information regarding the transaction to the IRS. You should consult your tax adviser regarding these rules.

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

This section applies only to Non-U.S. Holders. You are a “**Non-U.S. Holder**” if you are a beneficial owner of a security that is, for U.S. federal income tax purposes:

an individual who is classified as a nonresident alien;

a foreign corporation; or

a foreign trust or estate.

You are not a “Non-U.S. Holder” for purposes of this discussion if you are (i) an individual who is present in the United States for 183 days or more in the taxable year of disposition or (ii) a former citizen or resident of the United States. If you are or may become such a person during the period in which you hold a security, you should consult your tax adviser regarding the U.S. federal tax consequences of an investment in the securities, including the issues discussed below, in light of your circumstances.

*Coupon Amount.* The U.S. federal income tax treatment of the coupon amount is uncertain. In the event that we have responsibility as a withholding agent, we intend to treat the coupon amount paid to you as subject to withholding at a rate of 30% unless you provide a properly executed IRS Form W-8 appropriate to your circumstances either (i) claiming eligibility for a reduction of or an exemption from withholding under an applicable income tax treaty under an “other income” or similar provision or (ii) claiming that income in respect of the coupon amount is effectively connected with your conduct of a United States trade or business. You should consult your tax adviser regarding these certification requirements and the possibility of obtaining a refund of any amounts withheld. We will not be required to pay additional amounts with respect to amounts withheld.

PS-40

*Sale, Exchange or Retirement of the Securities.* Any gain from the sale, exchange or retirement of the securities generally should not be subject to U.S. federal withholding or income tax, unless such gain is effectively connected with your conduct of a trade or business in the United States, as described below. Any amount attributable to the accrued but unpaid coupon amount may be subject to withholding tax.

*Income Effectively Connected with a Trade or Business in the United States.* If you are engaged in a trade or business in the United States, and income from the securities is effectively connected with your conduct of that trade or business, you generally will be taxed in the same manner as a U.S. Holder unless an applicable income tax treaty provides otherwise. 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 the securities, including the possible imposition of a 30% branch profits tax if you are a corporation.

*Possible Alternative Tax Treatments of an Investment in the Securities.* As described above under “—Tax Consequences to U.S. Holders—Possible Alternative Tax Treatments of an Investment in the Securities,” alternative tax treatments could apply to the securities, in which case the tax consequences to you could be materially and adversely affected. In addition, potential legislative or regulatory changes to the tax treatment of the securities could adversely impact their treatment to you.

## **U.S. Federal Estate Tax**

If you are an individual Non-U.S. Holder, or an entity the property of which is potentially includible in such an individual's gross estate 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), you should note that, absent an applicable treaty exemption, a security may be treated as U.S. situs property subject to U.S. federal estate tax. If you are such an individual or entity, you should consult your tax adviser regarding the U.S. federal estate tax consequences of investing in the securities.

## **Information Reporting and Backup Withholding**

The proceeds received from a sale, exchange or retirement of the securities will generally be subject to information reporting unless you qualify for an exemption. It is likely that the coupon amount will be subject to information reporting unless you are a U.S. Holder who qualifies for an exemption. This amount may also be subject to backup withholding at the rate specified in the Code unless you provide certain identifying information (such as a correct taxpayer identification number, if you are a U.S. Holder) and otherwise satisfy the requirements of the backup withholding rules. If you are a Non-U.S. Holder and you provide a properly executed IRS Form W-8 appropriate to your circumstances you will generally establish an exemption from backup withholding. 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 timely furnished to the IRS.

## **FATCA**

Legislation commonly referred to as “FATCA” generally imposes a withholding tax of 30% on payments to certain non-U.S. entities (including financial intermediaries) with respect to certain financial instruments, unless various U.S. information reporting and due diligence requirements have been satisfied. An intergovernmental agreement between the United States and the non-U.S. entity’s jurisdiction may modify these requirements. This legislation generally applies to certain financial instruments that are treated as paying U.S.-source interest or other U.S.-source “fixed or determinable annual or periodical” income (“FDAP income”). While the treatment of the securities is unclear, you should assume that the coupon amount, and potentially other payments on the securities, will be subject to the FATCA rules. If withholding applies to the securities, we will not be required to pay any additional amounts with respect to amounts withheld. You should consult your tax adviser regarding the potential application of FATCA to the securities.

**The preceding discussion, when read in conjunction with “United States Federal Tax Considerations—Assumption by Citigroup” in the accompanying prospectus supplement, constitutes the full opinion of Davis Polk & Wardwell LLP regarding the material U.S. federal tax consequences of owning and disposing of the securities.**

PS-41

**You should consult your tax adviser regarding all aspects of the U.S. federal income and estate tax consequences of an investment in the securities, and any tax consequences arising under the laws of any state, local or foreign taxing jurisdiction.**

PS-42



## PLAN OF DISTRIBUTION; CONFLICTS OF INTEREST

The terms and conditions set forth in the Amended and Restated Global Selling Agency Agreement dated April 7, 2017 among Citigroup Global Markets Holdings Inc., Citigroup Inc. and the Agents listed on Schedule I thereto, including Citigroup Global Markets Inc., govern the sale and purchase of the Securities.

Citigroup Global Markets Inc., acting as principal, has agreed to purchase from Citigroup Global Markets Holdings Inc., and Citigroup Global Markets Holdings Inc. has agreed to sell to Citigroup Global Markets Inc., US\$14,700,000 aggregate stated principal amount of Securities (14,700 Securities). Citigroup Global Markets Inc. proposes to offer the Securities directly to the public at the public offering price set forth on the cover page of this pricing supplement.

The Securities will not be listed on any exchange.

In order to hedge its obligations under the Securities, Citigroup Global Markets Holdings Inc. has entered into one or more swaps or other derivatives transactions with one or more of its affiliates. You should refer to the section “Risk Factors—Our or Our Affiliates’ Hedging Activity Could Result in a Conflict of Interest” in this pricing supplement and the section “Use of Proceeds and Hedging” in the accompanying prospectus.

Citigroup Global Markets Inc. is an affiliate of Citigroup Global Markets Holdings Inc. Accordingly, the offering will conform to the requirements addressing conflicts of interest when distributing the securities of an affiliate set forth in Rule 5121 of the Conduct Rules of the Financial Industry Regulatory Authority, Inc. Client accounts over which Citigroup Inc., its subsidiaries or affiliates of its subsidiaries have investment discretion are not permitted to purchase the Securities, either directly or indirectly, without the prior written consent of the client.

We expect that delivery of the Securities will be made against payment therefor on or about the seventh Business Day after the date the Securities are priced. Because the Securities will not settle in T+2, purchasers who wish to trade the Securities prior to the second business day preceding the Issue Date will be required to specify an alternative settlement to prevent a failed settlement and should consult their own investment advisor.

## 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 Securities. 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 Securities by or on behalf of the Plan could be a prohibited transaction under Section 406 of ERISA and/or Section 4975 of the Code, unless exemptive relief were available under an applicable exemption (as described below).

Certain prohibited transaction class exemptions (“PTCEs”) issued by the U.S. Department of Labor may provide exemptive relief for direct or indirect prohibited transactions resulting from the purchase or holding of the Securities. 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 Securities and related lending transactions, *provided* that neither the issuer of the Securities 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 Securities.

Accordingly, the Securities 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 Securities will not constitute a non-exempt prohibited transaction under ERISA or Section 4975 of the Code. Each purchaser or holder of the Securities or any interest therein will be deemed to have represented by its purchase or

holding of the Securities that (a) it is not a Plan and its purchase and holding of the Securities is not made on behalf of or with “plan assets” of any Plan or (b) its purchase and holding of the Securities 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 Securities shall be required to represent (and deemed to have represented by its purchase of the Securities) 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 Securities 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

PS-44

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 Securities are contractual financial instruments. The financial exposure provided by the Securities 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 Securities. The Securities 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 Securities.

Each purchaser or holder of any Securities 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 Securities, (B) the purchaser or holder's investment in the Securities, or (C) the exercise of or failure to exercise any rights we have under or with respect to the Securities;

(ii) we and our affiliates have acted and will act solely for our own account in connection with (A) all transactions relating to the Securities and (B) all hedging transactions in connection with our obligations under the Securities;

(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 Securities has exclusive responsibility for ensuring that its purchase, holding and subsequent disposition of the Securities does not violate the fiduciary or prohibited transaction rules of ERISA, the Code or any applicable Similar Laws. The sale of any Securities to any Plan is in no respect a representation by us or any of our affiliates or representatives that such an investment meets all relevant legal requirements with respect to

investments by Plans or Non-ERISA Arrangements generally or any particular Plan or Non-ERISA Arrangement, or that such an investment is appropriate for Plans or Non-ERISA Arrangements generally or any particular Plan or Non-ERISA Arrangement.

However, individual retirement accounts, individual retirement annuities and Keogh plans, as well as employee benefit plans that permit participants to direct the investment of their accounts, will not be permitted to purchase or hold the Securities if the account, plan or annuity is for the benefit of an employee of CGMI or a family member and the employee receives any compensation (such as, for example, an addition to bonus) based on the purchase of Securities by the account, plan or annuity.

PS-45

## VALIDITY OF THE SECURITIES

In the opinion of Davis Polk & Wardwell LLP, as special products counsel to Citigroup Global Markets Holdings Inc., when the securities offered by this pricing supplement have been executed and issued by Citigroup Global Markets Holdings Inc. and authenticated by the trustee pursuant to the indenture, and delivered against payment therefor, such securities and the related guarantee of Citigroup Inc. will be valid and binding obligations of Citigroup Global Markets Holdings Inc. and Citigroup Inc., respectively, enforceable in accordance with their respective terms, subject to applicable bankruptcy, insolvency and similar laws affecting creditors' rights generally, concepts of reasonableness and equitable principles of general applicability (including, without limitation, concepts of good faith, fair dealing and the lack of bad faith), provided that such counsel expresses no opinion as to the effect of fraudulent conveyance, fraudulent transfer or similar provision of applicable law on the conclusions expressed above. This opinion is given as of the date of this pricing supplement and is limited to the laws of the State of New York, except that such counsel expresses no opinion as to the application of state securities or Blue Sky laws to the securities.

In giving this opinion, Davis Polk & Wardwell LLP has assumed the legal conclusions expressed in the opinions set forth below of Scott L. Flood, General Counsel and Secretary of Citigroup Global Markets Holdings Inc., and Barbara Politi, Assistant General Counsel—Capital Markets of Citigroup Inc. In addition, this opinion is subject to the assumptions set forth in the letter of Davis Polk & Wardwell LLP dated April 7, 2017, which has been filed as an exhibit to a Current Report on Form 8-K filed by Citigroup Inc. on April 7, 2017, that the indenture has been duly authorized, executed and delivered by, and is a valid, binding and enforceable agreement of, the trustee and that none of the terms of the securities nor the issuance and delivery of the securities and the related guarantee, nor the compliance by Citigroup Global Markets Holdings Inc. and Citigroup Inc. with the terms of the securities and the related guarantee respectively, will result in a violation of any provision of any instrument or agreement then binding upon Citigroup Global Markets Holdings Inc. or Citigroup Inc., as applicable, or any restriction imposed by any court or governmental body having jurisdiction over Citigroup Global Markets Holdings Inc. or Citigroup Inc., as applicable.

In the opinion of Scott L. Flood, Secretary and General Counsel of Citigroup Global Markets Holdings Inc., (i) the terms of the securities offered by this pricing supplement have been duly established under the indenture and the Board of Directors (or a duly authorized committee thereof) of Citigroup Global Markets Holdings Inc. has duly authorized the issuance and sale of such securities and such authorization has not been modified or rescinded; (ii) Citigroup Global Markets Holdings Inc. is validly existing and in good standing under the laws of the State of New York; (iii) the indenture has been duly authorized, executed and delivered by Citigroup Global Markets Holdings Inc.; and (iv) the execution and delivery of such indenture and of the securities offered by this pricing supplement by Citigroup Global Markets Holdings Inc., and the performance by Citigroup Global Markets Holdings Inc. of its obligations thereunder, are within its corporate powers and do not contravene its certificate of incorporation or bylaws or other constitutive documents. This opinion is given as of the date of this pricing supplement and is limited to the laws of the State of New York.

Scott L. Flood, or other internal attorneys with whom he has consulted, has examined and is familiar with originals, or copies certified or otherwise identified to his satisfaction, of such corporate records of Citigroup Global Markets

Holdings Inc., certificates or documents as he has deemed appropriate as a basis for the opinions expressed above. In such examination, he or such persons has assumed the legal capacity of all natural persons, the genuineness of all signatures (other than those of officers of Citigroup Global Markets Holdings Inc.), the authenticity of all documents submitted to him or such persons as originals, the conformity to original documents of all documents submitted to him or such persons as certified or photostatic copies and the authenticity of the originals of such copies.

In the opinion of Barbara Politi, Assistant General Counsel—Capital Markets of Citigroup Inc., (i) the Board of Directors (or a duly authorized committee thereof) of Citigroup Inc. has duly authorized the guarantee of such securities by Citigroup Inc. and such authorization has not been modified or rescinded; (ii) Citigroup Inc. is validly existing and in good standing under the laws of the State of Delaware; (iii) the indenture has been duly authorized, executed and delivered by Citigroup Inc.; and (iv) the execution and delivery of such indenture, and the performance by Citigroup Inc. of its obligations thereunder, are within its corporate powers and do not contravene its certificate of incorporation or bylaws or other constitutive documents. This opinion is given as of the date of this pricing supplement and is limited to the General Corporation Law of the State of Delaware.

PS-46

Barbara Politi, or other internal attorneys with whom she has consulted, has examined and is familiar with originals, or copies certified or otherwise identified to her satisfaction, of such corporate records of Citigroup Inc., certificates or documents as she has deemed appropriate as a basis for the opinions expressed above. In such examination, she or such persons has assumed the legal capacity of all natural persons, the genuineness of all signatures (other than those of officers of Citigroup Inc.), the authenticity of all documents submitted to her or such persons as originals, the conformity to original documents of all documents submitted to her or such persons as certified or photostatic copies and the authenticity of the originals of such copies.

PS-47



**ANNEX A**

**INDEX CONDITIONS FOR UNDERLYING INDEX**

PS-48

Citi Commodities F3 vs F0 - 4x Leveraged Index

Index Conditions

Citi Commodities Indices

28 April 2017

Part A: Introduction

This document constitutes the “**Index Conditions**” in respect of the Citi Commodities F3 vs F0 - 4x Leveraged Index (the “**Index**”).

These Index Conditions are made available by Citigroup Global Markets Limited in its capacity as the Index Administrator.

Full information in respect of any Index Linked Product (as defined in Part H (*Definitions*)) is only available on the basis of a combination of these Index Conditions and the confirmation, prospectus or offering document (however described) in respect of such Index Linked Product. Particular attention is drawn to the important risk factors and disclaimers contained in these Index Conditions, and investors should be aware of the consequences set out in such confirmation, prospectus or offering document of such Index Linked Product of any discontinuation of the Index.

No use of the Index or these Index Conditions is permitted unless such use is authorised, whether (1) through buying, or otherwise entering into, an Index Linked Product from or with the Index Administrator or the Index Calculation Agent or one of their Affiliates; or (2) under the terms of a written licence granted by the Index Administrator.

These Index Conditions may be amended from time to time in the circumstances described in Part J (*Miscellaneous*). Copies of these Index Conditions are available from the Index Administrator.

These Index Conditions comprise the following Parts.

Part A Introduction

Part B Key Information

Part C Overview of the Index

Part D Calculation of the Index Level and the Index Published Level

Part E Data

Part F Adjustments, disruption and cancellation

Part G Provisions relating to Constituents

Part H Definitions

Part I Risk Factors

Part J Miscellaneous

Part K Notices

Part B: Key Information

Index: Citi Commodities F3 vs F0 - 4x Leveraged Index.

Index Ticker: Bloomberg Page CVIC4X30 <Index>.

Summary of strategy: The Index provides a 4 x leveraged **calendar spread exposure** to 22 Commodities, by assuming, in respect of each Commodity, a **long** exposure to the corresponding three-month forward sub-index (single commodity mono index) of the **Bloomberg Commodity Index<sup>SM</sup>** (such indices, the “**F3 Group**”) and a **short** exposure to the corresponding sub-index which tracks near-dated commodity futures contracts (single commodity mono index) of the **Bloomberg Commodity Index<sup>SM</sup>** (such indices, the “**F0 Group**”). The weights of the Commodities to which the Index provides an exposure are based on the weights used in the **Bloomberg Commodity Index<sup>SM</sup>**.

Index Administrator: Citigroup Global Markets Limited.

Index Calculation Agent: Citigroup Global Markets Limited.

Index Base Currency: U.S. Dollars.

Index Launch Date: 24 January 2017.

Index Start Date: 31 December 2014.

Index Start Level: 100.

Publication Rounding: 3.

Index Fees and Costs: The Index Level does not reflect any fee or cost.

Frequency of calculation of the Index Level: Daily, on each Index Business Day.

*The Index was launched by the Index Administrator on the Index Launch Date. The Index has been calculated by the Index Calculation Agent for the period from the Index Start Date. The past performance of the Index prior to the Index Launch Date has been derived from a back-testing simulation by applying the Index methodology to published historical levels of the Index constituents. Back-tested performance is provided for illustrative purposes only and should not be regarded as an indication of future performance. The back-testing simulation assumed that there were no market disruption events and no extraordinary events affecting Index constituents. A simulation based on different assumptions may produce different results. Any Index Linked Product may bear additional fees which will reduce the*

*overall returns of such Index Linked Product as compared with the past performance of the Index.*

Part C: Overview of the Index

Calculation

**1. CALCULATION OF THE INDEX**

Subject to the occurrence or existence of a Disrupted Day, the Index Level shall be calculated by the Index Calculation Agent as of each Index Business Day. The Index Level as of each Index Business Day shall be published on the Index Ticker, generally on the following Index Business Day. This should be considered the official source for the Index Level and a level obtained from any other source (electronic or otherwise) must be considered unofficial. The Index Level is the closing level of the Index for the relevant Index Business Day. The Index Calculation Agent may also, but is not obliged to, calculate the level of the Index in respect of any other day with the consent of the Index Administrator. The detailed procedures for the calculation of the Index Level in respect of each Index Business Day are set out in Part D (*Calculation of the Index Level and the Index Published Level*) below.

**2. INDEX ADMINISTRATOR AND INDEX CALCULATION AGENT**

The Index Administrator is Citigroup Global Markets Limited. As at the date of these Index Conditions, Citigroup Global Markets Limited also acts as Index Calculation Agent, calculating and publishing the Index in accordance with these Index Conditions. The Index Administrator may, in its sole discretion and without notice, appoint an alternative Index Calculation Agent at any time which may be one of the Index Administrator's Affiliates.

Brief Description

**1. INTRODUCTION**

The brief description set out in this Part C is a summary only of these Index Conditions, of which this Part C is a part. These Index Conditions as a whole govern the Index, the calculation of the Index Level (as defined in Part D (*Calculation of the Index Level and the Index Published Level*) below), and the determinations made in connection with the maintenance of the Index. In the case of any inconsistency between this brief description in this Part C and the remainder of these Index Conditions, the remainder of these Index Conditions shall prevail.

The Index is a notional rules-based proprietary index developed by the Index Administrator. The Index Level reflects the change in value of the Constituents from one balancing of the Index to the next balancing of the Index.

**2. SCHEME OF THE INDEX**

The Index contains 22 Commodities.

Each Commodity is represented in the Index by:

- (1) a sub-index of the Bloomberg Commodity Index<sup>SM</sup> (the "**Benchmark Index**") which tracks near-dated commodity futures contracts (each a "**BCOM-F0 Mono Index**"); and
- (2) a "3 Month Forward" sub-index of the Benchmark Index (each a "**BCOM-F3 Mono Index**").

Each BCOM-F0 Mono Index and BCOM-F3 Mono Index is a Constituent Index.



Therefore, the Index contains 46 Constituent Indices.

### **Weighting Methodology**

The following description of the weighting methodology of the Index is subject to Part D (*Calculation of the Index Level and the Index Published Level*).

The Index aims to represent the value of the difference in performance between each BCOM-F3 Mono Index and the corresponding BCOM-F0 Mono Index.

The Index seeks to achieve this by providing:

- (1) long exposure to the BCOM-F3 Mono Index in respect of each Commodity (such BCOM-F3 Mono Indices together, the “**F3 Group**”); and
- (2) short exposure to the BCOM-F0 Mono Index in respect of each Commodity (such BCOM-F0 Mono Indices together, the “**F0 Group**”).

The Index therefore provides a calendar spread exposure to each Commodity.

On a monthly balancing, the weighting methodology of the Index assigns a Weight to each Constituent Index for the period until the next monthly balancing, in accordance with the weighting in respect of the Commodity corresponding to such Constituent Index used for the purposes of determining the Benchmark Index. This Weight incorporates a leverage factor of 4.

Each BCOM-F3 Mono Index is given a **positive** Weight for the purposes of the **long exposure** that the Index has to the F3 Group. Each BCOM-F0 Mono Index is given a **negative** Weight for the purposes of the **short exposure** that the Index has to the F0 Group.

Part D: Calculation of the Index Level and the Index Published Level

Part D1: Basic calculation

**1. INDEX LEVEL AND INDEX PUBLISHED LEVEL**

**1.1 The Index Level on the Index Start Date**

The Index Level in respect of the Index Start Date shall be the Index Start Level.

**1.2 The Index Level following the Index Start Date**

The Index Level in respect of each Index Business Day “**d**” following the Index Start Date shall be an amount determined by the Index Calculation Agent in accordance with the formula set out below:

where:

$I_d$  = the Index Level in respect of **d**.

$I_{d-1}$  = the Index Level in respect of the Index Business Day immediately preceding **d**.

**Number** = the number of Constituents contained in the Index on **d**.

$Units_{i,d-1}$  = the Number of Units in respect of Constituent **i** on the Index Business Day immediately preceding **d**.

The Number of Units in respect of each Constituent is determined in accordance with paragraph 3 of this Part D1.

$CCL_{i,d}$  = the Constituent Closing Level in respect of Constituent **i** and **d**.

$CCL_{i,d-1}$  = the Constituent Closing Level in respect of Constituent **i** and the Index Business Day immediately preceding **d**.

**1.3 The Index Published Level on each Index Business Day**

The Index Published Level in respect of each Index Business Day “**d**” shall be an amount determined by the Index Calculation Agent equal to the Index Level in respect of **d** rounded to the Publication Rounding number of decimal places.

## 2. CONSTITUENT CLOSING LEVEL

2.1 The Constituent Closing Level in respect of a Constituent on an Index Business Day “**d**” shall be the level, price, rate or value specified in Part G (*Provisions relating to Constituents*), and determined by the Index Calculation Agent with reference to the Constituent Ticker specified in respect of such Constituent in Part E (*Data*).

2.2 If the level, price, rate or value (as applicable) in respect of any Constituent and any time and any day, that is (1) announced by or on behalf of the person or entity responsible for such publication or announcement; and (2) used for any calculation or determination in respect of the Index, is subsequently corrected, and the corrected level, price, rate or value (as applicable) (the “**Corrected Level**”) is published by or on behalf of such person or entity within the Correction Period in respect of such Constituent, then such Corrected Level shall be deemed to be the level, price, rate or value (as applicable) in respect of such Constituent and the relevant time and the relevant day. If the Correction Period does not include a Balancing Day, then Index Calculation Agent shall revise the Index Level in respect of such day. If the Correction Period includes a Balancing Day, then the Index Calculation Agent may, but shall not be obliged to, make appropriate adjustments to the Index Level in respect of such day.

### 3. DETERMINATION OF THE NUMBER OF UNITS

#### 3.1 Following the Index Start Date (other than a balancing)

The Number of Units in respect of each Constituent on each Index Business Day “**d**” (following the Index Start Date) other than a Balancing Day shall be equal to the Number of Units in respect of such Constituent on the Index Business Day immediately preceding d.

#### 3.2 Balancing Process (“balance what you can”)

(1) *No disruption*

If a Scheduled Balancing Day is not a Disrupted Day for any Constituent, then the Number of Units in respect of each Constituent on such Scheduled Balancing Day shall be an amount determined by the Index Calculation Agent in accordance with the formula set out at paragraph 4 of this Part D1.

(2) *Disruption*

If a Scheduled Balancing Day is a Disrupted Day for any Constituent, then:

(a) on each Interim Balancing Day in respect of such Scheduled Balancing Day:

the Number of Units in respect of each Constituent for which such Interim Balancing Day is not a Disrupted

(i) Day shall be an amount determined by the Index Calculation Agent in accordance with the formula set out at paragraph 4 of this Part D1;

(ii) where such Scheduled Balancing Day is the Index Start Date, the Number of Units in respect of each Constituent for which such Interim Balancing Day is a Disrupted Day shall be zero; and

(iii) where such Scheduled Balancing Day is not the Index Start Date, the Number of Units in respect of each Constituent for which such Interim Balancing Day is a Disrupted Day shall be equal to the Number of Units in respect of such Constituent on the Index Business Day immediately preceding such Interim Balancing Day; and

(b) the Number of Units in respect of each Constituent on the Effective Balancing Day in respect of such Scheduled Balancing Day shall be an amount determined by the Index Calculation Agent in accordance with the formula set out at paragraph 4 of this Part D1.

(3) For the purposes of this paragraph 3.2 of this Part D1, in respect of an Scheduled Balancing Day “**d**”, any Constituent the Weight of which is zero on d and on the Scheduled Balancing Day (if any) immediately preceding d shall be disregarded for the purposes of determining whether a day is a Disrupted Day for any Constituent.

#### 4. FORMULA FOR THE NUMBER OF UNITS

“**Number of Units**” shall mean, in respect of each Constituent “**i**” and a Balancing Day “**d**”, an amount determined by the Index Calculation Agent in accordance with the formula set out below:

where:

**Units<sub>i,d</sub>** =the Number of Units in respect of Constituent i and d.

**I<sub>d</sub>** =the Index Level in respect of d.

**Weight<sub>i,d</sub>** =the Weight in respect of Constituent i and d.

The Weight in respect of each Constituent is determined in accordance with Part D2.

**CCL<sub>i,d</sub>** =the Constituent Closing Level in respect of Constituent i and d.

Part D2: Weight

**1. WEIGHT**

**1.1** “**Weight**” shall mean, in respect of a Constituent “**i**” and a Balancing Day “**d**”, an amount determined by the Index Calculation Agent in accordance with the formula set out below:

where:

**Weight** =the Weight in respect of i and d.

**BW<sub>i,d</sub>** =the Benchmark Weight in respect of i and d.

**Multiplier**=either:

(a) (if the Constituent Type in respect of i is “BCOM F3 Index”) 1; or

(b) (if the Constituent Type in respect of i is “BCOM F0 Index”) -1.

**Leverage Factor**=the amount specified as such in Part E (*Data*).

**2. BENCHMARK WEIGHT**

**2.1** “**Benchmark Weight**” shall mean, in respect of a Constituent “**i**” and a Balancing Day “**d**”, the weight of the Commodity corresponding to i as applied for the purposes of determining the Benchmark Index, as of the Benchmark Weight Observation Date immediately preceding d.

The Index Calculation Agent shall determine the weight of the relevant Commodity as of a particular day with reference to the Benchmark Weight Source.

**2.2** “**Benchmark Weight Observation Date**” shall mean the last Benchmark Index Business Day of each calendar month.

**2.3** “**Benchmark Weight Source**” shall mean the Benchmark Index Source.

**3. ADDITIONAL DEFINITIONS**

“**Constituent Type**” shall mean, in respect of a Constituent, the classification in respect of such Constituent specified as such in Part E (*Data*).

Part D3: The Benchmark Index

## 1. BENCHMARK INDEX

“**Benchmark Index**” shall mean the Bloomberg Commodity Index<sup>SM</sup>.

“**Benchmark Index Business Day**” shall mean a “Business Day” as defined in the Benchmark Index Conditions.

“**Benchmark Index Component**” shall mean each component contained in the Benchmark Index.

“**Benchmark Index Conditions**” shall mean the publication “*Index Methodology ~ The Bloomberg Commodity Index Family*”, published as of December 2016 by Bloomberg Finance L.P., and any successor or replacement publication.

“**Benchmark Index Source**” shall mean <http://www.bloombergindeces.com/>.

“**Benchmark Index Sponsor**” shall mean, in respect of the Benchmark Index, the corporation or other entity which (1) is responsible for setting and reviewing the rules and procedures and methods of calculations and adjustments, if any, relating to the Benchmark Index; and (2) announces (directly or through an agent) the level of the Benchmark Index on a regular basis.

## 2. CHANGES TO THE BENCHMARK INDEX

### 2.1 Removals from the Benchmark Index

In the event that the Benchmark Index Sponsor removes a Benchmark Index Component from the Benchmark Index, the Index Calculation Agent shall, with effect from the first Scheduled Balancing Day following the effective date of such removal (or with effect from such effective date if such effective date is a Scheduled Balancing Day), remove from the Index the two Constituent Indices the Commodities of which correspond with such Benchmark Index Component.

### 2.2 Additions to the Benchmark Index

In the event that the Benchmark Index Sponsor adds a new component to the Benchmark Index (such new component, an “**Additional Benchmark Index Component**”), the Index Calculation Agent shall, with effect from the first Scheduled Balancing Day following the effective date of such addition (or with effect from such effective date if such effective date is a Scheduled Balancing Day), add to the Index two new Constituent Indices (each, an “**Additional Constituent Index**”), as follows:

- (1) the Commodity of each Additional Constituent Index shall be the commodity which is represented by the Additional Benchmark Index Component;  
  
one Additional Constituent Index shall be the “3 Month Forward” sub-index of the Benchmark Index which
- (2) corresponds with the Additional Benchmark Index Component, and the Constituent Type of such Additional Constituent Index shall be “BCOM F3 Index”;
- (3) the other Additional Constituent Index shall be the sub-index of the Benchmark Index which tracks near-dated commodity futures contracts which corresponds with the Additional Benchmark Index Component, and the

Constituent Type of such Additional Constituent Index shall be BCOM F0 Index;



- (4) the Index Calculation Agent shall determine the Electronic Page in respect of each Additional Constituent Index; and
- (5) each Additional Constituent Index shall be deemed to be a Constituent Index.

### 3. ADJUSTMENT EVENTS

“**Adjustment Event**” shall mean, in respect of the Benchmark Index, each of the following: (1) Benchmark Index Cancellation; (2) Benchmark Index Modification; and (3) the failure of the Benchmark Index Sponsor to publish (directly or through an agent) relevant information in respect of the Benchmark Index in respect of a Scheduled Trading Day.

“**Benchmark Index Cancellation**” shall mean that the Benchmark Index Sponsor permanently cancels the Benchmark Index.

“**Benchmark Index Modification**” shall mean that the Benchmark Index Sponsor announces that it will make a material change in the formula for or method of calculating the Benchmark Index or in any other way materially modifies the Benchmark Index (other than a modification prescribed in that formula or method to maintain the Benchmark Index in the event of routine events).

### 4. SUCCESSOR BENCHMARK INDEX SPONSOR AND SUCCESSOR BENCHMARK INDEX

If the Benchmark Index is (1) not calculated and announced by the Benchmark Index Sponsor but is calculated and announced by a successor sponsor acceptable to the Index Calculation Agent; or (2) replaced by a successor index using, in the determination of the Index Calculation Agent, the same or a substantially similar formula for or method of calculation as used in the calculation of the Benchmark Index, then in each case that index will be deemed to be the Benchmark Index with effect from the date determined by the Index Calculation Agent, who may (but is not obliged to) make such adjustment(s) to these Index Conditions as it determines appropriate to account for such change.

## Part E: Data

## Constituents

(As at the Index Start Date.)

<b>i</b>	<b>Commodity</b>	<b>Exchange</b>	<b>Benchmark</b>
1.	WTI Crude	NYMEX	CL
2.	Brent Crude	ICE	CO
3.	Natural Gas	NYMEX	NG
4.	Gasoline	NYMEX	RB
5.	Heating Oil	NYMEX	HO
6.	Gold	COMEX	GC
7.	Silver	COMEX	SI
8.	Copper (CMX)	COMEX	HG
9.	Aluminium	LME	AL
10.	Nickel	LME	NI
11.	Zinc	LME	ZS
12.	Wheat (CBOT)	CBOT	WH
13.	Wheat (KCBOT)	KCBOT	KW
14.	Corn	CBOT	CN
15.	Soybean	CBOT	SY
16.	Soybean Oil	CBOT	BO
17.	Soybean Meal	CBOT	SM
18.	Coffee	NYBOT	KC
19.	Sugar	NYBOT	SB
20.	Cotton	NYBOT	CT
21.	Lean Hogs	CME	LH
22.	Live Cattle	CME	LC

In respect of each Commodity listed above, the Index has an exposure to two **Constituent Indices**, each a sub-index (single commodity mono index) of the **Bloomberg Commodity Index**:

(1) one of which:

- (a) the Electronic Page of which is a combination of the letters “**BCOM**” followed by the letters specified in respect of such Commodity under the heading “*Benchmark*” of the table set out above; and
- (b) the “**Constituent Type**” in respect of which shall be “**BCOM F0 Index**”; and

(2) the other of which:

- (a) the Electronic Page of which is a combination of the letters “**BCOM**” followed by the letters specified in respect of such Commodity under the heading “*Benchmark*” of the table set out above followed by the number 3; and
- (b) the “**Constituent Type**” in respect of which shall be “**BCOM F3 Index**”.

The index conditions of the Constituent Indices are available from the Index Sponsor.

The Electronic Page of each Constituent Index is a Bloomberg Electronic Page.

“**CBOT**” shall mean the Chicago Board of Trade.

“**CME**” shall mean the Chicago Mercantile Exchange.

“**COMEX**” shall mean the Commodity Exchange, Inc.

“**ICE**” shall mean the IntercontinentalExchange Inc.

“**KCBOT**” shall mean the Kansas City Board of Trade.

“**LME**” shall mean the London Metal Exchange.

“**NYBOT**” shall mean the New York Board of Trade.

“**NYMEX**” shall mean the New York Mercantile Exchange.

#### Parameters

Leverage Factor: 4.

#### Dates and times

Index Business Day: Any day on which the New York floor of the CME Group is scheduled to be open for trading for its regular trading session.

#### Scheduled

Transacting Day: Each Index Business Day which is also an All Exchanges Open Business Day.

Any day on which each Relevant Exchange is scheduled to be open for its regular trading session, notwithstanding such Relevant Exchange closing prior to its scheduled weekday closing time, without regard to after-hours trading or other trading outside the hours of the regular trading session on such Relevant Exchange.

#### All Exchanges

#### Open Business

Day: For these purposes, “**Relevant Exchange**” shall mean either (1) each exchange (if any) specified in Part E (*Data*); or (2) (if no such exchange is so specified) each exchange on which is traded each exchange-traded futures contract and each exchange-traded option contract (a) constituting each Constituent Index or any index which is a constituent of such Constituent Index, whether directly or as a constituent of a further index; or (b) with reference to which such Constituent Index or other index is determined.

#### Scheduled

Balancing Day: The first Scheduled Transacting Day of each calendar month.

Part F: Adjustments, disruption and cancellation

**1. ADJUSTMENT EVENTS**

If an Adjustment Event occurs in respect of the Benchmark Index or a Constituent (the “**Affected Element**”), then:

- (1) the Index Calculation Agent may suspend the calculation, publication and dissemination of the Index and the Index Level until the first succeeding Index Business Day on which such Adjustment Event does not occur or continue to occur; and/or

- (2) the Index Calculation Agent may replace the Affected Element with a replacement element which has substantially similar characteristics to the Affected Element, having regard to the manner in which the Affected Element is used in the calculation of the Index, in which case the Index Calculation Agent will:

(a) determine the effective date of such replacement; and

(b) make such adjustment(s) to these Index Conditions as it determines appropriate to account for the effect on the Index of such replacement; and/or

- (3) the Index Administrator may discontinue and cancel the Index.

**2. DISRUPTED DAYS**

If any Index Business Day is a Disrupted Day for any Constituent, then the Index Calculation Agent may:

- (1) publish its good faith estimate of the Index Level for such Index Business Day (notwithstanding the occurrence of a Disrupted Day), using its good faith estimate of the value of the Constituent(s) affected by the occurrence of a Disrupted Day. Any such estimated value may be subject to correction once the relevant event or circumstances giving rise to such Disrupted Day cease; and/or

- (2) suspend the calculation, publication and dissemination of the Index and the Index Level until the first succeeding Index Business Day which is not a Disrupted Day for any Constituent.

**3. CANCELLATION OF THE INDEX**

The Index Administrator may discontinue and cancel the Index at any time and is under no obligation to continue, or to procure the continuation of, the calculation, publication and dissemination of the Index, the Index Level and the Index Published Level.

Part G: Provisions relating to Constituents

Constituent Index

This section of this Part G is applicable only to each Constituent which is classified (in Part E (*Data*) under the heading “*Classification*”) as a “Constituent Index” (each such Constituent, a “**Constituent Index**”).

Constituent Closing Level:	The official closing level of the relevant Constituent Index.
Scheduled Trading Day:	Any day on which the relevant Constituent Index Sponsor (or an agent appointed by such Constituent Index Sponsor) is scheduled to publish the level of the relevant Constituent Index.
Disrupted Day:	Any Scheduled Trading Day on which (1) the level of the relevant Constituent Index is not published by or on behalf of the relevant Constituent Index Sponsor; or (2) an Exchange Disruption occurs in respect of any ETD Contract.
Adjustment Event:	Each of the following: (1) Constituent Index Cancellation; and (2) Constituent Index Modification.
Correction Period:	30 calendar days.

“**Constituent Index Cancellation**” shall mean, in respect of any Constituent Index, that the relevant Constituent Index Sponsor permanently cancels such Constituent Index.

“**Constituent Index Modification**” shall mean, in respect of any Constituent Index, that the relevant Constituent Index Sponsor announces that it will make a material change in the formula for or method of calculating such Constituent Index or in any other way materially modifies such Constituent Index (other than a modification prescribed in that formula or method to maintain such Constituent Index in the event of routine events).

“**Constituent Index Sponsor**” shall mean, in respect of any Constituent Index, the corporation or entity which (1) is responsible for setting and reviewing the rules and procedures and methods of calculations and adjustments, if any, related to such Constituent Index; and (2) announces (directly or through an agent) the level of such Constituent Index on a regular basis.

**“Exchange Disruption”** shall have the meaning given to it under the heading *“Exchange and Exchange Disruption”* below. For the purposes of such definition and a Constituent Index:

**“ETD Contract”** shall mean each exchange-traded futures contract and each exchange-traded option contract

(1) (a) constituting such Constituent Index or any index which is a constituent of such Constituent Index, whether directly or as a constituent of a further index; or (b) with reference to which such Constituent Index is determined; and

for the purposes of the definition of “Exchange” under the heading *“Exchange and Exchange Disruption”*, the

(2) Trading Venue shall be deemed to be the exchange determined in respect of such Constituent Index under the heading *“Exchange and Exchange Disruption”* below.

#### **SUCCESSOR CONSTITUENT INDEX SPONSOR AND SUCCESSOR CONSTITUENT INDEX**

If the relevant Constituent Index is (1) not calculated and announced by the relevant Constituent Index Sponsor but is calculated and announced by a successor sponsor acceptable to the Index Calculation Agent; or (2) replaced by a successor index using, in the determination of the Index Calculation Agent, the same or a substantially similar formula for or method of calculation as used in the calculation of such Constituent Index, then in each case that index will be deemed to be such Constituent Index with effect from the date determined by the Index Calculation Agent, who may (but is not obliged to) make such adjustment(s) to these Index Conditions as it determines appropriate to account for such change.



Exchange and Exchange Disruption

“**Exchange**” shall mean, in respect of an ETD Contract:

- (1) either:
  - (a) the exchange specified in Part E (*Data*); or
  - (b) (if no exchange is so specified) the primary exchange, trading system or quotation system in respect of such ETD Contract(in each case, the “**Trading Venue**” in respect of such ETD Contract); or
- (2) any successor to such Trading Venue; or
- (3) any substitute Trading Venue to which trading in such ETD Contract has temporarily relocated, provided that there is comparable liquidity in such ETD Contract on such temporary substitute Trading Venue as on the original Trading Venue.

“**Exchange Disruption**” shall mean, in respect of an ETD Contract:

- (1) the relevant Exchange fails to open fails to open for trading during its regular trading session; or
- (2) the occurrence or existence at any time during the one hour period which ends at the end of the Scheduled Closing Time (on the relevant Exchange) of any suspension of or limitation imposed (for any reason, including movements in price exceeding permitted limits) on the trading on the relevant Exchange; or
- (3) the occurrence or existence at any time during the one hour period which ends at the end of the Scheduled Closing Time (on the relevant Exchange) of any other event (other than an event described in sub-paragraph (4)) which disrupts or impairs the ability of market participants in general on the relevant Exchange to effect transactions in or to obtain market values for such ETD Contract; or
- (4) the closure on any day (on which the relevant Exchange is scheduled to be open for its regular trading session) prior to the Scheduled Closing Time on such Exchange on such day, at least one hour prior to the earlier of (a) the actual closing for the regular trading session of the relevant Exchange on such day; and (b) the deadline for the submission of orders to be entered into the relevant Exchange system for execution at such scheduled weekday closing time on the relevant Exchange on such day; or
- (5) the Settlement Price of such ETD Contract has increased or decreased by an amount equal to the maximum permitted price change for the previous day’s Settlement Price; or
- (6) the Settlement Price of such ETD Contract is not published or otherwise made available by or on behalf of the relevant Exchange.

**“Scheduled Closing Time”** shall mean, in respect of an Exchange and a day on which such Exchange is scheduled to be open for its regular trading session, the scheduled weekday closing time of such Exchange on such day, without regard to after-hours trading or other trading outside the hours of the regular trading session on such Exchange.

**“Settlement Price”** shall mean, in respect of an ETD Contract, the daily settlement price or the final settlement price (as the case may be, and however described by the relevant Exchange) of such ETD Contract, as published or otherwise made available by the relevant Exchange.

Part H: Definitions

“**Adjustment Event**” shall, in respect of a Constituent, have the meaning given to it in the relevant section of Part G (*Provisions relating to Constituents*).

“**Affiliate**” shall mean, in respect of a person “**X**”, any entity controlled (directly or indirectly) by X, any entity which controls (directly or indirectly) X or any entity (directly or indirectly) under common control with X. For this purpose, “**control**” of any person or entity shall mean the ownership or a majority of the voting power of such person or entity.

“**Balancing Day**” shall mean each Scheduled Balancing Day, the Effective Balancing Day (if applicable) in respect of such Scheduled Balancing Day, and each Interim Balancing Day (if any) in respect of such Scheduled Balancing Day.

“**Citi**” shall mean Citigroup Inc. and its Affiliates.

“**Constituent**” shall mean each constituent of the Index, as specified in Part E (*Data*). Each Constituent shall be identified by a unique serial number, denoted by “**i**”, as specified in Part E (*Data*). Part E (*Data*) also sets out the classification of each Constituent.

“**Constituent Closing Level**” shall have the meaning given to it in Part D1 (*Calculation of the Index Level and the Index Published Level*).

“**Constituent Ticker**” shall mean, in respect of a Constituent, the Electronic Page specified in respect of such Constituent in Part E (*Data*).

“**Correction Period**” shall, in respect of a Constituent, have the meaning given to it in the relevant section of Part G (*Provisions relating to Constituents*).

“**Disrupted Day**” shall, in respect of a Constituent, have the meaning given to it in the relevant section of Part G (*Provisions relating to Constituents*).

“**Effective Balancing Day**” shall mean, in respect of a Scheduled Balancing Day which is a Disrupted Day for any Constituent, the first succeeding Scheduled Transacting Day which is not a Disrupted Day for any Constituent.

“**Electronic Page**” shall mean, in respect of a datum, (1) an electronic page or source specified in respect of such datum in these Index Conditions; or (2) if no such electronic page or source has been so specified, such Bloomberg page or Reuters page or other widely-recognized source of financial data as the Index Calculation Agent may determine appropriate; or (3) in any case, any successor electronic page or source that has been designated by either (a) the sponsor of the original electronic page or source; or (b) the relevant information vendor or provider of the original electronic page or source; or (4) any alternative electronic page or source that may be designated by the Index Calculation Agent, provided that such electronic page or source is widely recognized by participants in the relevant market.

“**Expert Judgement**” shall have the meaning given to it in Part J (*Miscellaneous*).

“**Index Administrator**” shall mean the person specified as such in Part B (*Key Information*) or any successor to or assignee of such person.

“**Index Base Currency**” shall mean the currency specified as such in Part B (*Key Information*).

“**Index Business Day**” shall mean each day specified as such in Part E (*Data*).

“**Index Calculation Agent**” shall mean the person specified as such in Part B (*Key Information*) and appointed by the Index Administrator, any successor to such person, or any alternative calculation agent appointed by the Index Administrator.

“**Index Launch Date**” shall mean the date specified as such in Part B (*Key Information*).

“**Index Level**” shall mean, in respect of an Index Business Day, the closing level of the Index on such Index Business Day. The Index Level shall be an amount expressed in the Index Base Currency.

“**Index Linked Product**” shall mean any security, contract or other financial product the return on which is linked to the performance of the Index.

“**Index Published Level**” shall mean, in respect of an Index Business Day, the published level of the Index on such Index Business Day. The Index Published Level shall be an amount expressed in the Index Base Currency.

“**Index Start Date**” shall mean the date specified as such in Part B (*Key Information*). For the avoidance of doubt, the Index Start Date is an Index Business Day.

“**Index Start Level**” shall mean the Index Level on the Index Start Date, as specified in Part B (*Key Information*).

“**Index Ticker**” shall mean the Electronic Page in respect of the Index, as specified in Part B (*Key Information*).

“**Interim Balancing Day**” shall mean, in respect of a Scheduled Balancing Day which is a Disrupted Day for any Constituent, each Scheduled Transacting Day from (and including) such Scheduled Balancing Day to (but excluding) the Effective Balancing Day in respect of such Scheduled Balancing Day.

“**Part**” shall mean a part of these Index Conditions.

“**Publication Rounding**” shall mean the number of decimal places specified as such in Part B (*Key Information*).

“**Scheduled Balancing Day**” shall mean each day specified as such in Part E (*Data*).

“**Scheduled Trading Day**” shall, in respect of a Constituent, have the meaning given to it in the relevant section of Part G (*Provisions relating to Constituents*).

“**Scheduled Transacting Day**” shall mean each day specified as such in Part E (*Data*).

## Part I: Risk Factors

The discussion of risks in this Part I comprises a discussion of specific risk factors, followed by a discussion of general risk factors.

### Specific Risk Factors

#### **1. RISKS ARISE IN RESPECT OF THE CONSTITUENT INDICES**

The performance of the Index is dependent on the performance of the Constituent Indices.

There can be no assurance that a Constituent Index will generate positive returns.

Knowledge of the methodology of the Constituent Indices is essential to evaluate the Index.

The risks which exist in respect of an exposure to the Constituent Indices also exist in respect of an exposure to the Index. Consequently investors should read and understand the index conditions of the Constituent Indices, including the disclosure and the discussion of the risks which arise in respect of an exposure to the Constituent Indices.

The combination of these risks may create additional particular risks which may substantially increase the effect of adverse market movements.

In addition to the risks which exist in respect of an exposure to the Constituent Indices, the following are certain specific risks which exist in respect of an exposure to the Index.

#### **2. EXPOSURE TO THE CONSTITUENT INDICES**

The Index does not track commodities generally. The level of the Index will increase only if the F3 Group has better returns than the F0 Group. For example, commodity prices may be generally rising as measured by either the F3 Group or the F0 Group individually, but the Index may be declining because the F3 Group is underperforming the F0 Group.

If some of the Constituent Indices generate negative returns, and the other Constituent Indices generate positive returns, then the positive returns generated may not be sufficient to outweigh the negative returns generated, and therefore the performance of the Index may be negative notwithstanding the positive returns that have been generated.

The performance of the Index is based on a mathematical calculation of the extent to which the F3 Group outperforms or underperforms the F0 Group. In order to evaluate the Index, you should fully understand the methodology, assumptions and risks of the Constituent Indices.

Although the Index is intended to have neutral exposure to commodities, the Index will nevertheless be subject to certain risks associated with an investment in commodity futures contracts. The Index is balanced monthly to

match a notional long position in the F3 Group against a notional short position in the F0 Group, but between monthly balancing dates, the weights of the F3 Group and the F0 Group will fluctuate as a result of the performance of the Constituent Indices, such that their weighted values will no longer exactly offset each other. The Index will have exposure to the value of the underlying futures contracts and their underlying commodities to the extent of that difference.

The returns of the F3 Group may differ from those of the F0 Group. For example, fluctuations in commodity prices may have a different effect on commodity futures contracts for immediate



delivery compared to longer-dated commodity futures contracts.

In bullish commodity markets, near-term futures contracts may rally more sharply than longer-dated futures contracts, which may negatively impact the calendar spread strategy of the Index as it has exposure (through the F3 Group) to longer-dated futures contracts and (through the F0 Group) to near-dated futures contracts.

### **3. THE BENCHMARK INDEX**

Changes to the Benchmark Index methodology may adversely affect the Index. The sponsors of the Benchmark Index may change the methodology pursuant to which it selects futures contracts at any time. If any such change is made, the performance of the Index may be positively or negatively impacted.

### **4. LEVERAGE**

The weighting of each of the Constituent Indices within the Index is subject to a leverage factor of 400%. The Index therefore has, on each Index Business Day, a leveraged exposure to each of its Constituent Indices. This means that the effect on the level of the Index of any increase or decrease in the level of any Constituent Index will be magnified.

### **5. ALGORITHMIC INDICES ARE VULNERABLE TO UNPREDICTABLE MARKETS**

As the performance of commodities can be highly volatile, any rules-based algorithm using historical performance or behaviour of commodity prices (as the Index does through the Constituent Indices) may be negatively impacted by unexpected or unpredictable commodity price behaviour.

### **6. EFFECTIVE EXPOSURES MAY NOT REMAIN THE SAME**

The level of a Constituent Index may increase or decrease over the period from one monthly balancing to the next monthly balancing, and therefore the effective exposure in the Index to such Constituent Index over such period may not remain the same. This means that the weight in the Index of a Constituent Index that is determined on a monthly balancing may not be reflected by the effective exposure in the Index to such Constituent Index over the period from such balancing to the next monthly balancing.

### **7. DISRUPTION**

The Index may be disrupted if any of the Constituent Indices is disrupted or cancelled.

General Risk Factors

### **1. INTRODUCTION**

The Index Level may go down as well as up, depending on the performance of the components that are included in the Index (each, a “**Constituent**”) and their effect on the strategy that the Index has been developed to reflect. There can be no assurance as to the future performance of the Index, and the Index Level on any day may not reflect either its past performance or its future performance. The strategy that the Index has been developed to reflect may not be successful, and other strategies using the Constituents and alternative indices and benchmarks may perform better than the Index.

The Index represents the weighted value of its Constituents. The Index has been developed to be



“investable”, but the methodology set out in these Index Conditions is quantitative, which means that the Index Level is determined according to the rules and the processes set out in these Index Conditions on a purely notional basis, without reference to any actual investment in the Index or any of its Constituents.

The result of any such actual investment may be different to the performance of the Index. In particular, any notional fees or costs deducted in the calculation of the Index Level, and any proportionate amount included in the Index Level of any dividend, distribution or payment in respect of any Constituent, may be different from those arising in respect of any actual investment in any Constituent or any combination of Constituents.

Prospective investors in any Index Linked Product should be familiar with investments in the global financial and commodity markets, financial instruments and indices generally.

## **2. RISKS IN RESPECT OF THE CONSTITUENTS**

The performance of the Index is dependent on the performance of all of the Constituents contained in the Index.

Fluctuations in the level, price, rate or value (as applicable) of the Constituents contained in the Index from time to time will directly affect the Index Level.

### **Commodity**

Prospective investors in an Index Linked Product linked to an Index which has exposure to a commodity should be familiar with commodities generally.

Commodity markets can be highly volatile. In addition to being affected by general economic and market factors, including without limitation (1) weather; (2) governmental, agricultural, commercial and trade programmes and policies introduced to influence commodity prices; (3) global political and economic events; and (4) changes in interest rates, commodity markets are also subject to temporary distortions or other disruptions caused by various factors including (a) changes in supply and demand; (b) any potential lack of liquidity in the market; (c) the participation of speculators; and (d) government regulation and intervention.

### **Commodity Index (Constituent Index)**

Prospective investors in an Index Linked Product linked to an Index containing a Constituent Index should be familiar with commodity indices generally. The level of a Constituent Index is generally based on the value of the exchange-traded derivative contracts (i.e. ETD Contracts) contained in the Constituent Index, and therefore the risks discussed under the headings “*Commodity*” and “*ETD Contract (exchange-traded derivative contract)*” are also relevant.

#### *“Rolling” futures contracts*

The trend in the level of a Constituent Index may not correlate with the trend in the price of a particular commodity if the Constituent Index uses a “roll” mechanism by which exposure in the Constituent Index to a futures contract which is approaching delivery/expiry is replaced with an exposure to another futures contract which has a later delivery/expiry date. The level of the Constituent Index may not therefore fully reflect any increase or decrease in the price of the relevant commodity.

### **ETD Contract (exchange-traded derivative contract)**

Prospective investors in an Index Linked Product linked to an Index containing an ETD Contract

(whether a futures contract or an option contract) should be familiar with futures contracts and option contracts generally. The value and price volatility of both the ETD Contracts contained in an Index and of the assets or reference factors underlying such ETD Contracts must be considered.

#### *Daily Limits*

ETD Contracts are traded on exchanges, and are subject to regulations which limit the extent to which the prices of ETD Contracts can fluctuate during a single trading day. These regulations are commonly referred to as “daily limits”. Under these regulations, on a particular trading day, no trades may be executed at prices beyond the daily limits. Once the price of an ETD Contract has increased or decreased by an amount equal to the applicable daily limit, a trader cannot take a position or liquidate a position unless he is willing to effect the trade at or within the applicable daily limit. This could prevent the holder of an ETD Contract from promptly liquidating unfavourable positions and subject him to substantial losses.

### **3. PERFORMANCE OF THE INDEX**

#### **3.1 The performance of the Index may be significantly lower than the performance of certain Constituents**

The performance of the Index could be significantly less than the performance of alternative indices and benchmarks with similar risk characteristics, even if some of the Constituents have generated significant positive returns. The levels, prices, rates or values (“**Values**”) of the Constituents may move in different directions at different times compared to each other, and underperformance by one or more of the Constituents may reduce the performance of the Index as a whole, even if other Constituents generate positive returns.

#### **3.2 The correlation between the Constituents may change unpredictably**

Correlation is the extent to which the Values of the Constituents increase or decrease to the same degree at the same time. If the correlations among the Constituents change, the level of the Index may be adversely affected.

#### **3.3 The Index may be subject to currency rate risk**

The Index may be exposed to currency rate risk because the Values of the Constituents may be converted into the base currency of the Index for the purposes of calculating the level of the Index if those Values are expressed in a different currency. Currency rates may be volatile and move in an unexpected way. Historical currency rates should not be considered indicative of future currency rates.

### **4. NOTIONAL EXPOSURE**

The Index creates a notional exposure to the Constituents and such notional exposure will only exist in the books and records of the Index Administrator and the Index Calculation Agent.

#### **4.1 No rights**

Investors in Index Linked Products (1) have no legal or beneficial ownership interest in any Constituent and therefore have no recourse to any Constituent; (2) have no right to take delivery of any Constituent; (3) have no voting rights with respect to any Constituent; (4) have no right to receive dividends, distributions or other payments with respect to any Constituent.

#### **4.2 No offer**



Nothing in these Index Conditions constitutes an offer to buy or to sell any Constituent or any other asset, commodity, contract or security (including without limitation any asset, contract, commodity or security included in any Constituent).

#### **4.3 Reinvestment.**

If the Index is a “total return index”, it will include the notional reinvestment of amounts calculated by reference to any dividend, distribution or payment that would be received by a holder of a Constituent. If the Index is not a “total return index”, it will not include any such notional reinvestment.

### **5. NO INVOLVEMENT OF PERSONS CONNECTED WITH ANY CONSTITUENT**

The Index does not create any obligation of any person connected with any Constituent (each such person, for the purposes of this paragraph, a “**Relevant Person**”), including without limitation the issuer of any Constituent which is a security, the sponsor or calculation agent of any Constituent which is itself an index, and the provider of any service (such as an investment adviser or an investment manager) to any Constituent which is a fund.

No Relevant Person has participated in the preparation of these Index Conditions or in the arrangement and offer of any Index Linked Product.

### **6. NO INVESTIGATION**

Neither the Index Administrator nor the Index Calculation Agent has made or will make any investigation or enquiry with respect to any Constituent, including with respect to any publicly-available information that is disclosed in these Index Conditions to any Constituent. Consequently there can be no assurance that all events have been disclosed which would affect the performance of the Index or the value of any Index Linked Product.

### **7. EFFECT OF FEES**

The Index Level may include a deduction of notional fees, as described in these Index Conditions. Any such deduction of notional fees will result in the Index underperforming a hypothetical investment portfolio from which no such deduction is made.

### **8. EFFECT OF NOTIONAL COSTS**

The Index Level may include a deduction of notional costs (which may be referred to as a notional cost, charge, spread or similar term), as described in these Index Conditions. Any such deduction of notional costs will result in the Index underperforming a hypothetical investment portfolio from which no such deduction is made.

### **9. DISRUPTION TO THE INDEX**

**9.1** Certain events may affect the calculation of the Index and the Index Level. These events, which are described elsewhere in these Index Conditions, may have consequences including:

- (1) the Index Calculation Agent exercising certain discretions conferred by these Index Conditions;
- (2) the Index Calculation Agent suspending the calculation, publication and dissemination of the Index and the Index Level;

(3) the Index Administrator making a modification or change to these Index Conditions; and



- (4) the Index Administrator discontinuing and cancelling the Index.

Unless otherwise stated, the Index Administrator has no obligation to inform any person of the result of any action taken on the occurrence of such events.

- 9.2 The occurrence or existence of disruptions may also result in the calculation, publication and dissemination of the Index being postponed to a later time than as provided in these Index Conditions.

## 10. INDEX ADMINISTRATOR AND THE INDEX CALCULATION AGENT

These Index Conditions confer on the Index Administrator and the Index Calculation Agent a degree of discretion in making certain determinations and calculations, for example in connection with the occurrence of disruptions and adjustments. Although each of the Index Administrator and the Index Calculation Agent will use Expert Judgement in exercising any discretion, the exercise of any such discretion may have an adverse effect on the Index Level and therefore may have an adverse effect on the value of any Index Linked Product. Please see Part I (*Miscellaneous*) for further important disclosure of additional general risks (1) as to the manner in which the Index is determined; (2) that neither the Index Administrator nor the Index Calculation Agent acts as fiduciary; and (3) as to certain conflicts of interest.

### Conflicts of Interest

The following material conflicts of interest may exist in respect of a swap or other over-the-counter derivative transaction (an “**Index Swap**”) which references or is otherwise based on the performance of the Index, where your counterparty to the Index Swap (the “**Swap Dealer**”) is either the Index Administrator, the Index Calculation Agent, an affiliate of the Index Administrator, or an affiliate of the Index Calculation Agent.

### 1. DISCRETIONS

As discussed above, the Index Administrator and the Index Calculation Agent are entitled to exercise certain discretions in relation to the Index, including but not limited to the determination of index disruption events. Such determinations may adversely affect the level of the Index and therefore the amount payable under the Index Swap.

### 2. HEDGING

The Swap Dealer expects to hedge its obligations under the Index Swap directly or through one or more of its affiliates. This hedging activity is likely to involve trading in one or more Constituents and Related Instruments. For these purposes, “**Related Instruments**” shall mean the instruments comprising the Constituents and other instruments (such as futures, options and swaps) with returns linked to the performance of the Index, the Constituents or the instruments comprising the Constituents. This hedging activity could affect the value of the Constituents and therefore the level of the Index, and may result in the Swap Dealer or its affiliates receiving a profit, even if the level of the Index declines.

### 3. TRADING ACTIVITIES

The Swap Dealer and its affiliates expect to engage in trading activities related to the Index, the Constituents and Related Instruments, for their own account or for the account of customers, and may exercise remedies or take other action with respect to their interests as they deem appropriate. These trading activities could affect the level of the Index and therefore the value of the Index Swap.



#### **4. INDEX FEE**

If a fee is deducted in the calculation of the level of the Index (an “**Index Fee**”), the Swap Dealer or its affiliates may receive a payment in addition to any fee payable under the Index Swap. For example, if the Swap Dealer hedges its obligations under the Index Swap by investing (directly or through one of its affiliates) in the Constituents in the same notional amounts as the Index Swap, the amount received by the Swap Dealer in respect of its hedge may exceed the amount payable under the Index Swap by the amount of the Index Fee.

#### **5. NOTIONAL TRANSACTION COSTS**

If notional transaction costs are deducted in the calculation of the level of the Index (“**Notional Transaction Costs**”), the Swap Dealer or an affiliate may receive a payment in addition to any fee payable under the Index Swap. For example, if the Swap Dealer hedges its exposure under the Index Swap by investing (directly or through one of its affiliates) in the Constituents, and the Notional Transaction Costs exceed the actual cost incurred by the Swap Dealer in adjusting its hedge, the amount received by the Swap Dealer in respect of its hedge may exceed the amount payable under the Index Swap by some or all of the amount of the Notional Transaction Costs.

#### **6. VALUATIONS**

If the Index references notional over-the-counter swaps or other notional over-the-counter transactions, the terms and prices of such notional transactions may be determined by the Index Calculation Agent, based on its view of the prevailing terms and prices for similar transactions in the relevant markets, which may differ from the views of other market participants. Persons involved in making such determinations may have interests which conflict with your interests, and the Index Calculation Agent will not take the Index Swap or your interests into consideration when making such determinations.

#### **7. UNAVAILABILITY OF THE INDEX**

In the event that the determination and publication of the Index is suspended or discontinued, or the level of the Index is not available for another reason, the calculation agent of the Index Swap may be required to determine the level of the Index pursuant to the terms of the Index Swap.

#### **8. LICENSING FEE**

If the Index includes a Constituent which is an index sponsored by the Swap Dealer or an affiliate of the Swap Dealer (a “**Sub-Index**”), the potential conflicts discussed above may exist in respect of that Sub-Index. If the Index or a Sub-Index is based on a methodology licensed from the Swap Dealer or an affiliate of the Swap Dealer, the Swap Dealer or its affiliate (as relevant) may receive a licensing fee based on the notional amount of the Index Swap.

#### **9. SHARING PAYMENTS**

Payments received by the Swap Dealer under the Index Swap, or by the Swap Dealer or its affiliates in connection with the Index, may be shared with third parties.

**THE LIST OF RISK FACTORS OUTLINED IN THIS PART I IS NOT INTENDED TO BE EXHAUSTIVE. ANY EVALUATION OF INDEX LINKED PRODUCTS SHOULD BE MADE ONLY AFTER SEEKING ADVICE FROM INDEPENDENT PROFESSIONAL ACCOUNTING, FINANCIAL, INVESTMENT,**

**LEGAL, REGULATORY, TAX AND OTHER ADVISORS.**

Part J: Miscellaneous

## 1. CALCULATIONS AND DETERMINATIONS

### 1.1 Calculations

Unless otherwise specified in the Index Conditions, the Index Calculation Agent will perform all calculations, determinations, rebalancings and adjustments (together, “**Calculations**”) in respect of the Index. Neither the Index Calculation Agent nor the Index Administrator will have any responsibility for errors made in good faith or omissions in Calculations or other actions as provided in these Index Conditions.

The Calculations of the Index Calculation Agent shall be performed by it in accordance with these Index Conditions, acting in its sole, absolute and unfettered discretion, but in good faith and in a commercially reasonable manner (having regard in each case to the criteria stipulated in these Index Conditions and, where relevant, on the basis of information provided to or obtained by employees or officers of the Index Calculation Agent responsible for making relevant Calculations). All Calculations shall, in the absence of manifest error, be final, conclusive and binding on any user of the Index, including any holder of, or counterparty to, an Index Linked Product.

### 1.2 Rounding

Subject as provided in these Index Conditions, any amount, currency amount, level, percentage, price, rate or value (“**Amount**”) calculated by the Index Calculation Agent shall be rounded to such number of decimal points and in such manner as the Index Calculation Agent determines is appropriate, acting in a commercially reasonable manner.

### 1.3 Use of estimates

The Index Calculation Agent will perform the Calculations described in these Index Conditions using the information, data sources or factors specified in these Index Conditions and any Amount (together, “**Information**”) and may perform any Calculation and any action required in respect of these Index Conditions in any sequence. However, in the event that the Index Calculation Agent is not able to obtain or use any necessary Information, then (after using reasonable endeavours and after applying any fallback provision specified in these Index Conditions in respect of the relevant Calculation) the Index Calculation Agent may, but shall not be obliged to, use its estimate (made using Expert Judgement) of the relevant Information in performing such Calculation, should the Index Calculation Agent determine that such estimate is reasonably necessary in order to give effect to any provision or to perform any Calculation necessary under these Index Conditions.

### 1.4 No verification of Information

Although the Index Calculation Agent will obtain Information for inclusion in the Index or for use in performing any Calculation under these Index Conditions from sources that the Index Calculation Agent considers reliable (including databases maintained by the Index Calculation Agent or its Affiliates, and public sources such as Bloomberg and Reuters), the Index Calculation Agent will not publish or independently verify such Information.

**1.5 Corrections**

If the Index Calculation Agent becomes aware that any Information used by it in connection with any Calculation under these Index Conditions has subsequently been corrected or adjusted, then the Index Calculation Agent may, but shall not be obliged to, use such corrected or adjusted Information, and in exercising any such discretion, will act in good faith and in a commercially reasonable manner which is consistent with the primary objective of the Index.

## **1.6 Reliance**

In performing any Calculation under these Index Conditions, the Index Calculation Agent may rely upon the opinion of any person who appears to it as being competent to value any asset or instrument of any class, or to perform any other calculation or determination, by reason of any appropriate relevant professional qualification or experience.

## **1.7 Dates and times of calculations**

Notwithstanding that certain Calculations under these Index Conditions may be expressed to be “as at”, “as of”, “in respect of” or “on” a certain date or time, the Index Calculation Agent may perform such Calculation in respect of such date or time after such date or time.

## **1.8 Not acting as fiduciary or agent**

In performing any Calculation or other action in connection with these Index Conditions, each of the Index Administrator and the Index Calculation Agent will act as principal and not as agent of any other person. Neither the Index Administrator nor the Index Calculation Agent owes any duty of care or any fiduciary duty to any investor in any Index Linked Product or to any other person. Each Calculation and other action performed in connection with these Index Conditions by the Index Administrator or the Index Calculation Agent is performed in reliance on this provision and is subject to this provision.

If through performing any such Calculation or other action the Index Administrator or the Index Calculation Agent is rendered an agent or fiduciary of another person under applicable law, then (at the option of the Index Administrator or the Index Calculation Agent, as relevant) the rights and obligations of the Index Administrator or the Index Calculation Agent to perform such Calculation or other action may be suspended (or, if already performed, the application of such Calculation or other action may be suspended) until such time when such Calculation or other action can be performed either by the Index Administrator or the Index Calculation Agent as principal and not as an agent or fiduciary or by an appropriate third party who is both willing and able to perform such Calculation or other action.

## **1.9 Ambiguities, errors and omissions in these Index Conditions**

Although these Index Conditions are intended to be comprehensive, it is possible that ambiguities, errors and omissions may arise in certain circumstances. The Index Administrator will resolve, using Expert Judgement, any such ambiguity, error or omission, and may amend these Index Conditions to reflect the resolution of such ambiguity, error or omission.

## **1.10 Expert Judgement**

Each of the Index Administrator and the Index Calculation Agent, as relevant, shall exercise any discretion and make any determination in respect of the Index by using a standard of judgement (“**Expert Judgement**”) which shall consist of (1) acting in good faith and in a commercially reasonable manner; (2) to the extent practicable,

reflecting the commercial objective of the Index and market practice; and (3) to the extent practicable, promoting consistency in the exercise of discretions and the making of determinations in respect of both the Index and other indices in respect of which it acts, as relevant, as index administrator or index calculation agent.



In using Expert Judgement to exercise any discretion or to make any determination, the Index Administrator shall be subject to the oversight of the Index Governance Committee, whose role is described at paragraph 4 (*Index Governance*). In using Expert Judgement to exercise any discretion or to make any determination, the Index Calculation Agent shall be subject to the oversight of the Index Administrator. The Index Governance Committee will review any such use of Expert Judgement in extraordinary circumstances. Each of the Index Administrator and the Index Calculation Agent shall (as relevant) (1) maintain records of any such use of Expert Judgement; and (2) publish a concise explanation of the extent to which and the basis upon which Expert Judgement was so used.

### **1.11 Errors in Calculations**

It is possible that errors in Calculations may arise in certain circumstances. The Index Administrator may determine, using Expert Judgement, to restate the Index Level for each day affected by an error in a Calculation.

## **2. CONFLICTS OF INTEREST**

Citi entities perform various roles in connection with the Index and Index Linked Products, and conflicts of interest may arise for any such entity as a consequence of any role it performs in connection with the Index or any Index Linked Product or as a consequence of its activities more generally.

During the normal course of their business, the Index Administrator, the Index Calculation Agent, any of their respective Affiliates, directors, officers, employees, representatives, delegates and agents (each, for the purposes of this Part J, a “**Relevant Person**”) may enter into, promote, offer or sell securities or contracts (whether or not structured) linked to the Index and/or any Constituent. Any Relevant Person may at any time (1) have long or short principal positions or actively trade (whether or not through making markets to its clients) positions in or relating to the Index or any Constituent; (2) invest in or engage in transactions with or on behalf of other persons relating to the Index and/or any Constituent; (3) undertake hedging transactions (for the purposes of any security or contract) which may adversely affect the level, price or rate or other factor underlying the Index and/or any Constituent; (4) have an investment banking or commercial relationship with the issuer of any Constituent and have access to information from any such issuer; or (5) publish research in respect of any Constituent or the issuer of any Constituent. Such activity may or may not affect the Index Level, but potential investors and counterparties should be aware that a conflict of interest may arise when a person acts in more than one capacity, and such conflict of interest may affect (whether in a positive manner or a negative manner) the Index Level.

## **3. DISCLAIMER**

No Relevant Person makes any express or implied representation or warranty as to (1) the advisability of purchasing or entering into any Index Linked Product; (2) the levels of the Index at any particular date or time; (3) the results to be obtained from the use of the Index or any datum included in these Index Conditions for any purpose; or (4) any other matter. Each Relevant Person hereby expressly disclaims, to the fullest extent permitted by applicable law, all warranties of accuracy, completeness, merchantability or fitness for a particular purpose with respect to the Index and any information contained in these Index Conditions. No Relevant Person will have any liability (direct or indirect, special, punitive, consequential or otherwise) to any person even if notified of the possibility of damages.

These Index Conditions have been prepared solely for the purposes of information and nothing in these Index Conditions constitutes (1) an offer to buy or to sell any security or contract, to

participate in any transaction or to adopt any investment strategy; or (2) accounting, financial, investment, legal, tax or regulatory advice. Any decision to purchase any Index Linked Product should be based on the information contained in the associated prospectus or offering document (however described). In the case of a prospectus or offering document which contains provisions under the heading “Risk Factors”, “Investment Considerations” or the equivalent, please refer to these provisions for a discussion of the factors that must be considered in connection with an investment in the security or contract described therein.

Neither the Index Calculation Agent nor the Index Administrator is under any obligation to continue to calculate, publish or disseminate the Index or the Index Level.

#### **4. INDEX GOVERNANCE**

The Index Administrator has ultimate control over the development, the operation and the publication of the Index, including the performance of any Calculation, the exercise of any discretion, the making of any determination, and all administrative processes required to perform these functions (together, the “**Index Activity**”). Notwithstanding that certain parts of the Index Activity may be performed by persons other than the Index Administrator, the Index Administrator has overall responsibility for all parts of the Index Activity, subject to this Part J (*Miscellaneous*).

The Index Administrator maintains oversight over the Index Activity through its Index Governance Committee. The Index Governance Committee fulfils its role of ensuring accountability and providing oversight through (1) reviewing and challenging all parts of the Index Activity, in accordance with its charter and its written policies and procedures; and (2) conducting an annual review of the Index to determine whether it continues to be an accurate and reliable representation of the economic realities of the relevant interest or market.

#### **5. INTELLECTUAL PROPERTY**

The Index and these Index Conditions are the Index Administrator’s proprietary and confidential material. No person may reproduce or disseminate the information contained in these Index Conditions, the Index or the Index Level without the prior written consent of the Index Administrator. These Index Conditions are not intended for distribution to or use by any person in a jurisdiction where such distribution is prohibited by applicable law or regulation.

The Index is not in any way sponsored or promoted by any sponsor or issuer, as relevant, of any Constituent.

© 2018 Citigroup Global Markets Limited. All rights reserved. Citi and Citi and Arc Design are trademarks and service marks of Citigroup Inc. or its Affiliates and are used and registered throughout the world. Citigroup Global Markets Limited is authorized in the United Kingdom by the Prudential Regulation Authority and regulated in the United Kingdom by the Financial Conduct Authority and the Prudential Regulation Authority.

## Part K: Notices

Bloomberg Commodity Index<sup>SM</sup>

“**Bloomberg®**” and “**Bloomberg Commodity Index**” are service marks of Bloomberg L.P. (“**Bloomberg**”) and have been licensed for use for certain purposes by Citigroup Global Markets Inc. and its affiliates (“**Licensee**”).

Each Citi Commodities Index (each, a “**Citi Index**”) described herein and any security, contract or other financial product the return of which is linked to the performance of a Citi Index (each, a “**Citi Index Linked Product**”, and together with each Citi Index, the “**Products**”) are not sponsored, endorsed, sold or promoted by Bloomberg, UBS AG, UBS Securities LLC (“**UBS Securities**”) or any of their subsidiaries or affiliates. None of Bloomberg, UBS AG, UBS Securities or any of their subsidiaries or affiliates makes any representation or warranty, express or implied, to the owners of or counterparties to the Products or any member of the public regarding the advisability of investing in securities or commodities generally or in Citi Index Linked Products particularly. The only relationship of Bloomberg, UBS AG, UBS Securities or any of their subsidiaries or affiliates to the Licensee is the licensing of certain trademarks, trade names and service marks and of the Bloomberg Commodity Index<sup>SM</sup>, which is determined, composed and calculated by Bloomberg in conjunction with UBS Securities without regard to the Licensee or the Products. Bloomberg and UBS Securities have no obligation to take the needs of the Licensee or the owners of or counterparties to the Products into consideration in determining, composing or calculating the Bloomberg Commodity Index<sup>SM</sup>. None of Bloomberg, UBS AG, UBS Securities or any of their respective subsidiaries or affiliates is responsible for or has participated in the determination of the timing of, prices at, or quantities of Citi Index Linked Products to be issued or in the determination or calculation of the equation by which Citi Index Linked Products are to be converted into cash. None of Bloomberg, UBS AG, UBS Securities or any of their subsidiaries or affiliates shall have any obligation or liability, including, without limitation, to customers in respect of the Products, in connection with the administration, marketing or trading of the Products. Notwithstanding the foregoing, UBS AG, UBS Securities and their respective subsidiaries and affiliates may independently issue and/or sponsor financial products unrelated to the Products currently being issued by Licensee, but which may be similar to and competitive with the Products. In addition, UBS AG, UBS Securities and their subsidiaries and affiliates actively trade commodities, commodity indexes and commodity futures (including the Bloomberg Commodity Index<sup>SM</sup> and the Bloomberg Commodity Index Total Return<sup>SM</sup>), as well as swaps, options and derivatives which are linked to the performance of such commodities, commodity indexes and commodity futures. It is possible that this trading activity will affect the value of the Bloomberg Commodity Index<sup>SM</sup> and the Products.

The index conditions of each Citi Index relate only to such Citi Index, and the confirmation, prospectus or offering document (however described) of any Citi Index Linked Product relates only to such Citi Index Linked Product, and neither relates to the exchange-traded physical commodities underlying any of the Bloomberg Commodity Index<sup>SM</sup> components. Purchasers of Citi Index Linked Products should not conclude that the inclusion of a futures contract in the Bloomberg Commodity Index<sup>SM</sup> is any form of investment recommendation of the futures contract or the underlying exchange-traded physical commodity by Bloomberg, UBS AG, UBS Securities or any of their subsidiaries or affiliates. The information in the index conditions of each Citi Index, and in the confirmation, prospectus or offering document (however described) of any Citi Index Linked Product, regarding the Bloomberg Commodity

Index<sup>SM</sup> components has been derived solely from publicly available documents. None of Bloomberg, UBS AG, UBS Securities or any of their subsidiaries or affiliates has made any due diligence inquiries with respect to the Bloomberg Commodity Index<sup>SM</sup> components in connection with Products. None of Bloomberg, UBS AG, UBS Securities or any of their subsidiaries or affiliates makes any representation that these publicly available documents or any other publicly available information regarding the Bloomberg Commodity Index<sup>SM</sup> components, including without limitation a description of factors that affect the prices of such components, are accurate or complete.

NONE OF BLOOMBERG, UBS AG, UBS SECURITIES OR ANY OF THEIR SUBSIDIARIES OR AFFILIATES GUARANTEES THE ACCURACY AND/OR THE COMPLETENESS OF THE BLOOMBERG COMMODITY INDEX<sup>SM</sup> OR ANY DATA RELATED THERETO AND NONE OF BLOOMBERG, UBS AG, UBS SECURITIES OR ANY OF THEIR SUBSIDIARIES OR AFFILIATES SHALL HAVE ANY LIABILITY FOR ANY ERRORS, OMISSIONS OR INTERRUPTIONS THEREIN. NONE OF BLOOMBERG, UBS AG, UBS SECURITIES OR ANY OF

THEIR SUBSIDIARIES OR AFFILIATES MAKES ANY WARRANTY, EXPRESS OR IMPLIED, AS TO RESULTS TO BE OBTAINED BY THE LICENSEE, OWNERS OF OR COUNTERPARTIES TO THE PRODUCTS OR ANY OTHER PERSON OR ENTITY FROM THE USE OF THE BLOOMBERG COMMODITY INDEX<sup>SM</sup> OR ANY DATA RELATED THERETO. NONE OF BLOOMBERG, UBS AG, UBS SECURITIES OR ANY OF THEIR SUBSIDIARIES OR AFFILIATES MAKES ANY EXPRESS OR IMPLIED WARRANTIES AND EXPRESSLY DISCLAIMS ALL WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE WITH RESPECT TO THE BLOOMBERG COMMODITY INDEX<sup>SM</sup> OR ANY DATA RELATED THERETO. WITHOUT LIMITING ANY OF THE FOREGOING, TO THE MAXIMUM EXTENT ALLOWED BY LAW, BLOOMBERG, ITS LICENSORS (INCLUDING UBS), AND ITS AND THEIR RESPECTIVE EMPLOYEES, CONTRACTORS, AGENTS, SUPPLIERS, AND VENDORS SHALL HAVE NO LIABILITY OR RESPONSIBILITY WHATSOEVER FOR ANY INJURY OR DAMAGES—WHETHER DIRECT, INDIRECT, CONSEQUENTIAL, INCIDENTAL, PUNITIVE OR OTHERWISE—ARISING IN CONNECTION WITH ANY PRODUCT OR ANY DATA OR VALUES RELATING THERETO—WHETHER ARISING FROM THEIR NEGLIGENCE OR OTHERWISE, EVEN IF NOTIFIED OF THE POSSIBILITY THEREOF. THERE ARE NO THIRD PARTY BENEFICIARIES OF ANY AGREEMENTS OR ARRANGEMENTS AMONG BLOOMBERG, UBS SECURITIES AND THE LICENSEE, OTHER THAN UBS AG.