

**PRICING SUPPLEMENT NOS. 2017—USNCH0854, 2017/A/1[±]—USNCH0852, 2017/A/1[±]—USNCH0858, 2017/A/1[±]—
USNCH0856, 2017/A/1[±]—USNCH0859, 2017/A/1[±]—USNCH0853, 2017/A/1[±]—USNCH0851, 2017/A/1[±]—USNCH0855,
2017/A/1[±]—USNCH0857 AND 2017/A/1[±]—USNCH0860 DATED APRIL 6, 2020
(TO PROSPECTUS SUPPLEMENT AND PROSPECTUS EACH DATED MAY 14, 2018)
MEDIUM-TERM SENIOR NOTES, SERIES N**



Issued by Citigroup Global Markets Holdings Inc.

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

Exchange-Traded Notes Based on the Performance of the VelocityShares® Daily 4X Currency Indices

\$100,000,000[†] linked to the VelocityShares Daily 4X Long USD vs. JPY Index due December 15, 2032
\$100,000,000[†] linked to the VelocityShares Daily 4X Long USD vs. EUR Index due December 15, 2032
\$100,000,000[†] linked to the VelocityShares Daily 4X Long USD vs. GBP Index due December 15, 2032
\$100,000,000[†] linked to the VelocityShares Daily 4X Long USD vs. CHF Index due December 15, 2032
\$100,000,000[†] linked to the VelocityShares Daily 4X Long USD vs. AUD Index due December 15, 2032
\$100,000,000[†] linked to the VelocityShares Daily 4X Long JPY vs. USD Index due December 15, 2032
\$100,000,000[†] linked to the VelocityShares Daily 4X Long EUR vs. USD Index due December 15, 2032
\$100,000,000[†] linked to the VelocityShares Daily 4X Long GBP vs. USD Index due December 15, 2032
\$100,000,000[†] linked to the VelocityShares Daily 4X Long CHF vs. USD Index due December 15, 2032
\$100,000,000[†] linked to the VelocityShares Daily 4X Long AUD vs. USD Index due December 15, 2032

We are offering ten separate series of exchange-traded notes (“ETNs”). The value of each series of ETNs is based on the daily performance of one of the VelocityShares® Daily 4X Currency Indices (each, an “**Index**”), subject to the daily accrual and daily investor fee described below. Each Index is designed to provide 4 times leveraged exposure, reset daily, to changes in the spot exchange rate between an underlying pair of currencies consisting of the U.S. dollar and a foreign currency. Each Index provides long exposure to one currency (the “**long currency**”) in the underlying currency pair relative to the other currency (the “**reference currency**”). The daily performance of each Index will be determined not only by changes in the spot exchange rate between the underlying currencies, but also by differences in overnight interest rates between the two currencies (which we refer to as the “forward points adjustment”) and by bid-ask spreads. You should carefully review the section “Description of the Indices” in this pricing supplement for important information about the Indices underlying the ETNs, as well as the section “Risk Factors Relating to the ETNs” in this pricing supplement for important information about the risks associated with the Indices and the ETNs.

The ETNs are not intended to be “buy and hold” investments. The ETNs are intended to be daily trading tools for sophisticated investors and are not intended to be held to maturity. Each Index is designed to achieve its stated investment objective on a daily basis, and its performance over longer periods of time can differ significantly from its stated daily objective. The ETNs are riskier than securities that have intermediate- or long-term investment objectives, and may not be suitable for investors who plan to hold them for a period longer than one day. Any decision to invest in the ETNs should be made with extreme caution. Any decision to hold the ETNs for more than one day should be made with great care and only as the result of a series of daily (or more frequent) investment decisions to remain invested in the ETNs for the next one-day period. Accordingly, the ETNs should be purchased only by sophisticated investors who understand and can bear the potential risks and consequences of a highly leveraged short-term investment based on currency exchange rates that will be subject to the effects of decay, the forward points adjustment and bid-ask spreads, may be highly volatile and may experience significant losses, up to the entire amount invested, in a short period of time. Investors should actively and frequently monitor their investments in the ETNs, even intraday.

As explained in “Risk Factors Relating to the ETNs” in this pricing supplement, because of the nature of daily compounding leveraged instruments such as the ETNs, the amount payable at maturity or upon earlier redemption or acceleration of the ETNs is likely to be significantly less than the stated principal amount of the ETNs. In almost any potential scenario, the long-term performance of each series of ETNs is likely to be negative, regardless of the performance of the underlying currency pair, and we do not intend or expect any investor to hold the ETNs from inception to maturity. *It is possible that the ETNs will incur significant losses even if the long-term performance of the applicable long currency relative to the applicable reference currency is positive.*

We have the right to accelerate any series of ETNs at any time during their term for an amount based on the fixing indicative value (as defined below) of the ETNs on a designated optional acceleration valuation date following notice of exercise of our optional acceleration right. You will have the option to require us to redeem ETNs of any series at any time for an amount based on the fixing indicative value of the ETNs on the applicable early redemption valuation date, subject to a minimum redemption amount of 25,000 ETNs in

(cover continued on next page)

increments of 25,000 ETNs of the same series and the notice requirements described below. A series of ETNs is also subject to automatic acceleration upon the occurrence of an automatic acceleration event, as described below.

Each series of ETNs is a series of unsecured senior debt securities issued by Citigroup Global Markets Holdings Inc. and guaranteed by Citigroup Inc. **All payments on the ETNs are subject to the credit risk of Citigroup Global Markets Holdings Inc. and Citigroup Inc.** You may not receive any payment due under the ETNs if we and Citigroup Inc. default on our obligations.

The ETNs are listed on the NYSE Arca. To the extent that an active secondary market in the ETNs exists, we expect that investors will purchase and sell the ETNs primarily in this secondary market. We are not obligated to maintain the listing of the ETNs for the term of the ETNs. There can be no assurance that an active secondary market will exist at any time.

Investing in the ETNs involves significant risks not associated with conventional debt securities. See “Risk Factors Relating to the ETNs” beginning on page PS-6.

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

Citigroup Global Markets Inc. (“CGMI”), an affiliate of ours, is the agent for this offering. We have issued and sold a portion of the ETNs to CGMI on the original issue date and received proceeds equal to 100% of their fixing indicative value as of the inception date. For any ETNs we issue and sell after the original issue date, we expect to receive proceeds equal to 100% of their indicative value at the time we price the sale of the ETNs to CGMI. CGMI may offer and sell ETNs from time to time as principal to investors and to dealers at a price based on the indicative value at the time of sale. Dealers may in turn offer and sell ETNs to investors at market prices prevailing at the time of sale, at prices related to market prices or at negotiated prices. We will not pay any commissions or underwriting fees to CGMI or any other dealer. For any ETNs it sells, CGMI is expected to charge to purchasers a creation fee of up to approximately 0.05% *times* the indicative value at which CGMI prices the sale of such ETNs, *provided however* that CGMI may from time to time increase or decrease the creation fee. In exchange for providing certain services relating to the distribution of the ETNs, CGMI, a member of the Financial Industry Regulatory Authority (“FINRA”), may receive a portion of the daily investor fee described below. In addition, CGMI will charge investors an early redemption charge of 0.09% *times* the fixing indicative value on the applicable early redemption valuation date of any ETN that is redeemed at the investor’s option. CGMI and its affiliates may also profit from expected hedging activity related to these offerings, even if the value of the ETNs declines. Please see “Supplemental Plan of Distribution (Conflicts of Interest)” in this pricing supplement for more information.

Janus Distributors LLC, doing business as Janus Henderson Distributors (“JHD”), or its affiliates will receive a portion of the daily investor fee in consideration for its role in marketing and placing the ETNs under the “VelocityShares®” brand. Janus Index & Calculation Services, LLC, renamed Janus Henderson Indices LLC as of January 1, 2019 (“JHI”) will receive a portion of the daily investor fee for the license of certain intellectual property in connection with the Indices. See “Supplemental Plan of Distribution (Conflicts of Interest)” in this pricing supplement for further information.

± This amended and restated pricing supplement amends and restates and supersedes Pricing Supplement No. 2017—USNCH0854 dated December 11, 2017, Pricing Supplement No. 2017—USNCH0852 dated December 11, 2017, Pricing Supplement No. 2017—USNCH0858 dated December 11, 2017, Pricing Supplement No. 2017—USNCH0856 dated December 11, 2017, Pricing Supplement No. 2017—USNCH0859 dated December 11, 2017, Pricing Supplement No. 2017—USNCH0853 dated December 11, 2017, Pricing Supplement No. 2017—USNCH0851 dated December 11, 2017, Pricing Supplement No. 2017—USNCH0855 dated December 11, 2017, Pricing Supplement No. 2017—USNCH0857 dated December 11, 2017 and Pricing Supplement No. 2017—USNCH0860 dated December 11, 2017. We refer to this amended and restated pricing supplement as the “pricing supplement.”

†Reflects the aggregate stated principal amount of such ETNs offered hereby (corresponding to 4,000,000 ETNs with respect to each series of ETNs). As of April 1, 2020, there were issued and outstanding the following:

- \$1,000,000 in stated principal amount of ETNs linked to the VelocityShares Daily 4X Long USD vs. JPY Index (40,000 ETNs), outstanding and held by the public and \$55,000 in stated principal amount of ETNs linked to the VelocityShares Daily 4X Long USD vs. JPY Index (2,200 ETNs) outstanding and held in inventory.
- \$1,000,000 in stated principal amount of ETNs linked to the VelocityShares Daily 4X Long USD vs. EUR Index (40,000 ETNs), outstanding and held by the public and \$0 in stated principal amount of ETNs linked to the VelocityShares Daily 4X Long USD vs. EUR Index (0 ETNs) outstanding and held in inventory.
- \$412,500 in stated principal amount of ETNs linked to the VelocityShares Daily 4X Long USD vs. GBP Index (16,500 ETNs), outstanding and held by the public and \$285,000 in stated principal amount of ETNs linked to the VelocityShares Daily 4X Long USD vs. GBP Index (11,400 ETNs) outstanding and held in inventory.
- \$800,000 in stated principal amount of ETNs linked to the VelocityShares Daily 4X Long USD vs. CHF Index (32,000 ETNs), outstanding and held by the public and \$57,500 in stated principal amount of ETNs linked to the VelocityShares Daily 4X Long USD vs. CHF Index (2,300 ETNs) outstanding and held in inventory.

- \$312,500 in stated principal amount of ETNs linked to the VelocityShares Daily 4X Long USD vs. AUD Index (12,500 ETNs), outstanding and held by the public and \$405,000 in stated principal amount of ETNs linked to the VelocityShares Daily 4X Long USD vs. AUD Index (16,200 ETNs) outstanding and held in inventory.
- \$850,000 in stated principal amount of ETNs linked to the VelocityShares Daily 4X Long JPY vs. USD Index (34,000 ETNs), outstanding and held by the public and \$200,000 in stated principal amount of ETNs linked to the VelocityShares Daily 4X Long JPY vs. USD Index (8,000 ETNs) outstanding and held in inventory.
- \$1,900,000 in stated principal amount of ETNs linked to the VelocityShares Daily 4X Long EUR vs. USD Index (76,000 ETNs), outstanding and held by the public and \$90,000 in stated principal amount of ETNs linked to the VelocityShares Daily 4X Long EUR vs. USD Index (3,600 ETNs) outstanding and held in inventory.
- \$2,390,475 in stated principal amount of ETNs linked to the VelocityShares Daily 4X Long GBP vs. USD Index (95,619 ETNs), outstanding and held by the public and \$2,025 in stated principal amount of ETNs linked to the VelocityShares Daily 4X Long GBP vs. USD Index (81 ETNs) outstanding and held in inventory.
- \$362,500 in stated principal amount of ETNs linked to the VelocityShares Daily 4X Long CHF vs. USD Index (14,500 ETNs), outstanding and held by the public and \$952,500 in stated principal amount of ETNs linked to the VelocityShares Daily 4X Long CHF vs. USD Index (38,100 ETNs) outstanding and held in inventory.
- \$687,500 in stated principal amount of ETNs linked to the VelocityShares Daily 4X Long AUD vs. USD Index (27,500 ETNs), outstanding and held by the public and \$1,025,000 in stated principal amount of ETNs linked to the VelocityShares Daily 4X Long AUD vs. USD Index (41,000 ETNs) outstanding and held in inventory.

If there is a substantial demand for the ETNs, we may issue and sell additional ETNs to CGMI, and CGMI may sell such ETNs to investors and dealers, frequently. However, we and CGMI are under no obligation to issue or sell additional ETNs of any series at any time, and if we and CGMI do issue and sell additional ETNs of any series, we or CGMI may limit or restrict such sales, and we may stop and subsequently resume selling additional ETNs of such series at any time. Furthermore, the stated principal amount of each series of ETNs stated at the top of the cover page of this pricing supplement is the maximum amount of each series of ETNs that we have currently authorized for issuance. Although we have the right to increase the authorized amount of any series of ETNs at any time, it is our current intention not to issue more than the current maximum authorized amount of each series of ETNs, even if there is substantial market demand for additional ETNs of such series. We may also reduce the maximum authorized amount of each series of ETNs at any time and have no obligation to issue up to the maximum authorized amount.

Any limitation or suspension on the issuance or sale of the ETNs by us or CGMI may materially and adversely affect the price and liquidity of the ETNs in the secondary market. Alternatively, the decrease in supply may cause an imbalance in the market supply and demand, which may cause the ETNs to trade at a premium over the indicative value of the ETNs. Any premium may be reduced or eliminated at any time. Paying a premium purchase price over the indicative value of the ETNs could lead to significant losses in the event the investor sells such ETNs at a time when such premium is no longer present in the marketplace or such ETNs are accelerated, including at our option, which we have the discretion to do at any time. If we accelerate the ETNs of any series at our option, investors will receive a cash payment in an amount equal to the fixing indicative value on the optional acceleration valuation date, which will not include any premium. Investors should consult their financial advisors before purchasing or selling the ETNs, especially ETNs trading at a premium over their indicative value.

Although the title of the ETNs includes the words “exchange-traded notes”, we are not obligated to maintain the listing of the ETNs on the NYSE Arca or any other exchange. The ETNs may cease to be listed on the NYSE Arca or any other exchange because they cease to meet the listing requirements of the exchange or because we elect in our sole discretion to discontinue the listing of the ETNs on any exchange. We may elect to discontinue the listing of the ETNs at any time and for any reason, including in connection with a decision to discontinue further issuances and sales of the ETNs. If the ETNs cease to be listed on the NYSE Arca or any other exchange, the liquidity of the ETNs is likely to be significantly adversely affected and the ETNs may trade at a significant discount to their indicative value. If the ETNs ceased to be listed on an exchange, the words “exchange-traded notes” will nevertheless continue to be included in their title.

Any limitation or suspension on the issuance of the ETNs and any delisting of the ETNs will not affect the early redemption right of holders as described herein. However, an investor will not be able to exercise that right unless the investor submits for redemption at least the minimum number of ETNs specified below.

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

Investment Products	Not FDIC Insured	May Lose Value	No Bank Guarantee
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KEY TERMS

Issuer:	Citigroup Global Markets Holdings Inc., a wholly owned subsidiary of Citigroup Inc.				
Guarantee:	All payments due on the ETNs are fully and unconditionally guaranteed by Citigroup Inc.				
Offerings:	<p>Series of ETNs</p> <p>ETNs linked to the VelocityShares Daily 4X Long USD vs. JPY Index ..</p> <p>ETNs linked to the VelocityShares Daily 4X Long USD vs. EUR Index</p> <p>ETNs linked to the VelocityShares Daily 4X Long USD vs. GBP Index</p> <p>ETNs linked to the VelocityShares Daily 4X Long USD vs. CHF Index</p> <p>ETNs linked to the VelocityShares Daily 4X Long USD vs. AUD Index</p> <p>ETNs linked to the VelocityShares Daily 4X Long JPY vs. USD Index ..</p> <p>ETNs linked to the VelocityShares Daily 4X Long EUR vs. USD Index</p> <p>ETNs linked to the VelocityShares Daily 4X Long GBP vs. USD Index</p> <p>ETNs linked to the VelocityShares Daily 4X Long CHF vs. USD Index</p> <p>ETNs linked to the VelocityShares Daily 4X Long AUD vs. USD Index</p>	<p>ETN Ticker Symbol</p> <p>DJPY</p> <p>DEUR</p> <p>DGBP</p> <p>DCHF</p> <p>DAUD</p> <p>UJPY</p> <p>UEUR</p> <p>UGBP</p> <p>UCHF</p> <p>UAUD</p>	<p>Fixing Indicative Value Ticker Symbol</p> <p>DJPYNV</p> <p>DEURNV</p> <p>DGBPNV</p> <p>DCHFNV</p> <p>DAUDNV</p> <p>UJPYNV</p> <p>UEURNV</p> <p>UGBPNV</p> <p>UCHFNV</p> <p>UAUDNV</p>	<p>Intraday Indicative Value Ticker Symbol</p> <p>DJPYIV</p> <p>DEURIV</p> <p>DGBPIV</p> <p>DCHFIV</p> <p>DAUDIV</p> <p>UJPYIV</p> <p>UEURIV</p> <p>UGBPIV</p> <p>UCHFIV</p> <p>UAUDIV</p>	<p>CUSIP/ISIN</p> <p>17326E654/US17326E6547</p> <p>17326E571/US17326E5713</p> <p>17326E464/US17326E4641</p> <p>17326E704/US17326E7040</p> <p>17326E605/US17326E6059</p> <p>17326E662/US17326E6620</p> <p>17326E480/US17326E4807</p> <p>17326E159/US17326E1597</p> <p>17326E233/US17326E2330</p> <p>17326E647/US17326E6471</p>
Indices:	Each series of ETNs is linked to one of the VelocityShares Daily 4X Currency Indices (each, an “ Index ”). Each Index is provided by Janus Index & Calculation Services, LLC, renamed Janus Henderson Indices LLC as of January 1, 2019 (the “ Index Sponsor ” or “ JHI ”). The Index Sponsor has retained Solactive AG to calculate and publish the level of each Index on each index business day (in that role, the “ Index Calculation Agent ”). You should carefully review the section “Description of the Indices” in this pricing supplement for important information about the Indices.				
Stated principal amount:	\$25.00 per ETN				
Inception date:	December 12, 2017				
Original issue date:	December 15, 2017				
Maturity date:	December 15, 2032, unless earlier redeemed or accelerated. The ETNs are intended to be daily trading tools and are not intended to be held to maturity.				
Payment at maturity:	If the ETNs have not been previously redeemed or accelerated, on the maturity date the holder will receive for each \$25.00 stated principal amount of ETNs it then holds a cash payment equal to the fixing indicative value of such ETNs on the final valuation date, as calculated by the ETN Calculation Agents. Any payment on the ETNs is subject to our and Citigroup Inc.’s ability to pay our respective obligations as they become due. The ETNs are intended to be daily trading tools and are not intended to be held to maturity.				

Fixing indicative value:	<p>The fixing indicative value for each series of ETNs on the inception date was \$25.00 per ETN. The fixing indicative value on April 1, 2020 per \$25.00 stated principal amount of ETNs linked to the VelocityShares Daily 4X Long USD vs. JPY Index is \$22.1593. The fixing indicative value on April 1, 2020 per \$25.00 stated principal amount of ETNs linked to the VelocityShares Daily 4X Long USD vs. EUR Index is \$38.3174. The fixing indicative value on April 1, 2020 per \$25.00 stated principal amount of ETNs linked to the VelocityShares Daily 4X Long USD vs. GBP Index is \$31.8701. The fixing indicative value on April 1, 2020 per \$25.00 stated principal amount of ETNs linked to the VelocityShares Daily 4X Long USD vs. CHF Index is \$26.588. The fixing indicative value on April 1, 2020 per \$25.00 stated principal amount of ETNs linked to the VelocityShares Daily 4X Long USD vs. AUD Index is \$54.2862. The fixing indicative value on April 1, 2020 per \$25.00 stated principal amount of ETNs linked to the VelocityShares Daily 4X Long JPY vs. USD Index is \$23.4755. The fixing indicative value on April 1, 2020 per \$25.00 stated principal amount of ETNs linked to the VelocityShares Daily 4X Long EUR vs. USD Index is \$14.0282. The fixing indicative value on April 1, 2020 per \$25.00 stated principal amount of ETNs linked to the VelocityShares Daily 4X Long GBP vs. USD Index is \$14.5917. The fixing indicative value on April 1, 2020 per \$25.00 stated principal amount of ETNs linked to the VelocityShares Daily 4X Long CHF vs. USD Index is \$19.9212. The fixing indicative value on April 1, 2020 per \$25.00 stated principal amount of ETNs linked to the VelocityShares Daily 4X Long AUD vs. USD Index is \$8.6974. The fixing indicative value per ETN for each series of ETNs on each trading day following the inception date will equal (i) the product of (a) the fixing indicative value for such series of ETNs on the immediately preceding trading day <i>times</i> (b) the daily ETN performance for such series of ETNs on such trading day <i>minus</i> (ii) the daily investor fee for such series of ETNs on such trading day. The fixing indicative value will never be less than zero. The fixing indicative value will be rounded to 8 decimal places. If any series of ETNs undergoes a split or reverse split, the fixing indicative value of such series of ETNs will be adjusted accordingly. See “Summary Descriptions of the Fixing Indicative Value and the Intraday Indicative Value” in this pricing supplement.</p> <p>The fixing indicative value for each series of ETNs is calculated on each trading day based on the fixing index level for the relevant Index. The fixing index level for each Index on each trading day is determined based on the underlying spot exchange rate and forward points as of 9:00 a.m. New York City time on that trading day. Accordingly, the fixing indicative value on each trading day will be determined prior to the open of the regular trading session on the NYSE Arca and, therefore, at a time when you will be unable to trade the ETNs. The fixing indicative value for each series of ETNs is not the opening price, closing price or any other trading price of the relevant series of ETNs in the secondary market, and the trading price of any series of ETNs at any time may vary significantly from this value.</p>
Intraday indicative value:	<p>The intraday indicative value per ETN for each series of ETNs is meant to approximate the intrinsic economic value of those ETNs, and will be published by the ETN Calculation Agents every 15 seconds on each trading day during regular trading hours on the NYSE Arca so long as no market disruption event with respect to the Index underlying such series of ETNs has occurred and is continuing. The intraday indicative value for each series of ETNs will be calculated in the same manner as the fixing indicative value, except that it will be based on the most recent published intraday index level of the applicable Index and calculated by reference to the current trading day’s fixing indicative value and fixing index level. See “Summary Descriptions of the Fixing Indicative Value and the Intraday Indicative Value” in this pricing supplement.</p> <p>Although the ETN Calculation Agents will calculate and publish the intraday indicative values of the ETNs every 15 seconds on each trading day, the price at which you may buy or sell the ETNs in the secondary market will be based on secondary market trading prices at the time of sale, which may differ from the intraday indicative value at the time. At any time at which a market disruption event with respect to the Index underlying a series of ETNs has occurred and is continuing, no intraday indicative value will be calculated for such series of ETNs.</p>
Daily ETN performance:	<p>The daily ETN performance for any series of ETNs on any trading day will equal (i) one <i>plus</i> (ii) the daily accrual for such series of ETNs on such trading day <i>plus</i> (iii) the daily index performance.</p>
Daily accrual:	<p>The daily accrual represents the rate of interest that could be earned on a notional capital reinvestment at the three month U.S. Treasury rate as reported on Bloomberg under ticker USB3MTA (or any successor ticker on Bloomberg or any successor service). The daily accrual for any series of ETNs on any trading day will equal:</p> $\left(\frac{1}{1 - Tbills_{t-1} \cdot \frac{91}{360}} \right)^{\frac{d}{91}} - 1$ <p>where $Tbills_{t-1}$ is the three month U.S. Treasury rate reported on Bloomberg on the prior trading day and d is the number of calendar days from and including the immediately prior trading day to but excluding the date of determination. The daily accrual for any series of ETNs is deemed to equal zero on any day that is not a trading day. In the calculation of the fixing indicative value, the daily accrual will be offset, and may be more than offset, by the daily investor fee.</p>

Daily index performance:	The daily index performance for any series of ETNs on any trading day will equal (i) the quotient of (a) the fixing index level of the applicable Index on such trading day <i>divided by</i> (b) the fixing index level of the applicable Index on the immediately preceding trading day <i>minus</i> (ii) one. If a market disruption event occurs on any scheduled trading day, the daily index performance will be calculated as set forth under “Description of the ETNs—Market Disruption Events.” The daily index performance will be rounded to 8 decimal places.
Fixing index level:	The fixing index level for each Index on any trading day will be the published level of that Index identified by the Index Calculation Agent or the Index Sponsor as the fixing index level on such trading day, as disseminated by the Index Calculation Agent or the Index Sponsor.
Daily investor fee:	The daily investor fee for any series of ETNs on any trading day will equal the product of (i) the fixing indicative value for such series of ETNs on the immediately preceding trading day <i>times</i> (ii)(a) the investor fee factor <i>times</i> (b) 1/365 <i>times</i> (c) the number of calendar days from and including the immediately preceding trading day to but excluding that trading day.
Investor fee factor:	The investor fee factor for each series of ETNs is 1.50%.
Automatic acceleration:	<p>If the ETN Calculation Agents determine that, at any time on any day, the intraday exchange rate for the currency pair underlying any series of ETNs differs by 18.75% or more from the spot rate used in the determination of the fixing index level used to calculate the then most recent fixing indicative value and such difference represents depreciation of the applicable long currency against the applicable reference currency, an automatic acceleration event will occur with respect to that series of ETNs.</p> <p>If an automatic acceleration event occurs with respect to a series of ETNs, those ETNs will be automatically accelerated for an amount equal to the automatic acceleration amount, calculated as described in “Description of the ETNs—Automatic Acceleration”. This amount is likely to be at least 75% less than the fixing indicative value on the prior trading day and may be \$0. In addition, if the ETN Calculation Agents determine that, at any time on any day, the relevant intraday exchange rate differs by 25% or more from the spot rate used in the determination of the fixing index level used to calculate the then most recent fixing indicative value and such difference represents depreciation of the applicable long currency against the applicable reference currency, the automatic acceleration amount will be \$0. An automatic acceleration event may occur at any time on any day when an intraday exchange rate for the applicable currency pair is published by Bloomberg, and not only during regular session trading hours on the NYSE Arca. If an automatic acceleration event occurs, you are likely to lose most, and may lose up to all, of your investment in the applicable series of ETNs. See “Description of the ETNs—Automatic Acceleration” for more information.</p>
Early redemption at your option:	<p>Prior to maturity or acceleration, you may, subject to certain restrictions described below, offer at least the applicable minimum number of the ETNs to us for redemption on an early redemption date during the term of the ETNs. If you elect to offer the ETNs for redemption, and the requirements for acceptance by us are met, you will receive a cash payment per ETN on the early redemption date equal to the early redemption amount. Any payment on the ETNs is subject to the credit risk of Citigroup Global Markets Holdings Inc. and Citigroup Inc.</p> <p>You must offer for redemption at least 25,000 ETNs of any one series, or an integral multiple of 25,000 ETNs of such series in excess thereof, at one time in order to exercise your right to cause us to redeem the ETNs on any early redemption date (the “minimum redemption amount”), except that we or CGMI, as one of the ETN Calculation Agents, may from time to time reduce, in part or in whole, the minimum redemption amount. Any such reduction will be applied on a consistent basis for all holders of the relevant series of ETNs at the time the reduction becomes effective. If the ETNs undergo a split or reverse split, the minimum number of ETNs needed to exercise your right to redeem will remain the same.</p>
Early redemption mechanics:	<p>You may exercise your early redemption right by causing your broker or other person with whom you hold the ETNs to deliver a redemption notice to the redemption agent. If your redemption notice is delivered prior to 4:00 p.m. New York City time, on any business day, the immediately following trading day will be the applicable “early redemption valuation date” for such series of ETNs. Otherwise, the second following trading day will be the applicable early redemption valuation date. For an exercise of the early redemption right to be effective, the applicable early redemption valuation date must be on or before the optional acceleration valuation date or final valuation date. In addition, if the scheduled automatic acceleration time in respect of an automatic acceleration event is at or prior to 9:00 a.m. New York City time on any date that would otherwise be an early redemption valuation date or optional acceleration valuation date, you will not be entitled to receive the early redemption amount or optional acceleration redemption amount and instead will receive the automatic acceleration amount. See “Description of the ETNs—Redemption Procedures” in this pricing supplement.</p> <p>Because the early redemption amount you will receive for each ETN will not be calculated until the trading day (or the second following trading day) immediately following the business day you offer your ETNs for redemption, you will not know the applicable early redemption amount at the time you exercise your early</p>

	redemption right and will bear the risk that your ETNs will decline in value between the time of your exercise and the time at which the early redemption amount is determined.
Early redemption date:	The third business day following an early redemption valuation date.
Early redemption amount:	A cash payment per ETN equal to the greater of (A) zero and (B)(1) the fixing indicative value for such series of ETNs on the early redemption valuation date <i>minus</i> (2) the early redemption charge.
Early redemption charge:	The early redemption charge for any series of ETNs will equal 0.09% <i>times</i> the fixing indicative value for such series of ETNs on the early redemption valuation date.
Redemption agent:	Janus Henderson Distributors (“ JHD ”)

Acceleration at our option:	<p>We will have the right to accelerate the ETNs of any series in whole but not in part on any business day occurring on or after the inception date (an “optional acceleration”). Upon an optional acceleration, you will receive a cash payment per ETN in an amount (the “optional acceleration redemption amount”) equal to the fixing indicative value of such series of ETNs on the optional acceleration valuation date. Any payment on the ETNs is subject to the credit risk of Citigroup Global Markets Holdings Inc. and Citigroup Inc.</p> <p>In the case of an optional acceleration of the ETNs of any series, the “optional acceleration valuation date” shall be the trading day specified in our notice of optional acceleration (or if such specified trading day is not a trading day for the applicable series of ETNs, the next succeeding trading day), which shall be at least two business days after the date on which we give you notice of such optional acceleration. The optional acceleration redemption amount will be payable on the third business day following the optional acceleration valuation date (such third business day, the “optional acceleration date”). We will give you notice of any optional acceleration of the ETNs through customary channels used to deliver notices to holders of exchange traded notes.</p>
Trading day:	For each series of ETNs, a day on which (a) the New York Stock Exchange is scheduled to be open for trading and (b) a market disruption event does not exist with respect to such series of ETNs at 9:00 a.m. New York City time.
Business day:	Any day that is not (a) a Saturday or Sunday or (b) a day on which banking institutions generally are authorized or obligated by law or executive order to close in New York.
Final valuation date:	December 8, 2032, subject to postponement if such day is not a trading day for the applicable series of ETNs.
ETN Calculation Agents:	CGMI, which is an affiliate of ours, and JHI. See “Description of the ETNs—Role of ETN Calculation Agents” in this pricing supplement.

The “Key Terms” table above contains only a summary of certain key terms of the ETNs. You should carefully review the section “Description of the ETNs” in this pricing supplement, together with the sections “Description of the Notes” in the accompanying prospectus supplement and “Description of Debt Securities” in the accompanying prospectus, for a more complete description of the terms of each series of ETNs.

SUMMARY DESCRIPTIONS OF THE FIXING INDICATIVE VALUE AND INTRADAY INDICATIVE VALUE OF THE ETNs

The fixing indicative value and intraday indicative value of a given series of ETNs are each intended to approximate the intrinsic economic value of one ETN of that series as of a particular point in time. The fixing indicative value of the ETNs will fluctuate over time based on fluctuations in the fixing index level of the applicable Index, and the intraday indicative value of the ETNs will fluctuate within a trading day based on fluctuations in the intraday index level of the applicable Index within the trading day, in each case subject to the daily accrual and daily investor fee. The fixing indicative value, intraday indicative value, fixing index level and intraday index level are explained in more detail below.

The fixing indicative value and intraday indicative value are published by the ETN Calculation Agents for informational purposes. It is important to understand that the fixing indicative value and intraday indicative value are not the same as the price at which an investor may buy or sell the ETNs on the NYSE Arca. The price at which an investor may buy or sell the ETNs will depend on market forces and the availability of willing buyers and sellers and may, therefore, differ from the fixing indicative value or intraday indicative value at any time.

ETN valuation

- **Fixing indicative value.** The fixing indicative value for each series of ETNs is determined once on each trading day, prior to the open of the regular trading session on the NYSE Arca. The fixing indicative value approximates the intrinsic economic value of the ETNs based on the fixing index level of the applicable Index on the current trading day. As discussed in more detail below, the fixing index level of each Index is based on the spot rate and forward points for the underlying currency pair as of 9:00 a.m. New York City time on the current trading day. We say that the fixing indicative value on any trading day approximates the intrinsic economic value of the ETNs as of 9:00 a.m. New York City time on that trading day because, if that trading day were the early redemption valuation date for a redemption at the investor's option, the optional acceleration valuation date for acceleration at our option or the final valuation date for the payment at maturity, the fixing indicative value on that trading day is the amount the investor would be entitled to receive in respect of the ETNs.

Changes in the fixing indicative value from one trading day to the next are based on changes in the fixing index level of the relevant Index over that same period, *plus* the daily accrual and *minus* the daily investor fee. For example, if the fixing index level of the applicable Index increases or decreases by 1% from one trading day to the next, the fixing indicative value of the ETNs will increase or decrease by that same percentage over that same one-day period, subject to the effects of the daily accrual and daily investor fee.

- The daily accrual is an amount that accrues at the 3-month U.S. Treasury rate on each trading day's fixing indicative value. The daily accrual will increase the fixing indicative value over the value that would have been determined without the daily accrual. However, in the calculation of the fixing indicative value, the daily accrual will be offset, and may be more than offset, by the daily investor fee.
- The daily investor fee is an amount that is deducted on each trading day in order to determine that trading day's fixing indicative value. If the daily investor fee is greater than the daily accrual, the daily investor fee will cause the fixing indicative value to be less than it would be if it were determined based solely on the performance of the relevant Index.
- **Intraday indicative value.** The intraday indicative value for each series of ETNs is similar to the fixing indicative value, except that it is calculated every 15 seconds during a trading day and is based on the then-current intraday index level of the applicable Index rather than the fixing index level. Therefore, the intraday indicative value approximates the intrinsic economic value of the ETNs at each 15-second interval during the trading day. Within a trading day, the intraday indicative value will reflect changes in the intraday index level relative to the most recent fixing index level of the applicable Index (*plus* the daily accrual and *minus* the daily investor fee).

Index level calculation

- **Fixing index level.** The fixing index level of each Index is determined once on each trading day based on the spot rate and forward points for the underlying currency pair as of 9:00 a.m. New York City time on that trading day. In general, from each trading day to the next, the fixing index level of each Index will change by a percentage equal to 4 times the percentage change in the underlying spot rate from 9:00 a.m. New York City time on the prior day to the same time on the current day, but subject to the forward points adjustment, bid-ask spreads and other factors described in “Description of the Indices” in this pricing supplement.
- **Intraday index level.** The intraday index level of each Index is calculated every 15 seconds during the trading day and will differ from the most recent fixing index level to reflect the current spot rate and forward points for the underlying currency pair at the time of the intraday index level calculation. See “Description of the Indices—Index Calculation—The Calculation of Intraday Levels” in this pricing supplement for more information about how the intraday index level of each Index is calculated.

HYPOTHETICAL EXAMPLES

The examples below illustrate how various hypothetical one-day changes in an underlying spot rate would change the fixing index level of the applicable Index and the fixing indicative value of the applicable series of ETNs from one trading day to the next. Table 1 below illustrates how various hypothetical changes in the underlying spot rate from Day 1 to Day 2 would change the fixing index level of the applicable Index from Day 1 to Day 2, and Table 2 below illustrates how those hypothetical changes in the fixing index level would change the fixing indicative value of the applicable series of ETNs from Day 1 to Day 2.

The examples below only illustrate the effect of one-day changes in the underlying spot rate because the Index underlying each series of ETNs is designed to meet its investment objectives only on a daily basis. For examples of how changes in an underlying spot rate may affect a series of ETNs over any period longer than one day, please see “Risk Factors Relating to the ETNs—Each series of ETNs is likely to experience significant ‘decay’ over time. As a result, the ETNs are not suitable for investors with intermediate- or long-term investment objectives and are not intended to be held to maturity” in this pricing supplement.

The examples below are purely hypothetical and are based on a number of hypothetical assumptions in order to provide a general illustration of how changes in the underlying spot rate will affect the fixing index level of an Index and the fixing indicative value of the series of ETNs based on that Index. The examples that show how the fixing index level would be calculated have been simplified as compared to the actual formulas used to calculate each Index for ease of understanding. The examples are calculated based on the following assumptions:

Term	Assumed Value
Spot rate on Day 1	2.0000
Fixing index level on Day 1	10,000
Forward points adjustment on Day 2 (including bid-ask spread on forward points)	-0.0005
Bid-ask spread on determining foreign currency exposure	0.0002
Fixing indicative value on Day 1	\$25.00
3-month U.S. Treasury rate	0.03%

The examples are based on an Index and a spot rate quotation convention that result in a 4-to-1 relationship between percentage changes in the spot rate and percentage changes in the fixing index level (leaving aside the forward points adjustment and bid-ask spreads). See “Risk Factors Relating to the ETNs—Each series of ETNs offers 4-to-1 leveraged exposure to the underlying spot exchange rate only from the perspective of one method of quoting that rate, which may not be the standard method.”

The examples below do not reflect the impact of any creation fee or early redemption charge on an investor’s return on the ETNs. If an investor were to purchase the ETNs from CGMI, the investor would incur a fee equal to the indicative value used to price the sale of the ETNs to that investor times the creation fee of up to 0.05%, and if an investor were to exercise the early redemption right, the investor would incur a fee equal to the fixing indicative value on the applicable early redemption valuation date *times* 0.09%. If applicable, the creation fee and early redemption charge will reduce an investor’s return on an investment in the ETNs.

The examples below do not reflect the automatic acceleration feature of the ETNs. The examples show scenarios in which the fixing indicative value on Day 2 has fallen to zero in order to show that it is possible for a significant decline in the level of the applicable Index to result in a complete loss in value of the ETNs over a period of just one trading day. However, in these scenarios, once the intraday exchange rate for the currency pair underlying the applicable series of ETNs differs by 18.75% or more from the spot rate used in the determination of the fixing index level used to calculate the then most recent fixing indicative value and such difference represents depreciation of the applicable long currency against the applicable reference currency, an automatic acceleration event will occur, and the ETNs of that series would be automatically accelerated and holders would receive an

amount equal to the automatic acceleration amount, rather than the fixing indicative value on Day 2. In addition, the examples below do not illustrate the impact of a market disruption event on any scheduled trading day.

The actual performance of each Index and each series of ETNs will vary from the examples illustrated below. The rounding conventions in the examples below do not necessarily match the rounding conventions used in the actual calculation of the fixing index level or the fixing indicative value of the ETNs.

Calculation of the Fixing Index Level on Day 2

Table 1 below illustrates the calculation of the fixing index level on Day 2 based on various hypothetical spot rates on Day 2, assuming a spot rate on Day 1 of 2.00 and the other assumptions indicated above.

As described in more detail in “Description of the Indices”, each Index measures the daily performance of the underlying currency pair not from the spot rate on Day 1 to the spot rate on Day 2, but rather from the spot rate on Day 1 to the *adjusted* spot rate on Day 2. The adjusted spot rate on Day 2 is the spot rate on Day 2 *plus* or *minus* a forward points adjustment on Day 2. The forward points adjustment reflects the differences in overnight interest rates between the two currencies in the applicable currency pair. The calculation of the fixing index level also incorporates bid-ask spreads. As a result of the forward points adjustment and these bid-ask spreads, the percentage change from the fixing index level on Day 1 to the fixing index level on Day 2 (as illustrated in the rightmost column in Table 1 below) will differ from 4 times the percentage change from the spot rate on Day 1 to the spot rate on Day 2 (as illustrated in the third column in Table 1 below).

In the examples illustrated in Table 1 below, the forward points adjustment and bid-ask spreads both have a negative effect on Index performance. For example, in example 5 in Table 1 below, the spot rate has increased by 1.00% from Day 1 to Day 2, but the fixing index level has increased by less than 4 times that increase from Day 1 to Day 2 (*i.e.*, it has increased by only 3.8596%). Similarly, in example 7 in Table 1 below, the spot rate has decreased by 1.00% from Day 1 to Day 2, but the fixing index level has decreased by more than 4 times that decrease from Day 1 to Day 2 (*i.e.*, it has decreased by 4.1396%). The forward points adjustment and bid-ask spreads may place a significant drag on Index performance.

Table 1

Example	Spot Rate on Day 2	% Change from Spot Rate on Day 1	Adjusted Spot Rate on Day 2	% Change from Spot Rate on Day 1 to Adjusted Spot Rate on Day 2	Fixing Index Level on Day 2	% Change from Fixing Index Level on Day 1
1	2.50	25.00%	2.4995	24.9750%	19,985.0015	99.8500%
2	2.20	10.00%	2.1995	9.9750%	13,985.6014	39.8560%
3	2.10	5.00%	2.0995	4.9750%	11,985.8014	19.8580%
4	2.05	2.50%	2.0495	2.4750%	10,985.9014	9.8590%
5	2.02	1.00%	2.0195	0.9750%	10,385.9614	3.8596%
6	2.00	0.00%	1.9995	-0.0250%	9,986.0014	-0.1400%
7	1.98	-1.00%	1.9795	-1.0250%	9,586.0414	-4.1396%
8	1.95	-2.50%	1.9495	-2.5250%	8,986.1014	-10.1390%
9	1.90	-5.00%	1.8995	-5.0250%	7,986.2014	-20.1380%
10	1.80	-10.00%	1.7995	-10.0250%	5,986.4014	-40.1360%
11	1.50065	-24.9675%	1.50015	-24.9925%	0.0000	-100.0000%

Calculation of the Fixing Indicative Value on Day 2

Table 2 below illustrates how the fixing indicative value would be calculated on Day 2 based on the various changes in the fixing index level illustrated in Table 1 above, assuming a fixing indicative value of \$25.00 on Day 1 and the other assumptions indicated above. The example numbers in Table 2 below correspond to the example numbers in Table 1 above.

As the examples in Table 2 illustrate, the fixing indicative value of a given series of ETNs will track the daily performance of the Index underlying that series of ETNs, *plus* a daily accrual (as reflected in the calculation of the daily ETN performance) and *minus* the daily investor fee. In the examples in Table 2 below, the daily investor fee exceeds the daily accrual, and as a result the performance of the ETNs is less favorable than the performance of the underlying Index.

Table 2

Example	Fixing Index Level on Day 2	Daily Index Performance ¹	Daily ETN Performance ²	Daily Investor Fee ³	Fixing Indicative Value on Day 2 ⁴	% Change from Fixing Indicative Value on Day 1
1	19,985.0015	99.8500%	199.8501%	\$0.00308	\$49.9594	99.8378%
2	13,985.6014	39.8560%	139.8561%	\$0.00308	\$34.9609	39.8438%
3	11,985.8014	19.8580%	119.8581%	\$0.00308	\$29.9614	19.8458%
4	10,985.9014	9.8590%	109.8591%	\$0.00308	\$27.4617	9.8468%
5	10,385.9614	3.8596%	103.8597%	\$0.00308	\$25.9618	3.8474%
6	9,986.0014	-0.1400%	99.8601%	\$0.00308	\$24.9619	-0.1522%
7	9,586.0414	-4.1396%	95.8605%	\$0.00308	\$23.9620	-4.1518%
8	8,986.1014	-10.1390%	89.8611%	\$0.00308	\$22.4622	-10.1512%
9	7,986.2014	-20.1380%	79.8621%	\$0.00308	\$19.9624	-20.1502%
10	5,986.4014	-40.1360%	59.8641%	\$0.00308	\$14.9629	-40.1482%
11	0.0000	-100.0000%	0.0001%	\$0.00308	\$0.0000	-100.0000%

¹ Calculated as (i) fixing index level on Day 2 *divided by* fixing index level on Day 1 *minus* (ii) one.

² Calculated as (i) one *plus* (ii) hypothetical daily accrual *plus* (iii) hypothetical daily index performance.

³ Calculated as (i) hypothetical fixing indicative value on Day 1 of \$25.00 *times* (ii) (a) investor fee factor of 1.50% *times* (b) 1/365 *times* (c) three. The hypothetical daily investor fee is calculated assuming that a weekend falls between Day 1 and Day 2.

⁴ Calculated as (i) (a) hypothetical fixing indicative value on Day 1 of \$25.00 *times* (b) hypothetical daily ETN performance *minus* (ii) hypothetical daily investor fee.

RISK FACTORS RELATING TO THE ETNs

An investment in the ETNs is significantly riskier than an investment in conventional debt securities. The ETNs 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 ETNs, and are also subject to risks associated with fluctuations in the level of the applicable Index.

The risk factors below describe certain significant risks associated with an investment in the ETNs. You should read these risk factors together with the risk factors included in the accompanying prospectus supplement and in the documents incorporated by reference into 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.

The ETNs offer highly leveraged exposure, reset daily, to changes in the spot exchange rate between an underlying pair of currencies. They are, therefore, highly speculative and highly risky and are not suitable for many investors.

The value of each series of ETNs is linked to the performance of an Index that is designed to provide 4 times leveraged exposure, reset daily, to changes in the spot exchange rate between an underlying pair of currencies consisting of the U.S. dollar and a foreign currency. Any adverse movement in the underlying exchange rate will have a 4-times magnified adverse effect on the level of an Index (and, therefore, on the value of the series of ETNs linked to that Index) for that day. For example, in general, and not accounting for factors such as the forward points adjustment and bid-ask spreads, a 1% adverse movement in the underlying exchange rate from one trading day to the next will lead to a 4% decline in the value of the applicable Index. A 25% adverse movement in the underlying exchange rate from one trading day to the next will lead to a 100% decline in the value of the applicable Index, causing the value of the applicable ETNs to fall to zero in one day. Accordingly, the ETNs are **not** suitable for many investors. **The ETNs are suitable only for sophisticated investors who understand and can bear the potential risks and consequences of a highly leveraged short-term investment based on currency exchange rates that will be subject to the effects of decay, the forward points adjustment and bid-ask spreads, may be highly volatile and may experience significant losses, up to the entire amount invested, in a short period of time. You should proceed with extreme caution in considering an investment in the ETNs.**

The ETNs are designed to be short-term trading tools and are not designed to meet any investment objectives over any period longer than one day.

The Index underlying each series of ETNs is designed to provide 4 times leveraged exposure to the change in an underlying spot exchange rate from one trading day to the next. Over any longer time period, the performance of each Index is nearly certain to differ from, and may be significantly worse than, 4 times the change in the underlying exchange rate from the beginning to the end of that period. This is because the 4 times leveraged exposure reflected in each Index will be reset daily in U.S. dollar terms, so that each day's leveraged return will be compounded by the next day's leveraged return, and so on. Consequently, the performance of each Index over any period longer than one day will depend not only on the change in the underlying exchange rate from the beginning to the end of that period, but also on the level of the underlying exchange rate on each day in that period. As a result of the daily reset leverage and the path-dependent nature of each Index's performance, an investor holding the ETNs for a period longer than one day may correctly anticipate where the underlying exchange rate will be at the end of that period but nevertheless experience significant losses on the ETNs. An investor seeking to express a view about the level of an exchange rate on a date more than one day in the future should not invest in the ETNs.

Even if held for only one day, the ETNs are highly vulnerable to sudden large changes in the exchange rate between the underlying currencies.

Because each series of ETNs reflects 4 times leveraged exposure to the change in an underlying exchange rate from one trading day to the next, a series of ETNs will experience 4 times magnified losses if the applicable long currency depreciates sharply relative to the applicable reference currency over that one-day period. In general, a 5% depreciation of the long currency relative to the reference currency will lead to a one-day 20% loss on the ETNs; a 10% depreciation will lead to a one-day 40% loss on the ETNs; and a 25% depreciation will lead to a one-

day 100% loss on the ETNs, in each case leaving aside the effects of the forward points adjustment, bid-ask spreads, the daily accrual and the daily investor fee.

It is impossible to predict whether or when sudden large changes in currency exchange rates may occur. Factors that may result in sudden large changes in currency exchange rates may include:

- governmental actions, such as announcements of changes in official fixed or targeted exchange rates (for currencies pegged at a fixed or targeted rate or within a narrow band relative to the U.S. dollar or another currency), interventions in currency markets, impositions of restrictions on currency flows, default or threatened default on sovereign debt or changes in interest rates or interest rate policies;
- actions by speculators;
- global or regional political or social events, such as the outbreak of war, acts of terrorism, the imposition of economic sanctions, natural disasters and the like;
- economic and financial events, such as recessions and market crashes; and
- changes in inflation or expectations regarding inflation.

If sudden large changes in currency exchange rates occur, you may be unable to sell your ETNs in the market except at a significant loss. Because the market price of your ETNs may differ from the intraday indicative value of your ETNs, the price at which you may be able to sell your ETNs at any time, and especially in times of market volatility, may be significantly less than the intraday indicative value of your ETNs at the time of sale. Although you may, in the alternative, require us to redeem your ETNs on a daily basis, you must submit at least 25,000 ETNs of the same series in increments of 25,000 ETNs at one time in order to exercise that right, and the early redemption amount you receive will be based on the fixing indicative value of the ETNs on the immediately following trading day (or the second following trading day if you exercise your early redemption right after 4:00 p.m. on a business day). As a result of this time delay, the ETNs may experience significant losses before you are able to dispose of them.

Events occurring with respect to the Swiss franc in January 2015 illustrate the risk of a significant one-day depreciation in any long currency.

On January 15, 2015, the value of the U.S. dollar declined dramatically against the Swiss franc following an unexpected announcement that Switzerland's central bank would no longer cap the value of the Swiss franc against the euro. Within less than 30 minutes, starting at approximately 4:30 a.m. New York City time, the spot exchange rate between the Swiss franc and the U.S. dollar decreased by approximately 26%, representing an approximately 26% depreciation in the value of the U.S. dollar against the Swiss franc. Had any ETNs for which the Swiss franc was the reference currency been outstanding on that date, an automatic acceleration event would have occurred with respect to those ETNs and those ETNs would have been redeemed for \$0, resulting in a 100% loss on an investment in those ETNs. Because the decline in the value of the U.S. dollar against the Swiss franc was so rapid, and because it took place outside of regular session trading hours on the NYSE Arca, an investor in any such ETNs would not have been able to sell the ETNs to avoid or limit losses and would have incurred a total loss on an investment in any such ETNs. In light of this development, the exchange rate between the Swiss franc and the U.S. dollar is subject to heightened uncertainty going forward.

Although this event was specific to the Swiss franc, the risk illustrated by this event is relevant for all ETNs. Just as the action by the Swiss central bank was unexpected, events that are impossible to predict may unexpectedly transpire and lead to a rapid and dramatic depreciation in the value of any long currency against the relevant reference currency. Because of the 4 times leverage provided by the ETNs, an intraday decline of 25% or more in the value of the applicable long currency will cause a 100% loss on the ETNs.

Each series of ETNs is subject to automatic acceleration at any time, including outside of regular trading session hours on the NYSE Arca. If an automatic acceleration event occurs, you are likely to lose most, and may lose up to all, of your investment in the ETNs.

If the ETN Calculation Agents determine that, at any time on any day, the intraday exchange rate for the currency pair underlying any series of ETNs differs by 18.75% or more from the spot rate used in the determination of the fixing index level used to calculate the then most recent fixing indicative value and such difference represents depreciation of the applicable long currency against the applicable reference currency, an automatic acceleration event will occur. If an automatic acceleration event occurs with respect to a series of ETNs, those ETNs will be automatically accelerated for an amount equal to the automatic acceleration amount. The automatic acceleration amount is likely to be at least 75% less than the fixing indicative value on the prior trading day and may be \$0. In addition, if the ETN Calculation Agents determine that, at any time on any day, the relevant intraday exchange rate differs by 25% or more from the spot rate used in the determination of the fixing index level used to calculate the then most recent fixing indicative value and such difference represents depreciation of the applicable long currency against the applicable reference currency, the acceleration amount will be \$0. This will be the case, and you will lose your entire investment in the ETNs, even if the difference exceeded 25% only briefly as a result of a temporary aberration, and even if the automatic acceleration amount determined in the absence of this provision would have been significantly greater than \$0. If an automatic acceleration event occurs, you are likely to lose most, and may lose up to all, of your investment in the applicable series of ETNs.

An automatic acceleration event may occur at any time on any day when an intraday exchange rate for the applicable currency pair is published by Bloomberg, and not only during regular session trading hours on the NYSE Arca. Accordingly, an automatic acceleration event may occur, and you may lose a significant portion or all of your investment in the ETNs, at a time when there is no opportunity for you to sell your ETNs to avoid or limit losses.

For purposes of determining whether an automatic acceleration event has occurred, the intraday exchange rate for the applicable currency pair will be any spot exchange rate for the applicable currency pair published by Bloomberg through its Bloomberg Generic pricing service (or a successor information source) and not the spot exchange rate for the applicable currency pair that is used to calculate the fixing index level and the intraday index level. Because a different source will be used to determine whether an automatic acceleration event occurs than the data source used to calculate the fixing index level and intraday index level, it is possible that an automatic acceleration event will occur that would not have occurred if the spot exchange rate for the applicable currency pair that is used to calculate the fixing index level and intraday index level was used instead to determine whether an automatic acceleration event occurs.

It is also possible that the underlying currency pair could move in favor of your position after the automatic acceleration event has occurred and prior to redemption, such that had the automatic acceleration event not occurred, you would not have lost money, and possibly would have made a profit on your position. In this scenario, you may lose up to all of your investment due to the automatic acceleration event despite the fact that the value of your ETNs may have increased substantially if the automatic acceleration event had not occurred.

Each series of ETNs is likely to experience significant “decay” over time. As a result, the ETNs are not suitable for investors with intermediate- or long-term investment objectives and are not intended to be held to maturity.

The daily resetting of the leveraged exposure reflected in each Index is likely to cause each Index (and, therefore, each ETN) to experience a “decay” effect, which is likely to worsen over time and will be greater the more volatile the underlying exchange rate. The “decay” effect refers to a likely tendency of each Index to lose value over time. Accordingly, the ETNs are not suitable for intermediate- or long-term investment, as any intermediate- or long-term investment is very likely to sustain significant losses, even if the underlying long currency appreciates relative to the reference currency over the relevant time period. Although the decay effect is more likely to manifest itself the longer the ETNs are held, the decay effect can have a significant impact on ETN performance even over a period as short as two days. **The ETNs are suitable only for sophisticated investors. If you invest in the ETNs, you should continuously monitor your holding of the ETNs and make investment decisions at least on each trading day if not more frequently.**

Example 1. For example, suppose that an underlying exchange rate fluctuates within a narrow band over a 10-day period as indicated in the table below, ending the 10-day period at the same exchange rate at which it started. For simplicity, we ignore for present purposes the daily accrual, the daily investor fee and the other factors that affect the level of each Index and the value of the ETNs, including the forward points adjustment and bid-ask spreads. If those other factors were taken into account, the decline in the value of the applicable ETNs might be greater than the decline in the level of the Index indicated below.

Day	Spot Rate	% Change of Spot Rate from Day 0	Index Level	% Change of Index Level from Day 0
0	1.00		10000.00	
1	1.01	+1.00%	10400.00	+4.00%
2	1.00	0.00%	9988.12	-0.12%
3	0.99	-1.00%	9588.59	-4.11%
4	1.00	0.00%	9976.01	-0.24%
5	1.01	+1.00%	10375.05	+3.75%
6	1.00	0.00%	9964.16	-0.36%
7	0.99	-1.00%	9565.59	-4.34%
8	1.00	0.00%	9952.08	-0.48%
9	1.01	+1.00%	10350.16	+3.50%
10	1.00	0.00%	9940.26	-0.60%

In this example, although the underlying exchange rate fluctuated within a narrow range around the starting exchange rate and concluded the hypothetical 10-day period at the same exchange rate at which it started, the level of the Index has experienced a “decay” of 0.60%, as the Index level on Day 10 is 0.60% lower than it was on Day 0.

Example 2. Now suppose that the underlying exchange rate experiences greater fluctuations over the applicable 10-day period but still ends the 10-day period at the same level at which it started.

Day	Spot Rate	% Change of Spot Rate from Day 0	Index Level	% Change of Index Level from Day 0
0	1.00		10000.00	
1	0.95	-5.00%	8000.00	-20.00%
2	1.00	0.00%	9684.21	-3.16%
3	1.05	+5.00%	11621.05	+16.21%
4	1.00	0.00%	9407.52	-5.92%
5	0.95	-5.00%	7526.02	-24.74%
6	1.00	0.00%	9110.44	-8.90%
7	1.05	+5.00%	10932.53	+9.33%
8	1.00	0.00%	8850.14	-11.50%
9	0.95	-5.00%	7080.11	-29.20%
10	1.00	0.00%	8570.66	-14.29%

In this example, the greater magnitude of the daily changes in the spot rate as compared to the prior example results in significantly greater decay, and the level of the Index on the 10th day is more than 14% less than it was on the first day in the 10-day period. The Index experienced this significant decay notwithstanding that the ending exchange rate was the same as the starting exchange rate.

In the examples above, there is no change in the underlying exchange rate from Day 0 to Day 10, in order to isolate the decay effect from other factors that affect Index performance. If the underlying long currency depreciated relative to the reference currency over the same time period, that depreciation would have caused the performance of the Index to be even worse. For example, on Day 9 of the second example above, the underlying exchange rate was 5% lower than it was on Day 0. In that case, the level of the Index would have been more than 29% lower than it was on Day 0.

Example 3. As the following example demonstrates, an Index may experience significant decay even if the underlying long currency appreciates relative to the reference currency from the beginning to the end of a given time period.

Day	Spot Rate	% Change of Spot Rate from Day 0	Index Level	% Change of Index Level from Day 0
0	1.00		10000.00	
1	0.95	-5.00%	8000.00	-20.00%
2	1.05	+5.00%	11368.42	+13.68%
3	0.95	-5.00%	7037.59	-29.62%
4	1.05	+5.00%	10000.79	+0.01%
5	0.95	-5.00%	6190.97	-38.09%
6	1.05	+5.00%	8797.69	-12.02%
7	0.95	-5.00%	5446.19	-45.54%
8	1.05	+5.00%	7739.32	-22.61%
9	0.95	-5.00%	4791.01	-52.09%
10	1.05	+5.00%	6808.27	-31.92%

In this example, the spot rate is 5% greater on Day 10 than it was on Day 1, but the Index has nevertheless declined by nearly 32% over the 10-day period.

The above examples illustrate the following important points about the decay effect over any holding period of more than one day:

- **The decay effect worsens over time.** In each of the first two examples above, the exchange rate returns to the original exchange rate of 1.00 on multiple days during the 10-day period. Each time the exchange rate returns to 1.00, the level of the Index is lower than it was on any earlier date on which the exchange rate was 1.00. The same is true for each of the other exchange rates shown in the examples above.
- **Although the decay effect worsens over time, it can have a meaningful effect even over a period as short as two days.** In Example 2 above, the exchange rate falls from 1.00 to 0.95 from Day 0 to Day 1 and then returns to 1.00 on Day 2. Although the underlying exchange rate is the same on Day 2 as it was on Day 0, the level of the Index has fallen by 3.16%.
- **The decay effect worsens as volatility increases.** Volatility refers to the average magnitude of daily fluctuations in the underlying exchange rate over any period of time. The daily fluctuations in Example 2 are significantly larger than they are in Example 1, and the daily fluctuations in Example 3 are significantly larger than they are in Example 2. As a result, the decline in the Index level in Example 2 is significantly greater than it is in Example 1, and the decline in the Index level in Example 3 is significantly greater than it is in Example 2.
- **The daily compounding of returns will adversely affect the Index if the underlying exchange rate moves in a different direction on one day than it did on the prior day.** If the exchange rate increases from Day 0 to Day 1 and then decreases by the same amount from Day 1 to Day 2, or if the exchange rate decreases from Day 0 to Day 1 and then increases by the same amount from Day 1 to Day 2, the Index level on Day 2 will be lower than it was on Day 0 even though the exchange rate on Day 2 is the same as it was on Day 0.
- **The 4-to-1 leverage ratio does not hold for any period longer than one day.** In Example 3 above, the 52% loss reflected in the level of the Index from Day 0 to Day 9 was more than 10 times greater than the 5% decline in the underlying exchange rate. In fact, the Index may decline significantly over any given time period even if the long currency appreciates relative to the reference currency from the beginning to the end of that time period. In Example 3 above, the long currency appreciated by 5% from Day 0 to Day 10, but the level of the Index was nearly 32% lower on Day 10 than it was on Day 0.

In addition, it is important to understand that the “decay” effect will be greater for ETNs for which the U.S. dollar is the long currency than for ETNs for which the U.S. dollar is the reference currency. This is a consequence of the fact that the performance of each Index is measured in U.S. dollar terms. Therefore, the performances of the two series of ETNs that track the same underlying currency pair will not exactly mirror the inverses of each other.

The ETNs are not linked to the spot exchange rates between the currency pairs alone.

The ETNs are linked to the Indices, which consider forward points adjustments and bid-ask spreads to calculate appreciation and/or depreciation in exchange rates. As a result, the ETNs will not move in accordance with only spot currency appreciation or depreciation, as discussed in more detail in the next two risk factors.

The performance of each series of ETNs will depend not only on changes in the underlying spot exchange rate, but also on the difference in the overnight interest rates applicable to the underlying currencies.

The performance of each Index is based on the change from the spot rate of exchange between the underlying currencies on Day 1 to the adjusted spot rate on Day 2, as described more fully under “Description of the Indices” in this pricing supplement. The adjusted spot rate on Day 2 is equal to the spot rate on Day 2 *plus or minus* a forward points adjustment on Day 2. The forward points adjustment reflects the difference in overnight interest rates between the two underlying currencies. Because of the forward points adjustment, the performance of each Index will be determined not only by changes from the spot rate on Day 1 to the spot rate on Day 2, but also by the interest rate differential between the long currency and the reference currency as reflected in the forward points adjustment.

If the overnight interest rate of the long currency is lower than the overnight interest rate of the reference currency, the forward points adjustment will result in the adjusted spot rate on Day 2 being lower than the spot rate on Day 2. If the forward points adjustment results in the adjusted spot rate on Day 2 being lower than the spot rate on Day 2, that will have an adverse effect on the applicable Index. As a consequence, for any Index where the overnight interest rate of the long currency is lower than the overnight interest rate of the reference currency, the interest rate differential will place a drag on the level of that Index, reducing any positive performance, exacerbating any negative performance and causing the level of that Index to steadily decline if the spot rate remains relatively constant.

The performance of each series of ETNs will be adversely affected by bid-ask spreads.

Each Index tracks the performance of a hypothetical foreign exchange trading methodology consisting of hypothetical spot trades of the underlying currencies. On each index business day, a hypothetical spot trade is entered into at the “mid” spot rate (subject to the discussion in the next paragraph), but the offsetting hypothetical spot trade is entered into on the next index business day at a “bid” adjusted spot rate. A “mid” rate represents the midpoint between “bid” and “ask” rates at which dealers are willing to enter into trades. A “bid” rate, by contrast, is lower than the “mid” rate and reflects expected profits to a foreign exchange dealer. These expected profits represent a transaction cost to the hypothetical foreign exchange trading methodology underlying each Index.

In addition, the change in the amount of foreign currency exposure on each day as compared to the prior day is determined based either on the “bid” or “ask” spot rate, and not the “mid” spot rate. This effectively means that only a portion of the initial hypothetical spot trade is entered into at the “mid” spot rate, and the remainder is entered into either at a “bid” or “ask” spot rate. In either case, the use of the “bid” or “ask” spot rate will represent further transaction costs to the hypothetical foreign exchange trading methodology underlying each Index.

These bid-ask spreads will place a drag on the performance of each Index, reducing any positive performance, exacerbating any negative performance and causing the level of each Index to decline steadily if the spot rate remains relatively constant. The bid-ask spreads reflect the significant transaction costs associated with a hypothetical daily trading methodology.

The 4 times leverage embedded in each Index will magnify any negative effect resulting from the forward points adjustment and bid-ask spreads.

As discussed in the two preceding risk factors, each Index may be adversely affected by a forward points adjustment and bid-ask spreads reflected in the Index calculation. The 4 times leverage embedded in each Index will magnify any such negative effects by 4 times.

The daily return of each series of ETNs will be reduced by the daily investor fee.

Because the daily investor fee reduces the daily return on each series of ETNs, the applicable Index will need to increase sufficiently from the time you purchased your ETNs to compensate for the deduction of the daily investor fee in order for the value of your ETNs at any later time to be at least what you paid for them. Although the daily accrual will have a positive effect on the daily return of the ETNs, the daily investor fee may be greater than the daily accrual, for a net negative effect on the value of your ETNs.

Each series of ETNs offers 4-to-1 leveraged exposure to the underlying spot exchange rate only from the perspective of one method of quoting that rate, which may not be the standard method.

A 1% change in the relevant spot exchange rate will result in a 4% change in the level of the applicable Index (leaving aside the forward points adjustment and bid-ask spreads) only from the perspective of one of the two possible ways of quoting the exchange rate. Each exchange rate may be quoted either as a number of units of the reference currency per 1 unit of the long currency, or as a number of units of the long currency per 1 unit of the reference currency. The currency with 1 unit in the applicable exchange rate is referred to as the “**base currency**.” The conventional way of quoting each currency pair is set forth below under “Description of the Indices—The Currency Pairs and Exchange Rates.” For any given Index, it is possible that the 4-to-1 leverage relationship will not hold from the perspective of the standard convention for quoting the relevant currency pair for a given day’s return. In particular, the 4-to-1 leverage relationship will not hold from the perspective of the standard convention for quoting the relevant currency pair where the U.S. dollar is the base currency in the standard convention. Where the U.S. dollar is the base currency and the long currency, from the perspective of the standard convention for quoting the relevant currency pair, losses will be accelerated by more than 4 times and gains will be decelerated to less than 4 times for a given day’s return. Where the U.S. dollar is the base currency and the reference currency, the opposite relationship will hold.

For example, suppose that on Day 1 the exchange rate between a foreign currency and the U.S. dollar, as expressed in its standard convention, is 2.00 units of the foreign currency per 1 U.S. dollar. Suppose also that the U.S. dollar is the long currency for the applicable Index and that the fixing index level of the Index is 10,000 on Day 1. The table below illustrates the change in the level of the Index that would result from various one-day percentage changes in the underlying exchange rate from the initial exchange rate of 2.00. For simplicity, the examples below disregard the effects of the forward points adjustment and bid-ask spreads.

Day 2 Spot Rate	% Change of Day 2 Spot Rate from Day 1 Spot Rate	Index Level on Day 2	% Change of Day 2 Index Level from Day 1	Effective Leverage Ratio from Perspective of Standard Exchange Rate Quotation
2.40	+20.00%	16666.67	66.67%	3.33
2.20	+10.00%	13636.36	36.36%	3.64
2.10	+5.00%	11904.76	19.05%	3.81
2.04	+2.00%	10784.31	7.84%	3.92
2.02	+1.00%	10396.04	3.96%	3.96
2.00	0.00%	10000.00	0.00%	N/A
1.98	–1.00%	9595.96	–4.04%	4.04
1.96	–2.00%	9183.67	–8.16%	4.08

1.90	-5.00%	7894.74	-21.05%	4.21
1.80	-10.00%	5555.56	-44.44%	4.44
1.60	-20.00%	0.00	-100.00%	5.00

In this scenario, from the perspective of the standard quotation of the exchange rate, any appreciation in the U.S. dollar relative to the foreign currency results in less than 4-to-1 leverage on the upside, while any depreciation results in greater than 4-to-1 leverage on the downside. The greater the percentage change in the exchange rate, the more pronounced this effect. In this example, a 20.00% decline in the U.S. dollar relative to the foreign currency produces 5-to-1 downside leverage from the perspective of the standard exchange rate quotation and results in a 100.00% decline in the level of the Index.

Although each underlying currency pair is traded 24 hours a day, the ETNs will trade only during regular trading hours on the NYSE Arca.

The foreign exchange market for each currency pair is a global, around-the-clock market. The ETNs will trade only during the hours that the NYSE Arca is open. Significant exchange rate movements may take place in the underlying foreign exchange market at times when the NYSE Arca is closed, and you will not have the opportunity to trade the ETNs until the NYSE Arca is open. For example, a government may make an announcement that has a significant impact on an underlying exchange rate during business hours for the relevant country, but prior to the open of trading on the NYSE Arca. By the time the NYSE Arca opens, a significant change in the underlying exchange rate may already have taken place, and the price at which you may be able to trade the ETNs may be significantly worse than the price you might have achieved had you been able to trade the ETNs sooner. The 4 times leveraged exposure offered by each ETN magnifies the potential for significant losses to occur prior to your first opportunity to trade the ETNs.

In addition, an automatic acceleration event may occur at any time on any day when an intraday exchange rate for the applicable currency pair is published by Bloomberg, and not only during regular session trading hours on the NYSE Arca. Accordingly, an automatic acceleration event may occur, and you may lose a significant portion or all of your investment in the ETNs, at a time when there is no opportunity for you to sell your ETNs to avoid or limit losses.

The effective one-day leverage provided by the ETNs may be more or less than 4 times, depending on whether the price you pay for them is greater than or less than the most recent fixing indicative value at the time of purchase.

If you purchase any series of ETNs at a price other than the most recent fixing indicative value at the time of purchase, the effective amount of leverage provided by those ETNs from the time of purchase until the next determination of the fixing indicative value will differ from the 4 times leverage ratio targeted by the applicable Index. In general, if you buy the ETNs at a price that is higher than the most recent fixing indicative value at the time of purchase, the effective leverage will be less than 4 times, and if you buy the ETNs at a price that is lower than the most recent fixing indicative value at the time of purchase, the effective leverage will be greater than 4 times. The fixing indicative value for each series of ETNs will be determined prior to the open of trading on the NYSE Arca on each trading day. Therefore, it will be determined at a time when you will be unable to trade the ETNs. As the level of the Index underlying each series of ETNs fluctuates, the intraday indicative value of the ETNs will also fluctuate and is likely to deviate from the most recent fixing indicative value. Moreover, the price at which you purchase the ETNs at any time may differ from the then current intraday indicative value, as described under “—The intraday indicative value and the fixing indicative value are not the same as the closing price or any other trading price of the ETNs in the secondary market” below. Therefore, it is likely that the price you pay to purchase the ETNs at any time will differ from the most recent fixing indicative value. The greater the deviation of your purchase price from the most recent fixing indicative value, the greater the deviation from 4 times leverage.

Column A in the table below sets forth various hypothetical amounts of appreciation or depreciation of the relevant underlying long currency (relative to the relevant underlying reference currency) at the time of purchase of the ETNs relative to the time of the most recent determination of the fixing indicative value. Column D in the table below illustrates, for each hypothetical appreciation or depreciation amount indicated in Column A, the effective

amount of leverage provided by the ETNs from the time of purchase until the next determination of the fixing indicative value. For purposes of the table below, the forward points adjustment, bid-ask spreads, the daily accrual and the daily investor fee are disregarded, and we have assumed that the ETNs are purchased at the intraday indicative value. We have also assumed that the most recent fixing indicative value was \$25.00. The leverage amounts indicated in the table are expressed from the perspective of the spot rate quotation convention that results in a 4-to-1 relationship between changes in the spot rate and changes in the Index level.

A	B	C	D
% Appreciation/ Depreciation	Hypothetical ETN Purchase Price $B = \$25.00 * (1 + (4 * A))$	Hypothetical ETN Notional U.S. Dollar Exposure $C = 4 * \$25.00 * (1 + A)$	Effective Leverage Amount $D = C/B$
10%	\$35.00	\$110.00	3.14
8%	\$33.00	\$108.00	3.27
6%	\$31.00	\$106.00	3.42
4%	\$29.00	\$104.00	3.59
2%	\$27.00	\$102.00	3.78
0%	\$25.00	\$100.00	4.00
-2%	\$23.00	\$98.00	4.26
-4%	\$21.00	\$96.00	4.57
-6%	\$19.00	\$94.00	4.95
-8%	\$17.00	\$92.00	5.41
-10%	\$15.00	\$90.00	6.00

For example, suppose that the most recent fixing indicative value prior to the time you purchase a given series of ETNs was \$25.00 and that, at the time of that fixing indicative value, the underlying exchange rate was 2.00. Next suppose that you purchase the ETNs at their intraday indicative value at a time when the underlying exchange rate has dropped by 4% to 1.92, so that the underlying Index level has fallen by 16% (4 times 4%) and the then current intraday indicative value is \$21 (which is 16% less than \$25.00). If, by the time the next fixing indicative value is determined, the underlying exchange rate falls further to 1.84, for a total decline of 8% from the exchange rate at the time of the prior fixing indicative value, the underlying Index level and the fixing indicative value would each have fallen by 32% (4 times 8%) from the time of the prior fixing indicative value, resulting in a new fixing indicative value of \$17.00. From your perspective, the underlying exchange rate declined by 4.167% from the time you purchased the ETNs to the next fixing indicative value, and your ETNs are worth approximately 19% less than you paid for them (\$17.00 being approximately 19% less than \$21.00). In this circumstance, your effective leverage—the ratio of your lost value on the ETNs to the decline in the underlying exchange rate (i.e., 19% to 4.167%)—would have been 4.57-to-1, the increased leverage ratio resulting from the fact that you purchased the ETNs at a price that was lower than the most recent fixing indicative value. This example has been simplified to illustrate the effect of your intraday purchase price on effective leverage and disregards other factors that affect returns, including the forward points adjustment and bid-ask spreads included in the level of the Index, the daily accrual and daily investor fee included in the calculation of the fixing indicative value and intraday indicative value and the deviation from 4-to-1 leverage that would result if the U.S. dollar were the base currency in the standard convention. Other examples would show different results.

In addition, note that you may incur a one-day loss on a purchase of ETNs even if the next fixing indicative value after your purchase is greater than the most recent fixing indicative value prior to your purchase. This would be the case if you purchased the ETNs for an amount that was greater than both the most recent fixing indicative value and the next determined fixing indicative value, even though the later fixing indicative value was greater than the earlier fixing indicative value.

The liquidity, trading value and amounts payable under the ETNs could be affected by actions of sovereign governments.

The value of any underlying currency may be or may become “pegged” to the U.S. dollar or another currency (*i.e.*, permitted to fluctuate only within a narrow band set by the government of the relevant issuing country), or any previously pegged or capped currency may cease to be so pegged or capped, as happened with respect to the Swiss Franc in January 2015. In addition, governments may, from time to time, use a variety of techniques, such as intervention by their central bank or imposition of regulatory controls or taxes, to affect the exchange rates of their respective currencies relative to the U.S. dollar. Governments may also issue a new currency to replace an existing currency or alter exchange rates by devaluation or revaluation of a currency. Thus, a special risk in purchasing any series of ETNs is that their liquidity, trading value and amounts payable could be affected by the actions of the issuing countries of the currencies in the underlying currency pair.

The ETNs are subject to currency exchange risk.

Currency exchange rates vary over time, and may vary considerably during the term of the ETNs. The value of the applicable long currency relative to the reference currency is, at any time, a result of supply and demand for those currencies. Changes in currency exchange rates result over time from the interaction of many factors directly or indirectly affecting economic and political conditions in a relevant country, and economic and political developments in other countries. Currency exchange rates can also be affected by actions of sovereign governments.

Of particular importance to potential currency exchange risk are:

- the overall growth and performance of the economies of the relevant countries;
- existing and expected rates of inflation;
- existing and expected interest rate levels;
- the balance of payments in the relevant countries and between each relevant country and its major trading partners;
- the extent of governmental surplus or deficit in the relevant countries;
- the amount of national debt in the relevant countries;
- global or regional economic or financial events;
- sovereign actions that set or restrict currency conversion or otherwise affect currency markets;
- the monetary policies and other related activities of central banks in the United States and relevant foreign markets; and
- the stability of the governments and banking systems of the relevant countries.

These factors interrelate in complex ways, and the effect of one factor on any underlying exchange rate may offset or enhance the effect of another factor. All of these factors are, in turn, sensitive to the monetary, fiscal and trade policies pursued by the relevant countries and those of other countries important to international trade and finance. In addition, certain relevant information relating to one or more relevant countries may not be as well-known or as rapidly or thoroughly reported in the United States as compared to information regarding the United States. You should be aware of the possible lack of availability of important information that can affect the level of the applicable Index.

Currency exchange risks can be expected to heighten in periods of financial turmoil.

In periods of financial turmoil, capital can move quickly out of regions that are perceived to be more vulnerable to the effects of the crisis than others, with sudden and severely adverse consequences to the currencies

of those regions. In addition, governments around the world have made and may be expected to continue to make very significant interventions in their economies, and sometimes directly in the currencies. Such interventions affect currency exchange rates globally. Further interventions, other government actions or suspensions of actions, as well as other changes in government economic policy or other financial or economic events affecting the currency markets, may cause currency exchange rates to fluctuate sharply in the future, which could have a material effect on the levels of the Indices and consequently the value of the ETNs.

The ETNs are subject to the credit risk of Citigroup Global Markets Holdings Inc. and Citigroup Inc.

Although the return on the ETNs of each series will be based on the performance of the applicable Index, the payment of any amount due on the ETNs, including any payment at maturity or upon early redemption or acceleration, is subject to the credit risk of Citigroup Global Markets Holdings Inc. and Citigroup Inc. Investors are dependent on Citigroup Global Markets Holdings Inc.'s ability to pay all amounts due on the ETNs and Citigroup Inc.'s ability to perform its obligations under its guarantee, and therefore investors are subject to the credit risk of Citigroup Global Markets Holdings Inc. and Citigroup Inc. In addition, any decline in the credit ratings of Citigroup Global Markets Holdings Inc. or Citigroup Inc., any adverse changes in the market's view of the creditworthiness of either entity or any increase in either entity's credit spreads is likely to adversely affect the market value of the ETNs.

To submit your ETNs for redemption at your option, you must make the request with respect to at least 25,000 ETNs of the same series and in increments of 25,000 ETNs.

Because you must submit for redemption at least 25,000 ETNs of the same series at one time, if you own fewer than 25,000 ETNs of the same series, you will not be able to submit them for redemption. In addition, even if you own more than 25,000 ETNs, you may only submit ETNs for redemption in increments of 25,000 ETNs, and any ETNs in excess of the highest number of ETNs you own that is evenly divisible by 25,000 will not be eligible for redemption. If you wish to dispose of any ETNs that are not eligible for redemption at your option, you will have to sell them in the secondary market. There can be no assurance that an active secondary market will exist at any time. If you are able to sell your ETNs in a secondary market transaction prior to maturity, we can give you no assurance that the ETNs will not trade at a discount from the value an investor would have received upon optional early redemption. If you are able to avail yourself of the option to redeem prior to maturity because you own and are able to submit for redemption at least 25,000 ETNs of the same series in increments of 25,000 ETNs at one time, you will be required to pay an early redemption charge to exercise your right of redemption on any early redemption date.

There are restrictions on the minimum number of ETNs you may redeem and on the dates on which you may redeem them.

To exercise your early redemption right, you must redeem at least 25,000 ETNs of any one series, the minimum redemption amount, at one time and you must cause your broker to deliver a notice of redemption, substantially in the form of Annex A, to the redemption agent via email or other electronic delivery as requested by the redemption agent. If your redemption notice is delivered prior to 4:00 p.m., New York City time, on any business day, the immediately following trading day will be the applicable early redemption valuation date for such series of ETNs. Otherwise, the second following trading day will be the applicable early redemption valuation date. If the redemption agent receives your redemption notice no later than 4:00 p.m., New York City time, on any business day, the redemption agent will respond by sending your broker an acknowledgment of the redemption notice accepting your redemption request by 7:30 p.m., New York City time, on the business day prior to the applicable early redemption valuation date. The redemption agent or its affiliate must acknowledge to your broker acceptance of the redemption notice in order for your redemption request to be effective.

The redemption feature is intended to induce arbitrageurs to counteract any trading of the ETNs at a discount to their indicative value. There can be no assurance that arbitrageurs will employ the redemption feature in this manner.

You will not know the early redemption amount for any ETNs you elect to redeem prior to maturity at the time you make such election.

In order to exercise your right to redeem the ETNs prior to maturity, you must cause your broker or other person with whom you hold the ETNs to deliver a redemption notice to the redemption agent by no later than 4:00 p.m., New York City time, on the business day prior to your desired early redemption valuation date. The early redemption amount cannot be determined until the early redemption valuation date, and as such you will not know the early redemption amount for the ETNs at the time you make an irrevocable election to redeem the ETNs. The early redemption amount for the ETNs on the applicable early redemption valuation date may be substantially less than it would have been on the prior day and may be zero.

The ETNs are subject to our optional acceleration right.

The term of the ETNs may be limited by our right to accelerate the ETNs of any series, in whole and not in part, at any time during the term of the ETNs. The amount of cash that you will receive will be based on the fixing indicative value of the applicable series of ETNs on the optional acceleration valuation date, which may result in a significant loss to you. See “Description of the ETNs—Acceleration at Our Option.” We will make any decision to accelerate the ETNs based on our interests, and any such acceleration may occur at a time when it is not in your interests for your ETNs to be accelerated. Alternatively, because we have no obligation to redeem the ETNs except in accordance with the minimum redemption and notice provisions described in this pricing supplement, we may elect not to accelerate the ETNs at a time when it would be in your interests for us to do so.

The intraday indicative value and the fixing indicative value are not the same as the closing price or any other trading price of the ETNs in the secondary market.

The intraday indicative value and the fixing indicative value are not the same as the closing price or any other trading price of the ETNs in the secondary market. The fixing indicative value and intraday indicative value for each series of ETNs on each trading day following the inception date are intended to approximate the intrinsic economic value of the ETNs at the time of calculation. By contrast, the trading price for each series of ETNs at any time is the price at which you may be able to sell your ETNs in the secondary market at such time, if one exists. The trading price for each series of ETNs at any time may vary significantly from the fixing indicative value or intraday indicative value of the relevant series of ETNs at such time. Paying a premium purchase price over the fixing indicative value or intraday indicative value of the relevant series of ETNs could lead to significant losses in the event the investor sells such ETNs at a time when such premium is no longer present in the marketplace or such ETNs are accelerated (including at our option), in which case investors will receive a cash payment in an amount equal to the fixing indicative value on the optional acceleration valuation date or other valuation date, as applicable.

The market value of the ETNs may be influenced by many unpredictable factors.

The market value of your ETNs may fluctuate significantly. We expect that generally the performance of the applicable Index will affect the market value of the series of ETNs linked to that Index more than any other factor. Several other factors, many of which are beyond our control, will influence the market value of the ETNs. Factors that may influence the market value of the ETNs include:

- supply and demand for the ETNs, including inventory positions with CGMI or any market-maker;
- the daily investor fee and the daily accrual; and
- the actual or perceived creditworthiness of Citigroup Global Markets Holdings Inc. and Citigroup Inc.

These factors interrelate in complex ways, and the effect of one factor on the market value of your ETNs may offset or enhance the effect of another factor.

Each Index has limited historical information, and past performance is no guide to future performance.

Each of the Indices was launched on October 31, 2017. Accordingly, each Index has limited historical data. There is no information regarding the actual performance of any Index during any period prior to October 31,

2017 and, therefore, there is no information regarding the actual performance of any Index during any market conditions other than those that have prevailed since October 31, 2017. Because each Index is of recent origin with limited performance history, an investment linked to an Index may involve a greater risk than an investment linked to one or more indices with an established record of performance. A longer history of actual performance may have provided more reliable information on which to assess the validity of each Index's hypothetical foreign exchange trading methodology and how each Index would have performed under a variety of market conditions. Even though the index sponsor has calculated hypothetical historical performance data to illustrate how each Index may have performed in the past, those calculations are subject to significant limitations. Unlike actual historical performance, such calculations do not reflect actual trading, liquidity constraints, fees and other costs. The hypothetical back-tested and historical performance shown for each Index should not be taken as any indication of future performance. The actual performance of each Index over the term of the related series of ETNs may bear little relation to the hypothetical back-tested or historical levels of that Index.

We and CGMI are under no obligation to issue or sell additional ETNs of any series at any time, and if we and CGMI do sell additional ETNs of any series, we or CGMI may limit or restrict such sales, and we or CGMI may stop and subsequently resume selling additional ETNs of such series at any time.

In our sole discretion, we may decide to issue and sell additional ETNs of any series from time to time to CGMI, and in CGMI's sole discretion, it may decide to sell additional ETNs of any series to investors or to dealers. However, we and CGMI are under no obligation to issue or sell additional ETNs of any series at any time, and if we and CGMI do sell additional ETNs of any series, we or CGMI may limit or restrict such sales, and we or CGMI may stop and subsequently resume selling additional ETNs of such series at any time. If we and CGMI start selling additional ETNs of any series, we or CGMI may stop selling additional ETNs of such series for any reason, which could materially and adversely affect the price and liquidity of such ETNs in the secondary market. Furthermore, the stated principal amount of each series of ETNs stated at the top of the cover page of this pricing supplement is the maximum amount of each series of ETNs that we have currently authorized for issuance. Although we have the right to increase the authorized amount of any series of ETNs at any time, it is our current intention not to issue more than the current maximum authorized amount of each series of ETNs, even if there is substantial market demand for additional ETNs of such series. We may also reduce the maximum authorized amount of each series of ETNs at any time and have no obligation to issue up to the maximum authorized amount.

Unless we indicate otherwise, if we or CGMI suspend selling additional ETNs, we and CGMI reserve the right to resume selling additional ETNs at any time, which might result in the reduction or elimination of any premium in the trading price that may have developed. Before trading in the secondary market, you should compare the fixing indicative value and intraday indicative value with the then-prevailing trading price of the ETNs. Any premium may be reduced or eliminated at any time.

Suspension of additional issuances of the ETNs can also result in a significant reduction in the number of outstanding ETNs, if investors subsequently exercise their right to have the ETNs redeemed by us. If the total number of outstanding ETNs has fallen to a level that is close to or below the minimum redemption amount, you may not be able to purchase enough ETNs to meet the minimum size requirement in order to exercise your early redemption right. The unavailability of the early redemption right can result in the ETNs trading in the secondary market at discounted prices below the intraday indicative value. Having to sell your ETNs at a discounted sale price below the intraday indicative value of the ETNs could lead to significant losses. Prior to making an investment in the ETNs, you should take into account whether or not the trading price is tracking the intraday indicative value of the ETNs.

Any limitation or suspension on the issuance or sale of the ETNs may impact the trading price of the ETNs, including by creating a premium over the indicative value of the ETNs that may be reduced or eliminated at any time.

Because our obligations under the ETNs are hedged through one or more of our affiliates, increases in the number of ETNs outstanding create corresponding increases in our exposure to the foreign currencies included in the Indices. In order to manage the risk of this exposure, we may impose a limitation or suspension on the number of ETNs of any series to be issued. Any limitation or suspension on the issuance of the ETNs may materially and adversely affect the price and liquidity of the ETNs in the secondary market. Alternatively, the decrease in supply may cause an imbalance in the market supply and demand, which may cause the ETNs to trade at a premium over

the indicative value of the ETNs. In addition, any decrease in the supply of the ETNs due to any limitation or suspension on issuance may cause the ETNs to appear on NYSE Arca's "threshold securities list," indicating repeated delivery failure (which may be a sign of supply shortage) and requiring an actual borrowing of or a bona fide arrangement to borrow the ETNs in connection with a short sale. If arbitrageurs are unable to locate ETNs to sell short, the ETNs may trade at a premium, which may be significant, in relation to their indicative value.

Any premium may be reduced or eliminated at any time. Paying a premium purchase price over the indicative value of the ETNs could lead to significant losses in the event the investor sells such ETNs at a time when such premium is no longer present in the marketplace or such ETNs are accelerated, including at our option, which we have the discretion to do at any time. If we accelerate the ETNs of any series at our option, investors will receive a cash payment in an amount equal to the fixing indicative value on the optional acceleration valuation date, which will not include any premium. Investors should consult their financial advisors before purchasing or selling the ETNs, especially ETNs trading at a premium over their indicative value.

The liquidity of the market for the ETNs may vary materially over time.

We have sold a portion of the ETNs on the original issue date, all of which were initially held by CGMI or its affiliates. CGMI may sell ETNs to investors or to dealers from time to time. We cannot predict how much investor demand there will be for the ETNs. The number of ETNs outstanding could be reduced at any time due to early redemptions of the ETNs as described in this pricing supplement or due to repurchases of the ETNs by our affiliates in the secondary market. Accordingly, the liquidity of the market for the ETNs could vary materially over the term of the ETNs. While you may elect to offer your ETNs for early redemption by us prior to maturity, such early redemption is subject to restrictive conditions and procedures described elsewhere in this pricing supplement, including the condition that you must offer at least the applicable minimum redemption amount to us at one time.

There may not be an active trading market for your ETNs.

There is no assurance that a trading market for the offered ETNs will develop or, if one develops, continue. Even if there is a secondary market for your ETNs, it may not be sufficiently liquid to enable you to sell your ETNs readily and you may suffer substantial losses and/or sell your ETNs at prices substantially less than their intraday indicative value or fixing indicative value, including being unable to sell them at all or only for a price of zero in the secondary market.

No assurance can be given as to the continuation of the listing for the life of the offered ETNs, or the liquidity or trading market for the offered ETNs. Although the title of the ETNs includes the words "exchange-traded notes", we are not required to maintain any listing of your ETNs on the NYSE Arca and the liquidity of the market for any series of ETNs could vary materially over the term of the ETNs. The ETNs may cease to be listed on the NYSE Arca or any other exchange because they cease to meet the listing requirements of the exchange or because we elect in our sole discretion to discontinue the listing of the ETNs on any exchange. We may elect to discontinue the listing of the ETNs at any time and for any reason, including in connection with a decision to discontinue further issuances and sales of the ETNs. If the ETNs cease to be listed on the NYSE Arca or any other exchange, the liquidity of the ETNs is likely to be significantly adversely affected and the ETNs may trade at a significant discount to their indicative value. If the ETNs cease to be listed on an exchange, their titled will nevertheless continue to include the words "exchange-traded notes".

The exchange may halt trading in the ETNs or may limit the extent to which trading prices may change within specified time periods, which in either case would adversely impact investors' ability to sell the ETNs.

Trading in the ETNs may be halted due to market conditions or, in light of the exchange's rules and procedures, for reasons that, in the view of the exchange, make trading in the ETNs inadvisable. General exchange trading is subject to trading halts caused by extraordinary market volatility pursuant to "circuit breaker" rules based on a specified decline in a market index (e.g., the S&P 500® Index). In addition, a particular series of ETNs may be subject to "limit up" and "limit down" rules or trading pause requirements that are triggered by a significant change in the trading price of those ETNs within a specified period of time. These "limit up" and "limit down" and trading pause rules, if triggered, could prevent investors from transacting at the then prevailing intraday indicative value or at all. If the level of the applicable Index declines precipitously during the trading day, triggering a "limit down" mechanism or trading pause, you may be unable to sell your ETNs for some period of time, either because no

trading at all is permitted or because the price that any purchaser would be willing to pay for them at the time may be significantly below the lowest price that a purchaser would be permitted to pay for them on the exchange. In that circumstance, by the time you are finally able to sell your ETNs, you may have incurred significantly greater losses than you would have incurred had you been able to sell them when you initially wanted to. Additionally, the ability to short sell ETNs may be restricted when there is a 10% or greater change from the previous day's official closing price. Exchange rules relating to these matters are subject to change from time to time.

Currency exchange rates are determined in a manner that is less transparent and more susceptible to distortion and manipulation than the market prices of other assets, such as stocks.

The spot rates used to determine the fixing index level of each Index on each trading day are WM/Reuters rates determined by Thomson Reuters as of 9:00 a.m. New York City time on that trading day. According to information published by Thomson Reuters, Thomson Reuters determines these rates on each trading day by observing a sample of foreign exchange transactions that take place on electronic trading platforms during a specified time window (as determined by Thomson Reuters) around the time of the determination, subject to Thomson Reuters' judgment as to the validity of the rates determined in this process. Thomson Reuters is a private company, and the electronic trading platforms on which the transactions observed by Thomson Reuters are executed are not subject to the type of regulation to which other exchanges, such as stock exchanges, are subject. Consequently, the manner in which currency exchange rates are determined lacks transparency and regulatory oversight compared to the manner in which the market prices of other assets, like exchange-traded stocks, are determined.

Foreign currency trading is highly concentrated among a small number of market participants, including our affiliates. Trading activities by those market participants, including our affiliates, may have a significant effect on exchange rates. The concentration of trading among a small number of market participants, combined with the lack of transparency and regulatory oversight and the short window of time in which transactions are observed to determine the published rate, creates the potential for a small number of market participants to have a distorting effect on exchange rates, including as a result of activities designed to manipulate exchange rates. In fact, regulators in various countries have recently investigated alleged manipulation on the part of a number of significant market participants in connection with the determination of these rates. Any distortions in exchange rates resulting from these or other factors could have an adverse effect on the value of any series of ETNs.

In light of recent allegations of manipulation of foreign currency markets, it is possible that regulators will impose new rules on foreign currency trading or that changes will occur in the manner in which spot exchange rates are determined. It is impossible to predict whether any such changes will occur or what their effects will be. It is possible, however, that any such changes could reduce liquidity in the foreign exchange markets in general, or at 9:00 a.m. New York City time in particular. Any such changes could adversely affect the holders of any series of ETNs.

The exchange rate used to determine the fixing index level of each Index may differ from the benchmark exchange rate for the underlying currency pair.

The fixing index level of each Index on each trading day is based on the spot exchange rate for the underlying currency pair determined as of 9:00 a.m. New York City time. The most widely used benchmark exchange rate for each currency pair is determined as of 4:00 p.m. London time, which is referred to as the London fix. Because of this time difference, the spot exchange rate used to determine the fixing index level of each Index on each trading day may differ from the benchmark exchange rate determined on that trading day, and that difference could be significant. You should be aware that the return you receive on the ETNs could be less favorable than it would have been had the fixing index levels been determined by reference to the London fix.

Because the 9:00 a.m. New York City time fixing is not the benchmark fixing for the currency pairs, liquidity in the underlying currency markets may be lower at 9:00 a.m. New York City time than it is at the time of the London fix. This lower liquidity could lead to greater volatility in the exchange rate determined at that time, which could lead to greater one-day losses if the directional movement in the exchange rate is adverse to any series of ETNs. It could also result in greater decay over time regardless of the directional movement, as volatility itself is expected to adversely affect the level of each Index. We can give you no assurances about the use of the spot

exchange rates at 9:00 a.m. New York City time to determine the fixing index level of each Index. Furthermore, we make no representation that WM/Reuters rates are the most accurate rates or that the use of WM/Reuters rates will otherwise result in favorable returns.

Foreign currency trading by our affiliates may adversely affect your return on the ETNs.

Our affiliates engage in foreign currency trading on behalf of customers and for their own accounts. Our affiliates will also likely hedge our obligations under the ETNs by engaging in foreign currency trading. As discussed above, foreign currency trading is highly concentrated among a small number of market participants, including our affiliates. Given the significance of our participation in the market, it is possible that our affiliates' foreign currency trading activities could have an effect on your return on any series of ETNs. In engaging in these trading activities, our affiliates may have interests that are adverse to yours. For example, in acting as market-makers in foreign currencies, it will be in our affiliates' interests for bid-ask spreads to be as wide as possible, while wider bid-ask spreads will have an adverse effect on your interests by reducing the performance of each Index. Our affiliates may also have foreign currency positions that would benefit from an increase or decrease in an exchange rate, which may be adverse to the interests of holders of any particular series of ETNs. Our affiliates will have no obligation to take your interests into account in engaging in foreign currency trading activities, and these activities could have a significant adverse effect on the value of any series of ETNs.

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

Our affiliates may currently or from time to time engage in business with the governments that issue the currencies included in the Indices (each, a **"relevant issuer"**). These activities may include, among other things, providing advisory services to a relevant issuer. In the course of this business, we or our affiliates may acquire non-public information about a relevant issuer and we will not disclose any such information to you. Any prospective purchaser of the ETNs should undertake an independent investigation of any relevant issuer as in its judgment is appropriate to make an informed decision with respect to an investment in the ETNs. We do not make any representation or warranty to any purchaser of the ETNs with respect to any matters whatsoever relating to our affiliates' business with any relevant issuer.

If any of our affiliates is or becomes a creditor of a relevant issuer or otherwise enters into any transaction with a relevant issuer in the course of its business, such affiliate may exercise remedies against that issuer without regard to the impact on your interests as a holder of the ETNs.

Additionally, we or one of our affiliates may serve as issuer, agent or underwriter for issuances of other securities or financial instruments with returns linked or related to changes in the level of each Index. To the extent that we or one of our affiliates does so, our or their interests with respect to these products may be adverse to those of the holders of the ETNs. By introducing competing products into the marketplace in this manner, we or one or more of our affiliates could adversely affect the value of the ETNs.

There may be conflicts of interest between you and us, the redemption agent and the ETN Calculation Agents.

Our affiliate, CGMI, will act as one of the ETN Calculation Agents for the ETNs. As ETN Calculation Agents, CGMI and JHI will make determinations with respect to the ETNs. Among other things, JHI or its agent is responsible for computing and disseminating the fixing indicative value, subject to CGMI's right to dispute JHI's calculation of the fixing indicative value, in which case, if the ETN Calculation Agents are unable to agree, CGMI's determination of the fixing indicative value shall be conclusive and binding. Any determinations made by the ETN Calculation Agents may be adverse to you.

As noted above, our affiliates or third parties with whom we transact may engage in trading activities related to the Indices and the currency pairs included in the Indices or other derivative instruments relating to the Indices or currency pairs, including certain exchange traded notes issued by us. These trading activities may present a conflict between your interest in the ETNs and the interests our affiliates or third parties with whom we transact will have in proprietary accounts, in facilitating transactions, including block trades, for customers and in accounts

under management. These trading activities, if they influence the levels of the Indices, could be adverse to your interests as a beneficial owner of the ETNs.

Our affiliates or third parties with whom we transact, the redemption agent, the ETN Calculation Agents and their affiliates may have published, and in the future may publish, research reports with respect to the currency pairs included in the Indices and with respect to the Indices. Any of these activities by our affiliates or third parties with whom we transact, the redemption agent, the ETN Calculation Agents or any of their affiliates may affect the levels of the Indices and, therefore, the market value of the ETNs and the amount we will pay on the ETNs on the applicable early redemption date, optional acceleration date, automatic acceleration date or the maturity date.

If an index replacement event occurs, the ETN Calculation Agents may replace either Index with a substitute index.

If an index replacement event occurs at any time with respect to any series of the ETNs and the index sponsor or anyone else publishes an index that the ETN Calculation Agents determine is comparable to the applicable Index (the “substitute index”), then the ETN Calculation Agents may elect, in their sole discretion, to permanently replace the applicable original Index with the substitute index for all purposes under such series of ETNs, and all provisions described in this pricing supplement as applying to the applicable Index will thereafter apply to the substitute index instead. If the ETN Calculation Agents elect to replace the applicable original Index with a substitute index, then the ETN Calculation Agents will determine the early redemption amount, optional acceleration redemption amount, automatic acceleration amount or payment at maturity, as applicable, for such series of ETNs by reference to the substitute index. In these circumstances, the ETN Calculation Agents may elect to replace the applicable Index with the substitute index even if the index sponsor continues to publish the applicable Index without modification, replacement or adjustment. Any such replacement of the applicable Index with the substitute index will affect the amount you will receive at maturity, upon redemption or upon acceleration and will result in the ETNs having a value different (higher or lower) from the value they would have had if there had been no such replacement.

The ETN Calculation Agents may perform their own calculation of the level of an Index if it is discontinued or if the ETN Calculation Agents determine that there has been a change in the applicable Index or the method of calculating any data input used in the applicable Index.

The ETN Calculation Agents may perform their own calculation of the level of an Index if they determine that the publication of the applicable Index is discontinued and there is no successor index. In that case, the ETN Calculation Agents will determine the level of the discontinued Index, and thus the fixing indicative value, intraday indicative value and any applicable redemption amount, using a computation methodology that the ETN Calculation Agents determine will as closely as reasonably possible replicate the applicable Index.

Furthermore, if the ETN Calculation Agents determine that an Index, the method of calculating any data input used in the applicable Index or the method of calculating the applicable Index is changed at any time in any respect—including whether the change is made by the Index Sponsor under its existing policies or following a modification of those policies, is due to the publication of a successor index, is due to events affecting the data inputs used in the applicable Index, or is due to any other reason—and is not otherwise reflected in the level of the applicable Index by the index sponsor pursuant to the methodology described herein, then the ETN Calculation Agents will be permitted (but not required) to make such adjustments in the applicable fixing index level or the method of its calculation as they believe are appropriate to ensure that the applicable fixing index level of the applicable Index used to determine the fixing indicative value, intraday indicative value or any applicable redemption amount is equitable. The ETN Calculation Agents may make any such modification or adjustment even if the index sponsor continues to publish the applicable Index without a similar modification or adjustment.

Any modification to the applicable Index level or adjustment to its method of calculation will affect the fixing indicative value and any amount you will receive upon redemption, upon acceleration or at maturity and will result in the ETNs having a value different (higher or lower) from the value they would have had if there had been no such modification or adjustment.

The ETN Calculation Agents may be required to exercise discretion in determining the amount payable to you on the ETNs in the event of a market disruption event.

If a market disruption event occurs on a date that is scheduled to be an early redemption valuation date, optional acceleration valuation date or the final valuation date with respect to any ETNs and continues through the last date to which such date may be postponed (as described under “Description of the ETNs—Market Disruption Events”), or if an automatic acceleration event occurs with respect to any ETNs and a market disruption event occurs at the time that would otherwise be the automatic acceleration time and continues through the last time to which the automatic acceleration time may be postponed (as described under “Description of the ETNs—Automatic Acceleration”), the ETN Calculation Agents will determine the fixing indicative value or the automatic acceleration amount, as applicable, for purposes of determining the amount payable to you in respect of such ETNs in good faith and in a commercially reasonable manner, taking into account the nature and duration of the market disruption event and such other factors as the ETN Calculation Agents deem relevant. Although these determinations are specified to be made by the ETN Calculation Agents, if CGMI disputes JHI’s calculation of the fixing indicative value, CGMI’s determination of the fixing indicative value is binding and conclusive, and CGMI has the sole right to determine the automatic acceleration amount in connection with an automatic acceleration event. Because CGMI is an affiliate of ours, CGMI’s interests in making these determinations may be adverse to those of holders of the ETNs. CGMI has no obligation to take your interests into account in making these determinations.

The policies of the index sponsor and changes that affect the Indices could affect the applicable redemption amount of the ETNs and their market value.

The policies of the index sponsor concerning the calculation of the levels of the Indices and the manner in which changes affecting the data inputs used in the Indices are reflected in the levels of the Indices could affect the applicable redemption amount of the ETNs on the applicable early redemption date, optional acceleration date, automatic acceleration date or the maturity date and the market value of the ETNs prior to that date. The applicable redemption amount of the ETNs and their market value could also be affected if the index sponsor changes these policies, for example by changing the manner in which it calculates the levels of the Indices, by adding, deleting or substituting the data inputs used in the Indices, or if the index sponsor discontinues or suspends calculation or publication of the levels of the Indices, in which case it may become difficult to determine the market value of the ETNs. If events such as these occur, or if the level of the applicable Index is not available because of a market disruption event or for any other reason, the ETN Calculation Agents for the ETNs may determine the levels of the Indices on the early redemption valuation date, optional acceleration valuation date or final valuation date, as applicable.

You will have no rights against the entities with discretion over the Indices.

As owner of the ETNs, you will have no rights against the index sponsor or the index calculation agent, even though the amount you receive at maturity or upon redemption or acceleration will depend on the level of the applicable Index.

You will not have any rights to any currencies included in the applicable Index.

As an owner of the ETNs, you will not have rights to any currencies included in the applicable Index. The currency transactions notionally underlying each Index are purely hypothetical, and no investor in the ETNs has a right to such currencies. The ETNs are unsecured debt obligations of Citigroup Global Markets Holdings Inc., guaranteed by Citigroup Inc., and you will have no right to receive delivery of any currency position notionally underlying the applicable Index in the event that Citigroup Global Markets Holdings Inc. and Citigroup Inc. default on their payment obligations.

There is concentration risk associated with the ETNs.

Each series of ETNs provides exposure to the spot exchange rate between a single pair of currencies. Each series of ETNs is, therefore, not a diversified investment and is subject to the concentrated risks associated with the applicable currency pair.

The ETNs do not provide for interest payments.

Unlike conventional debt securities, the ETNs do not provide for interest payments. You should not invest in the ETNs if you seek interest payments.

The daily accrual is based on the 3-month U.S. Treasury rate and therefore the value of the ETNs may be adversely impacted by decreases in this rate.

The daily accrual is an amount that accrues at the 3-month U.S. Treasury rate on each trading day's fixing indicative value. This rate fluctuates and, accordingly, the lower this rate is, the lower the daily accrual on the ETNs will be.

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

There is no direct legal authority as to the proper U.S. federal tax treatment of the ETNs, 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 ETNs are uncertain, and the IRS or a court might not agree with the treatment of the ETNs as prepaid forward contracts. If the IRS were successful in asserting an alternative treatment for the ETNs, the tax consequences of ownership and disposition of the ETNs might be materially and adversely affected. Moreover, any gain or loss recognized by a U.S. Holder (as defined below under "United States Federal Tax Considerations") with respect to the ETNs generally will be ordinary income or loss unless an election under Section 988(a)(1)(B) of the Internal Revenue Code of 1986, as amended (the "**Code**"), to treat such gain or loss as capital gain or loss (the "**Section 988 election**") is available and the U.S. Holder makes such election before the close of the day on which the U.S. Holder purchases the ETNs. Because the scope of the Section 988 election is unclear, the availability of the Section 988 election with respect to an investment in the ETNs is uncertain, and therefore U.S. Holders should consult their tax advisers regarding the possibility and advisability of making the Section 988 election. See "United States Federal Tax Considerations – Tax Consequences to U.S. Holders" in this pricing supplement. In addition, an ETN might also be considered a "foreign currency contract" under Section 1256 of the Code, in which case the U.S. Holder would be required to mark to market the ETN by recognizing gain or loss at the close of each taxable year for which it holds the ETN as if the ETN were sold for its fair market value on the last day of such taxable year. U.S. Holders should consult their tax advisers regarding the possibility and advisability of making the election described above and the potential application of Section 1256 of the Code.

Even if the ETNs are treated as prepaid forward contracts, certain possible taxable events could cause a holder to recognize gain on an ETN prior to maturity or earlier disposition. In particular, if the ETN Calculation Agents replace an Index with a Successor Index as described under "Description of the ETNs—Discontinuation or Modification of an Index; Substitution of an Index," such an event could be treated as a taxable event.

As described below under "United States Federal Tax Considerations," in 2007, the U.S. Treasury Department and the IRS released a notice requesting comments on various issues regarding the U.S. federal income tax treatment of "prepaid forward contracts" and similar instruments. Any Treasury regulations or other guidance promulgated after consideration of these issues could materially and adversely affect the tax consequences of an investment in the ETNs, possibly with retroactive effect. Moreover, in 2007 the IRS issued a revenue ruling in which certain financial instruments that were issued and redeemed for U.S. dollars and that provided for a return determined by reference to a foreign currency as well as related market interest rates were treated as debt for U.S. federal income tax purposes. 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 ETNs, as well as tax consequences arising under the laws of any state, local or non-U.S. taxing jurisdiction.

DESCRIPTION OF THE INDICES

Overview and Basic Methodology

The VelocityShares Daily 4X Currency Indices (the “**4X Currency Series**”) are a series of proprietary indices created and maintained by Janus Index & Calculation Services LLC, renamed Janus Henderson Indices LLC as of January 1, 2019 (the “**Index Sponsor**”). Each index in the 4X Currency Series (each, an “**Index**” and collectively, the “**Indices**”) is designed to provide 4 times leveraged exposure, reset daily, to changes in the spot exchange rate between an underlying pair of currencies consisting of the U.S. dollar and a foreign currency (each, a “**Currency Pair**”). The 4X Currency Series includes 10 Indices covering 5 different Currency Pairs. There are two Indices for each Currency Pair—one offering long exposure to one currency in the pair and another offering long exposure to the other currency in the pair. Each Index was first published by the Index Sponsor on October 31, 2017.

The daily performance of each Index reflects the hypothetical results of a foreign exchange trading methodology (the “**Methodology**”) consisting of two basic steps:

- (1) On Day 1, a hypothetical spot foreign currency transaction is entered into for the purchase of an amount of one currency (the “**Long Currency**”) with an amount of the other currency (the “**Reference Currency**”) based on the Spot Rate prevailing on Day 1. As is typical in the foreign exchange market, the actual settlement of this hypothetical spot transaction would not take place on Day 1 but rather on Day 3, which is the day reflecting the customary settlement cycle for each Currency Pair. We refer to this hypothetical transaction as the “**Opening Transaction**” because it creates open exposure to fluctuations in the exchange rate between the Long Currency and the Reference Currency from the time it is hypothetically entered into until the Offsetting Transaction described below is entered into on Day 2. The amount of U.S. dollars hypothetically bought or sold in the Opening Transaction is equal to 4 times the level of the Index on Day 1, which generates the 4 times leveraged exposure.
- (2) On Day 2, a hypothetical offsetting foreign currency transaction is entered into, where the amount of the foreign currency specified in the Opening Transaction is either bought (if it was sold in the Opening Transaction) or sold (if it was bought in the Opening Transaction) for an amount of U.S. dollars based on the Adjusted Spot Rate on Day 2, as discussed in more detail below. We refer to this hypothetical transaction as the “**Offsetting Transaction**”. Because the amount of the foreign currency is always the same in both the Opening Transaction and the Offsetting Transaction, those amounts will cancel out, and the net result of these two transactions will be a profit or loss in U.S. dollars.

In general, if the Long Currency appreciates relative to the Reference Currency from Day 1 to Day 2, the net result of these two hypothetical transactions will be a profit. Conversely, in general, if the Long Currency depreciates relative to the Reference Currency from Day 1 to Day 2, the net result of these two hypothetical transactions will be a loss. To determine the Fixing Index Level on Day 2, the amount of this profit or loss will be calculated in U.S. dollar terms and added to (in the case of a profit) or subtracted from (in the case of a loss) the Fixing Index Level on Day 1. This same two-step process is begun again with a new Opening Transaction on Day 2 and so on for each subsequent Index Business Day. Therefore, on each Index Business Day, two hypothetical transactions are entered into: an Offsetting Transaction closing out the exposure from the prior day’s Opening Transaction, and a new Opening Transaction creating new exposure to be closed out on the next Index Business Day. The hypothetical transactions on each Index Business Day are entered into based on the Spot Rate and Adjusted Spot Rate, as applicable, which are each determined as of 9:00 a.m. New York City time on that Index Business Day. Note that the general statements in this paragraph do not take into account the effects of the Forward Point Adjustment and bid-ask spreads, which are discussed in more detail below.

The Methodology tracked by each Index has the following key features:

- **Long exposure.** Each Index offers long exposure to a Long Currency relative to a Reference Currency. Generally, from the Fixing Index Level on one Index Business Day to the Fixing Index

Level on the next Index Business Day, an Index will appreciate if the Long Currency appreciates relative to the Reference Currency and depreciate if the Long Currency depreciates relative to the Reference Currency.

- **Leveraged exposure.** As a result of the hypothetical transactions described above, each Index has 4 times leveraged exposure to changes in the value of the Long Currency relative to the Reference Currency from 9:00 a.m. New York City time on one Index Business Day to the same time on the next Index Business Day. It is important to understand the following points about the leveraged exposure provided by each Index:
 - The leveraged exposure is reset daily in order to maintain a constant daily leverage ratio of 4. The daily reset of the leverage has important implications for the performance of the Index over any period longer than one Index Business Day. In particular, the daily reset of the leverage is likely to cause a “decay” in the level of each Index, which will worsen over time and will likely cause the performance of each Index over any given time period that is longer than one Index Business Day to be significantly poorer than 4 times the change in the relevant exchange rate over that time period. The more volatile the exchange rate, the greater the decay effect.
 - For each 1% by which the Long Currency appreciates or depreciates from Day 1 to Day 2 relative to the Reference Currency, the level of the relevant Index will appreciate or depreciate by 4% from Day 1 to Day 2 (leaving aside the effects of the Forward Points Adjustment and bid-ask spreads discussed below). However, there are two possible ways of quoting each Spot Rate—either as an amount of the Long Currency per 1 unit of the Reference Currency, or as an amount of the Reference Currency per 1 unit of the Long Currency—and this 4-to-1 relationship only holds based on one way of quoting the relevant Spot Rate. It is possible that, from the perspective of the standard convention for quoting the relevant Spot Rate, this 4-to-1 relationship may not hold, as discussed below.
- **Forward Points Adjustment.** The daily performance of the Long Currency relative to the Reference Currency is measured from the Spot Rate on Day 1 to the Adjusted Spot Rate on Day 2. The Adjusted Spot Rate on Day 2 is equal to the Spot Rate on Day 2 *plus* or *minus* a Forward Points Adjustment. The Forward Points Adjustment reflects the differences in overnight interest rates between the two currencies in the applicable Currency Pair. Because of the Forward Points Adjustment, the performance of each Index will be determined not only by changes in the Spot Rate from Day 1 to Day 2, but also by the interest rate differential between the Long Currency and the Reference Currency as reflected in the Forward Points Adjustment. Whether the Forward Points Adjustment is positive or negative will depend on whether the overnight interest rate for the Long Currency is greater than or less than the overnight interest rate for the Reference Currency, as discussed in more detail below.
- **Bid-ask spreads.** The performance of each Index will be reduced by bid-ask spreads associated with each Currency Pair. In particular, the hypothetical Day 1 Opening Transaction is entered into at the “mid” Spot Rate on Day 1 (subject to the next sentence), but the hypothetical Day 2 Offsetting Transaction is entered into at a “bid” Adjusted Spot Rate on Day 2. The use of the “bid” Adjusted Spot Rate, as opposed to the “mid” Adjusted Spot Rate, on Day 2 represents a cost to the hypothetical foreign currency trading methodology underlying each Index. In addition, the change in the amount of foreign currency exposure on each day as compared to the prior day is determined based either on the “bid” or “ask” Spot Rate, and not the “mid” Spot Rate, which effectively means that only a portion of the hypothetical Day 1 Opening Transaction is entered into at the “mid” Spot Rate and the remainder is entered into either at a “bid” or “ask” Spot Rate. These bid-ask spreads will place a drag on the performance of each Index, reducing any positive performance, exacerbating any negative performance and causing the level of each Index to decline steadily if the Spot Rate remains relatively constant. The 4 times leverage reflected in each Index will magnify the drag caused by these bid-ask spreads. The bid-ask spreads reflect the significant transaction costs associated with a hypothetical daily trading methodology.

Each Index is subject to significant risks. You should carefully read and understand the section “Risk

Factors Relating to the ETNs” before investing in an ETN linked to an Index.

Each Index is described as tracking a hypothetical foreign exchange trading methodology because there are no actual currency holdings or other assets to which any investor is entitled or in which any investor has any ownership or other interest. Each Index is merely a mathematical calculation that is performed by reference to hypothetical positions in the relevant currencies and published exchange rates and forward points, as described in this section.

We have obtained all information about the Indices contained in this pricing supplement from publicly available information provided by the Index Sponsor. We have not independently verified its accuracy. Each Index will be maintained and published by the Index Sponsor and the Index Calculation Agent without our involvement.

Spot Rates, Adjusted Spot Rates and the Forward Points Adjustment

In the foreign exchange market, a “spot transaction” or “spot trade” is an agreement to buy or sell a currency for near-term settlement, as distinguished from a “forward transaction” or “forward trade” that is settled on a more distant date in the future. Despite the use of the word “spot,” spot currency transactions are typically settled on a delayed basis. This means that the parties to a spot currency transaction agree to exchange the underlying currencies (i.e., settle the trade) on a later date based on an exchange rate agreed upon on the date of entering into the trade. For all of the Currency Pairs, settlement of spot transactions occurs two business days after the date the trade is entered into. This is known as a T+2 settlement cycle. For purposes of the Indices, the spot exchange rate as of 9:00 a.m. New York City time on any day for settlement on the standard spot settlement cycle for the applicable Currency Pair (determined as set forth below under “—The Currency Pairs and Exchange Rates”) is known as the “**Spot Rate**.” The Spot Rate is based on, and takes into account, the standard settlement cycle for the applicable Currency Pair.

It is possible to enter into a spot currency transaction with settlement one business day earlier than the standard settlement cycle. In that case, the exchange rate would typically be determined based on the Spot Rate on the date of entering into the trade, but subject to an adjustment to take into account that the parties will be delivering the applicable currencies one business day earlier than is assumed in the Spot Rate. This adjustment, known as a “**Forward Points Adjustment**,” reflects the difference in the overnight interest rate applicable to the two currencies. In this pricing supplement, we refer to the Spot Rate, as adjusted by the Forward Points Adjustment, as the “**Adjusted Spot Rate**.” In the foreign exchange market, the Adjusted Spot Rate is commonly known as the tomorrow-next rate.

The Methodology underlying each Index hypothetically purchases the Long Currency with the Reference Currency at the Spot Rate in an Opening Transaction on Day 1, for settlement on the standard settlement cycle for that Currency Pair—that is, for settlement on Day 3. On Day 2, the Methodology hypothetically closes out the foreign currency exposure created by the Opening Transaction on Day 1 by hypothetically entering into an Offsetting Transaction to sell the Long Currency for the Reference Currency, for settlement one business day earlier than the standard settlement cycle—that is, for settlement on Day 3—in order to match the settlement date of the Opening Transaction entered into on Day 1. The exchange rate at which the Methodology will hypothetically enter into the Offsetting Transaction on Day 2 is the Adjusted Spot Rate on Day 2, rather than the Spot Rate on Day 2, due to the non-standard settlement cycle of the Offsetting Transaction entered into on Day 2. By entering into the hypothetical Offsetting Transaction on Day 2, the Methodology closes out the hypothetical foreign currency exposure created in the Opening Transaction on Day 1 and establishes a hypothetical profit or loss, measured in U.S. dollar terms, resulting from the Opening Transaction on Day 1 and the Offsetting Transaction on Day 2.

Because the Methodology hypothetically enters into an Opening Transaction at the Spot Rate on Day 1 and an Offsetting Transaction at the Adjusted Spot Rate (rather than the simple Spot Rate) on Day 2, each Index will be affected not only by the change in the Spot Rate from Day 1 to Day 2 but also by the Forward Points Adjustment determined on Day 2. The Forward Points Adjustment reflects the difference in the overnight interest rates of the two underlying currencies. If the overnight interest rate of the Long Currency is higher than the overnight interest rate of the Reference Currency, the Forward Points Adjustment will result in the Adjusted Spot Rate on Day 2 being higher than the Spot Rate on Day 2. However, if the overnight interest rate of the Long Currency is lower than the overnight interest rate of the Reference Currency, the Forward Points Adjustment will result in the Adjusted Spot

Rate on Day 2 being lower than the Spot Rate on Day 2. If the Forward Points Adjustment results in the Adjusted Spot Rate on Day 2 being lower than the Spot Rate on Day 2, that will have an adverse effect on the applicable Index. **As a consequence, for any Index where the overnight interest rate of the Long Currency is lower than the overnight interest rate of the Reference Currency, the interest rate differential will place a drag on the level of that Index, reducing any positive performance, exacerbating any negative performance and causing the level of that Index to steadily decline if the Spot Rate remains relatively constant.**

Daily Resetting Leverage

The Methodology creates hypothetical leverage with respect to the relevant Currency Pair by hypothetically buying or selling on each Index Business Day a number of U.S. dollars that is equal to 4 times the level of the Index. Where the Long Currency is the foreign currency, the hypothetical Opening Transaction entered into on Day 1 is to buy the Long Currency financed by a number of U.S. dollars equal to 4 times the level of the Index on Day 1. Where the Long Currency is the U.S. dollar, the hypothetical Opening Transaction entered into on Day 1 is to buy a number of U.S. dollars equal to 4 times the level of the Index on Day 1 financed in the Reference Currency.

It is important to understand that each Index is designed to provide 4 times leveraged exposure to the performance of the Long Currency relative to the Reference Currency from one Index Business Day to the next, but not necessarily over any longer time period. It is possible that the Long Currency may appreciate relative to the Reference Currency as measured from the beginning to the end of a given time period, while the level of the relevant Index nevertheless declines significantly over that time period.

This is because the daily resetting of the leverage exposes each Index to a potential “decay” effect. For example, suppose that the Long Currency depreciates relative to the Reference Currency by 5% from Day 1 to Day 2 and then appreciates by 5% from Day 2 to Day 3. If the level of the Index is 100 on Day 1, the level of the Index would decline to 80 on Day 2 – a 20% decline from the Index level of 100, representing 4 times the depreciation of the Long Currency. The level of the Index would then increase to 96.00 on Day 3 – a 20% increase from the Index level of 80, representing 4 times the appreciation of the Long Currency. At the end of this 2-day period, the value of the Long Currency relative to the Reference Currency would be equal to 99.75% of its initial value, reflecting the 5% decrease in value from Day 1 to Day 2 and the 5% increase in value from Day 2 to Day 3. However, the Index would have lost 4.00% of its initial value, representing a loss that is 16 times the size of the depreciation of the Long Currency from Day 1 to Day 3. The more volatile the applicable Currency Pair – that is, the greater the magnitude of fluctuations in the applicable exchange rate – the greater this decay effect will be. In addition, any decay effect may be compounded over time, so that its impact may be greater the longer an investor maintains exposure to the ETNs.

It is also important to understand that a 1% change in the relevant exchange rate will result in a 4% change in the level of the Index (leaving aside the Forward Points Adjustment and bid-ask spreads) on a given Index Business Day only from the perspective of one of the two possible ways of quoting the exchange rate. Each exchange rate may be quoted either as a number of units of the Reference Currency per 1 unit of the Long Currency, or as a number of units of the Long Currency per 1 unit of the Reference Currency. The currency with 1 unit in the applicable exchange rate is referred to as the “**Base Currency**.” The conventional way of quoting each Currency Pair is set forth below under “—The Currency Pairs and Exchange Rates.” For any given Index, it is possible that the 4-to-1 leverage relationship will not hold from the perspective of the standard convention for quoting the relevant Currency Pair. In particular, the 4-to-1 leverage relationship will not hold from the perspective of the standard convention for quoting the relevant Currency Pair where the U.S. dollar is the Base Currency in the standard convention. Where the U.S. dollar is the Base Currency and the Long Currency, from the perspective of the standard convention for quoting the relevant Currency Pair, losses will be accelerated by more than 4 times and gains will be decelerated to less than 4 times. Where the U.S. dollar is the Base Currency and the Reference Currency, the opposite relationship will hold.

See “Risk Factors Relating to the ETNs—Each ETN is likely to experience significant ‘decay’ over time. As a result, the ETNs are not suitable for investors with intermediate- or long-term investment objectives and are not intended to be held to maturity” for more information about the important risks that result from the Index’s daily resetting leverage feature.

The Currency Pairs and Exchange Rates

The following table provides the list of foreign currencies that are paired with the U.S. dollar to create the Currency Pairs referenced by the Indices and the standard quotation convention for their exchange rate against the U.S. dollar.

Currency Code	Currency	Spot Exchange Rate Standard Quotation Convention
JPY	Japanese Yen	An amount of Japanese yen per 1 U.S. dollar
EUR	Euro	An amount of U.S. dollars per 1 euro
GBP	British Pound	An amount of U.S. dollars per 1 British pound
CHF	Swiss Franc	An amount of Swiss francs per 1 U.S. dollar
AUD	Australian Dollar	An amount of U.S. dollars per 1 Australian dollar

For purposes of calculating the performance of each Index, the Spot Rate and Adjusted Spot Rate are always expressed as the number of units of the Reference Currency required to buy 1 unit of the Long Currency. The standard market convention for quoting the applicable exchange rate, as indicated in the table above, may or may not follow the same convention. Where the standard market convention does not follow this convention, the reciprocal of the standard market convention is used to determine the Spot Rate and Adjusted Spot Rate for purposes of each Index, and forward points quoted in the standard market convention are adjusted to reflect the inverse of the quoted points in accordance with the Index Rules.

Each of the spot exchange rates and the forward points required for the calculation of the Fixing Index Level of each Index (each, a “**Data Input**”) will be the relevant WM/Reuters spot rate and forward points as reported by Thomson Reuters (the “**Data Source**”) as of 9:00 a.m. New York City time on an Index Business Day, except under certain circumstances.

If the forward points required for the calculation of a Fixing Index Level are unavailable, the most recent forward points will be used to calculate that Fixing Index Level. If the methodology will hypothetically enter into an Offsetting Transaction on a settlement holiday for an applicable Currency Pair, then the hypothetical Offsetting Transaction will not reflect the Forward Points Adjustment.

If any Data Input is (i) not calculated and announced by the relevant Data Source but is calculated and announced by a successor data source acceptable to the Index Calculation Agent, or (ii) replaced by a successor data source using, in the determination of the Index Calculation Agent, the same or a substantially similar formula for and/or method of calculation as used in the calculation of that Data Input, then in each case that data source (the “**Successor Data Source**”) will be deemed to be the relevant Data Source with effect from the date determined by the Index Calculation Agent, who may make such adjustment(s) to the Index Rules as it determines appropriate to account for such change.

If a Data Source announces that it will make a material change in the formula for or method of calculating a Data Input or in any other way materially modifies that Data Input or permanently cancels that Data Input and no Successor Data Source exists, then:

(i) the Index Calculation Agent may suspend the calculation, publication and dissemination of the applicable Index and the Index level until the first succeeding Index Business Day on which such event does not occur or continue to occur; and/or

(ii) the Index Calculation Agent may select a replacement Data Source that has substantially similar characteristics to the Data Source that is being replaced, having regard to the manner in which such Data Source is used in the calculation of the applicable Index, in which case the Index Calculation Agent will (a) determine the effective date of such replacement, and (b) make such adjustment(s) to the Index Rules as it determines appropriate to account for the effect on the applicable Index of such replacement; and/or

(iii) the Index Sponsor may discontinue and cancel the applicable Index.

If, in respect of a Data Input, a license granted (if required) to the Index Sponsor and/or the Index Calculation Agent and/or any of their respective affiliates, to use such Data Input in connection with an Index is terminated, or any such entity's right to use such Data Input in connection with calculating an Index is otherwise disputed, impaired or ceases for any reason, then:

- (i) the Index Calculation Agent may suspend the calculation, publication and dissemination of the applicable Index and Fixing Index Level until the first succeeding Index Business Day on which such event does not occur or continue to occur; and/or
- (ii) the Index Calculation Agent may select a replacement Data Input that has substantially similar characteristics to the Data Input that is being replaced, having regard to the manner in which such Data Input is used in the calculation of the applicable Index, in which case the Index Calculation Agent will (a) determine the effective date of such replacement, and (b) make such adjustment(s) to the Index Rules as it determines appropriate to account for the effect on the applicable Index of such replacement; and/or
- (iii) the Index Sponsor may discontinue and cancel the Index.

Indices, Index Ticker Symbols and Base Dates

The name and Bloomberg ticker symbol of each Index is set forth below:

Index Name	Long Currency	Reference Currency	Index Ticker (Fixing Index Level)	Index Ticker (Intraday Index Level)
VelocityShares Daily 4X Long USD vs. JPY Index	USD	JPY	DJPYFV	DJPYID
VelocityShares Daily 4X Long USD vs. EUR Index	USD	EUR	DEURFV	DEURID
VelocityShares Daily 4X Long USD vs. GBP Index	USD	GBP	DGBPFFV	DGBPID
VelocityShares Daily 4X Long USD vs. CHF Index	USD	CHF	DCHFFV	DCHFID
VelocityShares Daily 4X Long USD vs. AUD Index	USD	AUD	DAUDFV	DAUDID
VelocityShares Daily 4X Long JPY vs. USD Index	JPY	USD	UJPYFV	UJPYID
VelocityShares Daily 4X Long EUR vs. USD Index	EUR	USD	UEURFV	UEURID
VelocityShares Daily 4X Long GBP vs. USD Index	GBP	USD	UGBPFFV	UGBPID
VelocityShares Daily 4X Long CHF vs. USD Index	CHF	USD	UCHFFV	UCHFID
VelocityShares Daily 4X Long AUD vs. USD Index	AUD	USD	UAUDFV	UAUDID

The “**Base Date**” for each Index is December 30, 2016. The Base Date of an Index is not the date on which it was first published, but rather a historical date on which its level was hypothetically set to 10,000 in order to serve as a reference for calculating all levels prior to and since that time.

Index Calculation

On each Index Business Day, the Index Calculation Agent calculates the “**Fixing Index Level**” of each Index pursuant to the rules described below. To calculate each Fixing Index Level, the Index Calculation Agent uses the relevant Spot Rate and forward points obtained from the relevant Data Source as of 9:00 a.m. New York City time on the applicable day. Each Index is set to a Fixing Index Level of 10,000 on its Base Date. The Fixing Index Level of each Index is published on Bloomberg.

An Index for which the U.S. dollar is the Long Currency is referred to in this pricing supplement as a “**Long USD vs. FOR Index**,” and an Index for which a foreign currency is the Long Currency is referred to as a “**Long FOR vs. USD Index**.” A Long USD vs. FOR Index provides a 4 times leveraged long exposure to the U.S. dollar relative to the relevant foreign currency. Conversely, a Long FOR vs. USD Index provides a 4 times leveraged long exposure to the relevant foreign currency relative to the U.S. dollar.

The Calculation of the Long FOR vs. USD Indices

Each Long FOR vs. USD Index tracks the daily performance of a hypothetical foreign exchange trading methodology that consists of (i) a spot purchase of a foreign currency with U.S. dollars in an Opening Transaction on Day 1 at the “mid” Spot Rate on Day 1 (except as otherwise indicated below), followed by (ii) an offsetting sale of the same amount of the foreign currency for U.S. dollars in an Offsetting Transaction on Day 2 at the “bid” Adjusted Spot Rate on Day 2. The amount of each currency that is purchased and sold in the Day 1 Opening Transaction is represented by the “exposure” of each currency. Therefore, in order to calculate the Fixing Index Level of each Long FOR vs. USD Index, the Index Calculation Agent first calculates that Index’s exposures to the U.S. dollar and the relevant foreign currency.

Each Long FOR vs. USD Index’s exposure to the U.S. dollar under the Opening Transaction on the Base Date is equal to the product of the Fixing Index Level of the Index on the Base Date and the leverage ratio of 4, as expressed in the following formula:

$$Exp_0^{USD} = I_0 \times LR$$

where

$$I_0 = 10,000; \text{ and} \\ LR = 4$$

Each Long FOR vs. USD Index’s exposure to the relevant foreign currency under the Opening Transaction on the Base Date is calculated by dividing its U.S. dollar exposure by the relevant Currency Pair’s “mid” Spot Rate on the Base Date, as expressed in the following formula:

$$Exp_0^{FOR} = Exp_0^{USD} / S_0^{Mid}$$

where S_t^{Mid} is the “mid” Spot Rate for the relevant Currency Pair obtained from the relevant Data Source on the relevant day, expressed in terms of an amount of U.S. dollars per 1 unit of the relevant foreign currency. If the standard quotation for the relevant Currency Pair is not expressed in those terms, the reciprocal of the rate obtained from the Data Source will be used.

On the Index Business Day immediately following the Base Date, the hypothetical profit or loss achieved following the hypothetical entry into the Offsetting Transaction at the “bid” Adjusted Spot Rate (which is TN_t^{Bid} in the formula below) on the Index Business Day immediately following the Base Date is determined based on the following formula:

$$\pi_1 = Exp_0^{FOR} \times TN_1^{Bid} - Exp_0^{USD}$$

where

$$TN_t^{Bid} = S_t^{Mid} - TNFP_t^{Ask}; \text{ and}$$

$TNFP_t^{Ask}$ represents the “ask” tomorrow-next forward points for the relevant Currency Pair obtained from the relevant Data Source on that day. If the standard quotation for the relevant Currency Pair is not expressed in terms of an amount of U.S. dollars per 1 unit of the relevant foreign currency, the Index Calculation Agent will convert the relevant forward points obtained from the relevant Data Source into the convention used by the Index.

This profit or loss is then added to (or subtracted from) the Fixing Index Level of the relevant Index on the Base Date to obtain the Fixing Index Level of that Index on the immediately following Index Business Day, expressed as follows:

$$I_1 = I_0 + \pi_1$$

On each Index Business Day after the Base Date, in addition to the Offsetting Transaction described above, a new Opening Transaction is hypothetically entered into with new exposures to the U.S. dollar and the relevant

foreign currency. Each Long FOR vs. USD Index's exposure to the U.S. dollar under the new Opening Transaction on any Index Business Day t continues to be calculated as the product of the Fixing Index Level of that Index on that Index Business Day and the leverage ratio of 4, expressed as follows:

$$Exp_t^{USD} = LR \times I_t$$

However, each Long FOR vs. USD Index's exposure to the relevant foreign currency under the new Opening Transaction is now calculated pursuant to the following set of formulas:

$$\begin{aligned} ADJ_t^{USD} &= Exp_t^{USD} - Exp_{t-1}^{FOR} \times S_t^{Mid} \\ ADJ_t^{FOR} &= ADJ_t^{USD} / S_t^{B/A} \\ Exp_t^{FOR} &= Exp_{t-1}^{FOR} + ADJ_t^{FOR} \end{aligned}$$

where

$$S_t^{B/A} = \begin{cases} S_t^B & \text{if } ADJ_t^{USD} < 0 \\ S_t^A & \text{if } ADJ_t^{USD} > 0 \end{cases}$$

S_t^A is the "ask" Spot Rate on Index Business Day t ; and

S_t^B is the "bid" Spot Rate on Index Business Day t .

Otherwise, the calculation is the same as described above. On the following Index Business Day, the amount of hypothetical profit or loss is calculated again pursuant to the following formula:

$$\pi_t = Exp_{t-1}^{FOR} \times TN_t^{Bid} - Exp_{t-1}^{USD}$$

This profit or loss is again added to the Fixing Index Level of the relevant Index on the prior Index Business Day to obtain the Fixing Index Level of that Index on the current Index Business Day, expressed as follows:

$$I_t = I_{t-1} + \pi_t$$

The Calculation of the Long USD vs. FOR Indices

Each Long USD vs. FOR Index tracks the daily performance of a hypothetical foreign exchange trading methodology that consists of (i) a spot purchase of U.S. dollars with a foreign currency in an Opening Transaction on Day 1 at the "mid" Spot Rate on Day 1 (except as otherwise indicated below), followed by (ii) an offsetting sale of U.S. dollars for the same amount of the foreign currency in an Offsetting Transaction on Day 2 at the "bid" Adjusted Spot Rate on Day 2. The amount of each currency that is purchased and sold in the Day 1 Opening Transaction is represented by the "exposure" of each currency. Therefore, in order to calculate the Fixing Index Level of each Long USD vs. FOR Index, the Index Calculation Agent first calculates that Index's exposures to the U.S. dollar and the relevant foreign currency.

Each Long USD vs. FOR Index's exposure to the U.S. dollar under the Opening Transaction on the Base Date is equal to the product of the Fixing Index Level of the Index on the Base Date and the leverage ratio of 4, as expressed in the following formula:

$$Exp_0^{USD} = I_0 \times LR$$

where

$I_0 = 10,000$; and

$LR = 4$

Each Long USD vs. FOR Index's exposure to the relevant foreign currency under the Opening Transaction on the Base Date is calculated as the product of its U.S. dollar exposure and the relevant Currency Pair's "mid" Spot Rate on the Base Date, as expressed in the following formula:

$$Exp_0^{FOR} = Exp_0^{USD} \times S_0^{Mid}$$

where, S_t^{Mid} is the "mid" Spot Rate for the relevant Currency Pair obtained from the relevant Data Source on the relevant day, expressed in terms of an amount of the relevant foreign currency per 1 U.S. dollar. If the standard quotation for the relevant Currency Pair is not expressed in those terms, the reciprocal of the rate obtained from the Data Source will be used.

On the Index Business Day immediately following the Base Date, the hypothetical profit or loss achieved following the hypothetical entry into the Offsetting Transaction at the "bid" Adjusted Spot Rate (which is TN_t^{Bid} in the formula below) on the Index Business Day immediately following the Base Date is determined based on the following formula:

$$\pi_1 = Exp_0^{USD} - Exp_0^{FOR} / TN_1^{Bid}$$

where

$$TN_t^{Bid} = S_t^{Mid} - TNFP_t^{Ask}$$

and $TNFP_t^{Ask}$ represents the "ask" tomorrow-next forward points for the relevant Currency Pair obtained from the relevant Data Source on that day. If the standard quotation for the relevant Currency Pair is not expressed in terms of an amount of the relevant foreign currency per 1 U.S. dollar, the Index Calculation Agent will convert the relevant forward points obtained from the relevant Data Source into the convention used by the Index.

This profit or loss is then added to (or subtracted from) the Fixing Index Level of the relevant Index on the Base Date to obtain the Fixing Index Level of that Index on the immediately following Index Business Day, expressed as follows:

$$I_1 = I_0 + \pi_1$$

On each Index Business Day after the Base Date, in addition to the Offsetting Transaction described above, a new Opening Transaction is hypothetically entered into with new exposures to the U.S. dollar and the relevant foreign currency. Each Long USD vs. FOR Index's exposure to the U.S. dollar under the new Opening Transaction on any Index Business Day t continues to be calculated as the product of the Fixing Index Level of that Index on that Index Business Day and the leverage ratio of 4, expressed as follows:

$$Exp_t^{USD} = LR \times I_t$$

However, each Long USD vs. FOR Index's exposure to the relevant foreign currency is now calculated pursuant to the following set of formulas:

$$\begin{aligned} ADJ_t^{USD} &= Exp_t^{USD} - Exp_{t-1}^{FOR} / S_t^{Mid} \\ ADJ_t^{FOR} &= ADJ_t^{USD} \times S_t^{B/A} \\ Exp_t^{FOR} &= Exp_{t-1}^{FOR} + ADJ_t^{FOR} \end{aligned}$$

where

$$S_t^{B/A} = \begin{cases} S_t^B & \text{if } ADJ_t^{USD} < 0 \\ S_t^A & \text{if } ADJ_t^{USD} > 0 \end{cases}$$

S_t^A is the “ask” Spot Rate on Index Business Day t ; and
 S_t^B is the “bid” Spot Rate on Index Business Day t .

Otherwise, the calculation is the same as described above. On the following Index Business Day, the amount of hypothetical profit or loss is calculated again pursuant to the following formula:

$$\pi_t = Exp_{t-1}^{USD} - Exp_{t-1}^{FOR} / TN_t^{Bid}$$

This profit or loss is again added to the Fixing Index Level of the relevant Index on the prior Index Business Day to obtain the Fixing Index Level of that Index on the current Index Business Day, expressed as follows:

$$I_t = I_{t-1} + \pi_t$$

The Calculation of Intraday Levels

The intraday levels of each Index (each, an “**Intraday Index Level**”) are calculated in the same manner as the Fixing Index Level described above, except that the Intraday Index Level is determined as if the Offsetting Transaction were entered into, and the hypothetical profit or loss from closing out the then-current Opening Transaction were determined, based on the then-current real-time intraday exchange rate and forward points for the relevant Currency Pair. The real-time intraday exchange rates and forward points that are used to determine the Intraday Index Levels are obtained from Thomson Reuters (or any successor data provider selected by the Index Sponsor), provided that alternative sources may be used to determine such real-time intraday exchange rates and forward points. The Index Calculation Agent will calculate and disseminate the Intraday Index Level for each Index every 15 seconds during regular session trading hours on the NYSE Arca on each Index Business Day.

The above description of the calculation of the Indices is only a summary. The complete calculation methodology of the Indices is described in the rules for the VelocityShares Daily 4X Currency Indices (the “**Index Rules**”), which are attached to this pricing supplement as Annex B. In the event of any conflict between this description and the Index Rules, the Index Rules will control.

Index Sponsor and Index Calculation Agent

The Index Sponsor has retained Solactive AG to calculate and publish the level of each Index on each Index Business Day (in that role, the “**Index Calculation Agent**”). The Index Sponsor may replace the Index Calculation Agent at any time, including with the Index Sponsor or one of its affiliates. The Index Calculation Agent will make all calculations and related determinations for the Indices. However, the Index Sponsor retains ultimate authority over each Index and its determinations in respect of each Index shall be final with respect to the level of each Index. You will not be entitled to any compensation from the Index Calculation Agent, the Index Sponsor or from us for any loss suffered as a result of any of the calculations or determinations by the Index Calculation Agent or the Index Sponsor.

An “**Index Business Day**” is a day on which the New York Stock Exchange is open for trading.

Suspension and Cancellation

The Index Sponsor may suspend the calculation and/or publication of, or discontinue or cancel, any Index at any time and is under no obligation to continue, or procure the continuation of, the calculation or publication of any Index.

Corrections

If any Data Input which is announced by or on behalf of the relevant Data Source and which is used for any calculation or determination in respect of an Index is subsequently corrected, and such correction (the “**Corrected Level**”) is published by or on behalf of the relevant Data Source within two Index Business Days after the original

publication, then the Index Calculation Agent may, but shall not be obligated to, deem such Corrected Level to be the relevant Data Input for the relevant time on the relevant day and make appropriate adjustments to the applicable Index and any affected Index level.

License Agreement

CGMI and the Index Sponsor have entered into a license agreement pursuant to which CGMI and its affiliates have been granted the right to use certain intellectual property of the Index Sponsor in connection with the Indices and the ETNs. In consideration for this license, CGMI has agreed to pay the Index Sponsor a license fee that will accrue on a daily basis and will depend on the aggregate Fixing Indicative Value of the ETNs of each series that are outstanding and held by investors on each day. “VelocityShares” and the VelocityShares logo are service marks of the Index Sponsor and are used in this pricing supplement under license.

The Index Sponsor has the right to terminate the license agreement at any time upon prior notice to CGMI. If the Index Sponsor terminates the license agreement, we may be required to discontinue issuances and sales of ETNs, which could result in distortions in the market for the ETNs. See “Risk Factors Relating to the ETNs—We may stop issuing or selling any series of ETNs at any time, including determining at our own discretion that we have reached a maximum issuance amount, which may cause that series of ETNs to trade at a significant premium, which could be reduced or eliminated at any time.”

The license agreement with the Index Sponsor requires the following statements to appear in this pricing supplement:

“Neither Janus Henderson Indices LLC and its affiliates (together, “**Janus**”) nor any other party makes any representation or warranty, express or implied, to the owners of the ETNs or any member of the public regarding the advisability of investing in the ETNs generally or the similarities or variations between the performance of the ETNs or the Indices and the performance of the underlying currency pairs. Janus is the licensor of certain trademarks, service marks and trade names of Janus. Neither Janus nor any other party guarantees the accuracy and/or the completeness of the Indices or any data included therein or any calculations made with respect to the ETNs.”

Force Majeure

Calculation of the Indices may not be possible or feasible under certain events or circumstances, including, without limitation, market disruptions, a systems failure, natural or man-made disaster, act of God, armed conflict, act of terrorism, riot or labor disruption or any similar intervening circumstance, that is beyond the reasonable control of the Index Sponsor and that the Index Sponsor determines affects the Indices or underlying currency markets. Upon the occurrence of any occurrence deemed to be a force majeure event as determined by the Index Sponsor, the Index Sponsor may, in its discretion, elect one (or more) of the following options:

- Make such determinations and/or adjustments to the terms of an Index as it considers appropriate to determine any level on any such appropriate Index Business Day; and/or
- Defer publication of the information relating to an Index until the next Index Business Day on which it determines that no force majeure event exists; and/or
- Permanently cancel the publication of the information relating to an Index.

DESCRIPTION OF THE ETNs

You should read this pricing supplement together with the accompanying prospectus supplement and prospectus before making your decision to invest in the ETNs. The description in this pricing supplement of the particular terms of the ETNs supplements, and to the extent inconsistent therewith replaces, the descriptions of the general terms and provisions of the debt securities set forth in the accompanying prospectus supplement and prospectus.

You may access the prospectus supplement and prospectus on the SEC website at www.sec.gov as follows (or if such address has changed, by reviewing our filings for May 14, 2018 on the SEC website):

- *Prospectus Supplement and Prospectus each dated May 14, 2018:*
<https://www.sec.gov/Archives/edgar/data/200245/000119312518162183/d583728d424b2.htm>

General

Each series of ETNs is part of a series of unsecured senior debt securities issued by Citigroup Global Markets Holdings Inc. and designated as its Medium-Term Senior Notes, Series N. We refer to each series of ETNs as a separate “series” to distinguish the ETNs linked to one Index from ETNs linked to other Indices, but all of the ETNs are part of Citigroup Global Markets Holdings Inc.’s Medium-Term Senior Notes, Series N. Any payments due on the ETNs are fully and unconditionally guaranteed by Citigroup Inc. Each series of ETNs will constitute part of the senior debt of Citigroup Global Markets Holdings Inc. and will rank equally with all other unsecured and unsubordinated debt of Citigroup Global Markets Holdings Inc. The guarantee of payments due on each series of ETNs will constitute part of the senior debt of Citigroup Inc. and will rank equally with all other unsecured and unsubordinated debt of Citigroup Inc.

Unlike ordinary debt securities, the ETNs do not offer interest payments and do not guarantee any return of principal at maturity. Instead, each series of ETNs is designed for investors who seek exposure to the performance of the applicable Index on a daily basis *plus* the Daily Accrual and *minus* the Daily Investor Fee, as described below. At maturity or upon earlier redemption or acceleration, holders of each ETN will receive an amount in cash that will vary depending on the level of the applicable Index as described below, which can be significantly less than the stated principal amount of the applicable ETNs and could be zero. Each Index is designed to provide investors with 4 times leveraged exposure, reset daily, to changes in the spot exchange rate between an underlying pair of currencies consisting of the U.S. dollar and a foreign currency, as described in greater detail in the “Description of the Indices” section of this pricing supplement.

The ETNs will mature on December 15, 2032 (the “**Maturity Date**”). Subject to the minimum redemption and notification requirements set forth below under “—Payment upon Early Redemption” and “—Redemption Procedures”, you may submit your ETNs for redemption during the term of the ETNs for an amount per ETN equal to the Fixing Indicative Value of the applicable ETNs on the Early Redemption Valuation Date *minus* the applicable Early Redemption Charge. You must submit for redemption at least 25,000 ETNs of the same series in increments of 25,000 ETNs at one time to exercise your right of early redemption on any Early Redemption Date. We may accelerate any series of ETNs, in whole and not in part, on any Business Day prior to maturity. If we accelerate any series of ETNs, you will receive a cash payment per ETN equal to the Fixing Indicative Value of the applicable ETNs on the Optional Acceleration Valuation Date, as described below. A series of ETNs is also subject to automatic acceleration upon the occurrence of an Automatic Acceleration Event, as described below.

You will not have the right to receive physical certificates evidencing your ownership except under limited circumstances. Instead, we will issue the ETNs in the form of a global certificate, which will be held by The Depository Trust Company (“**DTC**”) or its nominee. Direct and indirect participants in DTC will record beneficial ownership of the ETNs by individual investors. Accountholders in the Euroclear or Clearstream Banking clearance systems may hold beneficial interests in the ETNs through the accounts those systems maintain with DTC. You should refer to the section “Description of Debt Securities—Book-Entry Procedures and Settlement” in the accompanying prospectus.

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

The “**Inception Date**” for each series of ETNs is December 12, 2017.

Interest

The ETNs do not pay any interest.

Denomination

The denomination and stated principal amount of each ETN is \$25.00. The stated principal amount of each ETN is used to define one unit of each ETN and will not change over the term of the ETNs (except as a result of a split or reverse split). The stated principal amount is not an indication of the value of or amount that will be payable on any ETN at any time. We may implement a split or reverse split of any series of ETNs at any time. We will determine the ratio of such split or reverse split, as applicable, using relevant market indicia. See “—Split or Reverse Split of the ETNs” below.

Payment at Maturity

Each series of ETNs will mature on the Maturity Date. If the originally scheduled Maturity Date is not a Business Day, the Maturity Date will be the next following Business Day. Unless the applicable ETNs are earlier redeemed or accelerated, the holder will receive at maturity, for each \$25.00 stated principal amount of the ETNs that it then holds, cash in an amount equal to the Fixing Indicative Value of such ETNs on the Final Valuation Date. Payment at maturity will be made on the Maturity Date. In the event that payment at maturity on any series of ETNs is deferred beyond the originally scheduled Maturity Date, penalty interest will not accrue or be payable with respect to that deferred payment. The ETNs are intended to be daily trading tools and are not intended to be held to maturity.

The “**Final Valuation Date**” is December 8, 2032. If the scheduled Final Valuation Date is not a Trading Day, the Final Valuation Date will be postponed to the next succeeding Trading Day.

A “**Business Day**” means any day that is not (a) a Saturday or Sunday or (b) a day on which banking institutions generally are authorized or obligated by law or executive order to close in New York.

Fixing Indicative Value

The “**Fixing Indicative Value**” for each series of ETNs on the Inception Date was \$25.00 per ETN. The Fixing Indicative Value per ETN for each series of ETNs on each Trading Day following the Inception Date will equal (i) the product of (a) the Fixing Indicative Value for such series of ETNs on the immediately preceding Trading Day *times* (b) the Daily ETN Performance for such series of ETNs on such Trading Day *minus* (ii) the Daily Investor Fee for such series of ETNs on such Trading Day. The Fixing Indicative Value will never be less than zero. The Fixing Indicative Value will be rounded to 8 decimal places. If any series of ETNs undergoes a split or reverse split, the Fixing Indicative Value of such series of ETNs will be adjusted accordingly.

The Fixing Indicative Value for each series of ETNs is calculated on each Trading Day based on the Fixing Index Level for the relevant Index. The Fixing Index Level for each Index on each Trading Day is determined based on the underlying spot exchange rate and forward points as of 9:00 a.m. New York City time on that Trading Day. Accordingly, the Fixing Indicative Value on each Trading Day will be determined prior to the open of the regular trading session on the NYSE Arca and, therefore, at a time when you will be unable to trade the ETNs. The Fixing Indicative Value for each series of ETNs is not the opening price, closing price or any other trading price of the relevant series of ETNs in the secondary market, and the trading price of any series of ETNs at any time may vary significantly from this value.

Janus Henderson Indices LLC, formerly known as Janus Index & Calculation Services LLC (“**JHI**”) or its agent is responsible for computing and disseminating the Fixing Indicative Value, subject to CGMI’s right to dispute JHI’s calculation of the Fixing Indicative Value, in which case, if the ETN Calculation Agents are unable to agree, CGMI’s determination of the Fixing Indicative Value shall be conclusive and binding. In addition, CGMI has the sole right to determine the Automatic Acceleration Amount in connection with an automatic acceleration.

The “**Daily ETN Performance**” for any series of ETNs on any Trading Day will equal (i) one *plus* (ii) the Daily Accrual for such series of ETNs on such Trading Day *plus* (iii) the Daily Index Performance for such series of ETNs on such Trading Day.

The “**Daily Accrual**” represents the rate of interest that could be earned on a notional capital reinvestment at the three month U.S. Treasury rate as reported on Bloomberg under ticker USB3MTA (or any successor ticker on Bloomberg or any successor service). The Daily Accrual for any series of ETNs on any Trading Day will equal:

$$\left(\frac{1}{1 - Tbills_{t-1} * \frac{91}{360}} \right)^{\frac{d}{91}} - 1$$

where $Tbills_{t-1}$ is the three month U.S. Treasury rate reported on Bloomberg on the prior Trading Day and d is the number of calendar days from and including the immediately prior Trading Day to but excluding the date of determination. The Daily Accrual for any series of ETNs is deemed to equal zero on any day that is not a Trading Day.

The “**Daily Index Performance**” for any series of ETNs on any Trading Day will equal (i) the quotient of (a) the Fixing Index Level of the applicable Index on such Trading Day *divided by* (b) the Fixing Index Level of the applicable Index on the immediately preceding Trading Day *minus* (ii) one, subject to “—Market Disruption Events” below. The Daily Index Performance will be rounded to 8 decimal places.

The “**Fixing Index Level**” for any Index on any Trading Day will be the published level of such Index identified by the Index Calculation Agent or the Index Sponsor as the fixing index level on such Trading Day, as disseminated by the Index Calculation Agent or the Index Sponsor.

The “**Intraday Index Level**” for any Index at any time on any Trading Day will be the published intraday level of the Index at that time, as disseminated by the Index Calculation Agent or the Index Sponsor.

The “**Daily Investor Fee**” for any series of ETNs on any Trading Day for such series of ETNs will equal the product of (i) the Fixing Indicative Value for such series of ETNs on the immediately preceding Trading Day *times* (ii)(a) the Investor Fee Factor *times* (b) $1/365$ *times* (c) the number of calendar days from and including the immediately preceding Trading Day to but excluding that Trading Day.

The “**Investor Fee Factor**” for each series of ETNs is 1.50%.

A “**Trading Day**” means, for each series of ETNs, a day on which (a) the New York Stock Exchange is scheduled to be open for trading and (b) a Market Disruption Event does not exist with respect to such series of ETNs at the Fixing Time, subject to “—Market Disruption Events” below.

Intraday Indicative Value

The Intraday Indicative Value of each series of the ETNs is meant to approximate the intrinsic economic value of the ETNs, and will be published by the ETN Calculation Agents every 15 seconds on each Trading Day during regular trading hours on the NYSE Arca so long as no Market Disruption Event with respect to such series of ETNs has occurred and is continuing.

The “**Intraday Indicative Value**” for each series of ETNs at any time on any Trading Day will equal (i) the product of (a) the most recent published Fixing Indicative Value for such series of ETNs *times* (b) the Intraday ETN Performance for such series of ETNs at such time *minus* (ii) the Daily Investor Fee for such series of ETNs on such Trading Day.

The “**Intraday ETN Performance**” at any time on any Trading Day for any series of ETNs will equal (i) one *plus* (ii) the Daily Accrual for such series of ETNs on such Trading Day *plus* (iii) the Intraday Index Performance for such series of ETNs at such time.

The “**Intraday Index Performance**” at any time on any Trading Day for any series of ETNs will equal (i) the quotient of (a) the most recent published Intraday Index Level of the applicable Index *divided by* (b) the most recent published Fixing Index Level of the applicable Index *minus* (ii) one.

The Intraday Indicative Value and the Fixing Indicative Value are each an “**Indicative Value**”.

Although the ETN Calculation Agents will calculate and publish the Intraday Indicative Values of the ETNs every 15 seconds on each Trading Day, the price at which you may buy or sell the ETNs in the secondary market will be based on secondary market trading prices at the time of sale, which may differ from the Intraday Indicative Value at the time. At any time at which a Market Disruption Event with respect to a series of ETNs has occurred and is continuing, no Intraday Indicative Value will be calculated for such series of ETNs. **The actual trading prices of the ETNs may vary significantly from their Intraday Indicative Values.**

Payment Upon Early Redemption

Prior to maturity or earlier acceleration, you may, subject to certain restrictions described below, offer at least the applicable Minimum Redemption Amount or more of the ETNs to us for redemption on an Early Redemption Date during the term of the ETNs. If you elect to offer the ETNs for redemption, and the requirements for acceptance by us are met, you will receive a cash payment per ETN on the Early Redemption Date equal to the Early Redemption Amount. Any payment on the ETNs is subject to the credit risk of Citigroup Global Markets Holdings Inc. and Citigroup Inc.

You may exercise your early redemption right by causing your broker or other person with whom you hold the ETNs to deliver a Redemption Notice to the Redemption Agent. If your Redemption Notice is delivered prior to 4:00 p.m., New York City time, on any Business Day, the immediately following Trading Day will be the applicable “**Early Redemption Valuation Date**”. Otherwise, the second following Trading Day will be the applicable Early Redemption Valuation Date. For an exercise of the early redemption right to be effective, the applicable Early Redemption Valuation Date must be on or before any Optional Acceleration Valuation Date or the Final Valuation Date. In addition, if the scheduled Automatic Acceleration Time in respect of an Automatic Acceleration Event is at or prior to 9:00 a.m. New York City time on any date that would otherwise be an Early Redemption Valuation Date or Optional Acceleration Valuation Date, you will not be entitled to receive the Early Redemption Amount or Optional Acceleration Redemption Amount and instead will receive the Automatic Acceleration Amount. See “—Redemption Procedures.”

You must offer for redemption at least 25,000 ETNs of any one series, or an integral multiple of 25,000 ETNs of such series in excess thereof, at one time in order to exercise your right to cause us to redeem the ETNs on any Early Redemption Date (the “**Minimum Redemption Amount**”), except that we or CGMI as one of the ETN Calculation Agents may from time to time reduce, in part or in whole, the Minimum Redemption Amount. Any such reduction will be applied on a consistent basis for all holders of the relevant series of ETNs at the time the reduction becomes effective. If the ETNs undergo a split or reverse split, the minimum number of ETNs needed to exercise your right to redeem will remain the same.

The “**Early Redemption Date**” is the third Business Day following an Early Redemption Valuation Date.

The “**Early Redemption Charge**” for any series of ETNs is equal to 0.09% *times* the Fixing Indicative Value for such series of ETNs on the Early Redemption Valuation Date.

The “**Early Redemption Amount**” is a cash payment per ETN equal to the greater of (A) zero and (B)(1) the Fixing Indicative Value for such series of ETNs on the Early Redemption Valuation Date *minus* (2) the Early Redemption Charge and will be calculated by the ETN Calculation Agents.

Redemption Procedures

If you wish to offer the ETNs to us for redemption, your broker must follow the following procedures:

- Deliver a notice of redemption, in substantially the form of Annex A (the “**Redemption Notice**”), to Janus Henderson Distributors (“**JHD**”) (the “**Redemption Agent**”) via email or other electronic

delivery as requested by the Redemption Agent. If your Redemption Notice is delivered prior to 4:00 p.m., New York City time, on any Business Day, the immediately following Trading Day will be the applicable “**Early Redemption Valuation Date**”. Otherwise, the second following Trading Day will be the applicable Early Redemption Valuation Date. If the Redemption Agent receives your Redemption Notice no later than 4:00 p.m., New York City time, on any Business Day, the Redemption Agent will respond by sending your broker an acknowledgment of the Redemption Notice accepting your redemption request by 7:30 p.m., New York City time, on the Business Day prior to the applicable Early Redemption Valuation Date. The Redemption Agent or its affiliate must acknowledge to your broker acceptance of the Redemption Notice (the “**Confirmation**”) in order for your redemption request to be effective;

- Cause your DTC custodian to book a delivery vs. payment trade with respect to the ETNs on the applicable Early Redemption Valuation Date, facing Citigroup Global Markets Inc., DTC #0418, or such other DTC account as specified in the Confirmation; and
- Cause your DTC custodian to deliver the trade as booked for settlement via DTC at or prior to 10:00 a.m. New York City time, on the applicable Early Redemption Date (the third Business Day following the Early Redemption Valuation Date).

You are responsible for (i) instructing or otherwise causing your broker to provide the Redemption Notice and (ii) your broker satisfying the additional requirements as set forth in the second and third bullets above in order for the redemption to be effected. Different brokerage firms may have different deadlines for accepting instructions from their customers. Accordingly, you should consult the brokerage firm through which you own your interest in the ETNs in respect of such deadlines. If the Redemption Agent does not (i) receive the Redemption Notice from your broker by 4:00 p.m. and (ii) deliver an acknowledgment of such Redemption Notice to your broker accepting your redemption request by 7:30 p.m., on the Business Day prior to the applicable Early Redemption Valuation Date, such notice will not be effective for such Business Day and the Redemption Agent will treat such Redemption Notice as if it was received on the next Business Day. Any redemption instructions for which the Redemption Agent receives a valid Redemption Notice in accordance with the procedures described above will be irrevocable.

If the Redemption Agent ceases to perform its role described in this pricing supplement, we will either, at our sole discretion, perform such role or appoint another party to do so.

When you submit your ETNs for redemption in accordance with the redemption procedures described above, CGMI may repurchase the ETNs from you at the Early Redemption Amount instead of our redeeming the ETNs, and if CGMI does not repurchase the ETNs, then we will redeem them. Any ETNs repurchased by CGMI may remain outstanding (and be resold by CGMI) or may be submitted to us for cancellation.

Because the Early Redemption Amount you will receive for each ETN will not be calculated until the Trading Day (or the second following Trading Day) immediately following the Business Day you offer your ETNs for redemption, you will not know the applicable Early Redemption Amount at the time you exercise your early redemption right and will bear the risk that your ETNs will decline in value between the time of your exercise and the time at which the Early Redemption Amount is determined.

Acceleration at Our Option

We will have the right to accelerate the ETNs of any series in whole but not in part on any Business Day occurring on or after the Inception Date (an “**Optional Acceleration**”). Upon an Optional Acceleration, the holders of such ETNs will receive a cash payment per ETN in an amount (the “**Optional Acceleration Redemption Amount**”) equal to the Fixing Indicative Value of such series of ETNs on the Optional Acceleration Valuation Date.

In the case of an Optional Acceleration of the ETNs of any series, the “**Optional Acceleration Valuation Date**” shall be the Trading Day specified in our notice of Optional Acceleration (or if such specified Trading Day is not a Trading Day for the applicable series of ETNs, the next succeeding Trading Day for such series of ETNs), which shall be at least two Business Days after the date on which we give you notice of such Optional Acceleration. The Optional Acceleration Redemption Amount will be payable on the third Business Day following the Optional Acceleration Valuation Date (such third Business Day, the “**Optional Acceleration Date**”). We will give you

notice of any Optional Acceleration of the ETNs through customary channels used to deliver notices to holders of exchange traded notes.

Any payment you will be entitled to receive is subject to the credit risk of Citigroup Global Markets Holdings Inc. and Citigroup Inc.

Any ETNs accelerated in an Optional Acceleration will be cancelled on the Optional Acceleration Date. Consequently, as of such Optional Acceleration Date, the ETNs will no longer be considered outstanding.

Automatic Acceleration

If the ETN Calculation Agents determine that, at any time on any day, the intraday exchange rate for the Currency Pair underlying any series of ETNs differs by 18.75% or more from the Spot Rate used in the determination of the Fixing Index Level used to calculate the then most recent Fixing Indicative Value and such difference represents depreciation of the applicable Long Currency against the applicable Reference Currency (such occurrence, an “**Automatic Acceleration Event**”), that series of ETNs will be automatically accelerated. For purposes of determining whether an Automatic Acceleration Event has occurred, the intraday exchange rate for the applicable Currency Pair will be a spot exchange rate for the applicable Currency Pair published by Bloomberg through its Bloomberg Generic pricing service (or any successor information source selected by the ETN Calculation Agents). To determine the percentage by which any intraday exchange rate differs from the Spot Rate used in the determination of the Fixing Index Level used to calculate the then most recent Fixing Indicative Value, the intraday exchange rate will be determined using the same quotation convention as is used for the applicable Spot Rate in calculating the Fixing Index Level. An Automatic Acceleration Event may occur at any time on any day when an intraday exchange rate for the applicable Currency Pair is published by Bloomberg, and not only during regular session trading hours on the NYSE Arca.

The amount payable upon acceleration following an Automatic Acceleration Event (the “**Automatic Acceleration Amount**”) will be determined in the same manner as the next Fixing Indicative Value after the Automatic Acceleration Event would be determined for the applicable series of ETNs, except that for that purpose the Daily Index Performance will be calculated using the Automatic Acceleration Index Level in lieu of the next Fixing Index Level of the applicable Index. The “**Automatic Acceleration Index Level**” will be determined in the same manner as the next Fixing Index Level after the Automatic Acceleration Event would be determined for the applicable Index (or the Alternative Fixing Index Level if a Market Disruption Event occurred at the most recent Fixing Time), except that (x) the hypothetical profit or loss established by the relevant Offsetting Transaction will be determined based on the Data Inputs for the applicable Currency Pair reported by the Data Source as of the Automatic Acceleration Time, (y) such level will reflect a bid-ask spread on the full amount of the Offsetting Transaction, which means that the hypothetical Offsetting Transaction will be entered into based on the relevant “bid” or “ask” Spot Rate, as applicable, rather than the “mid” Spot Rate and (z) such level will not reflect a resetting of the applicable Index’s leveraged exposure to the applicable Currency Pair after the occurrence of the Automatic Acceleration Event. The “**Automatic Acceleration Time**” will be the time of the first hourly fixing rate for the relevant Currency Pair to be published by the Data Source as of at least 30 minutes after the occurrence of such Automatic Acceleration Event and between 9:00 a.m. Hong Kong time and 5:00 p.m. New York City time (inclusive) on any Scheduled Trading Day. For purposes of the immediately preceding sentence, whether any Hong Kong time is on a Scheduled Trading Day will depend on whether the date in Hong Kong on which such time occurs is a date that is a Scheduled Trading Day. If the ETN Calculation Agents determine, in their sole discretion, that a Market Disruption Event exists with respect to the applicable Index at the time that would otherwise be the Automatic Acceleration Time, then the Automatic Acceleration Time will be postponed to the time of the first hourly fix to occur at a time when the ETN Calculation Agents have determined that the applicable Market Disruption Event has been resolved; *provided* that if such time has not occurred by 9:00 a.m. New York City time on the fifth Scheduled Trading Day after the date on which the Automatic Acceleration Event occurs, then such time will be deemed the Automatic Acceleration Time and the ETN Calculation Agents will determine the Automatic Acceleration Amount in good faith and in a commercially reasonable manner, taking into account the nature and duration of the Market Disruption Event and such other factors as the ETN Calculation Agents may deem relevant. Notwithstanding anything else in this paragraph, if the ETN Calculation Agents determine that, at any time on any day, the intraday exchange rate for the Currency Pair underlying any series of ETNs differs by 25% or more from the Spot Rate used in the determination of the Fixing Index Level used in the calculation of the then most recent

Fixing Indicative Value and such difference represents depreciation of the applicable Long Currency against the applicable Reference Currency, the Automatic Acceleration Amount will be \$0.

Upon an automatic acceleration of any series of ETNs, payment of the Automatic Acceleration Amount with respect to those ETNs will be made on the third Business Day after the date on which the Automatic Acceleration Amount is determined (or on such other date as may be required to comply with the rules of any exchange on which the ETNs are listed). If an Automatic Acceleration Event occurs, you are likely to lose most, and may lose up to all, of your investment in the applicable series of ETNs.

If an Automatic Acceleration Event occurs and an Early Redemption Valuation Date for a redemption at your option or an Optional Acceleration Valuation Date for an acceleration at our option was previously scheduled to occur and the scheduled Automatic Acceleration Time is at or prior to 9:00 a.m. New York City time on that Early Redemption Valuation Date or Optional Acceleration Valuation Date, the redemption at your option or acceleration at our option will be cancelled and the applicable ETNs will be accelerated instead as set forth above with respect to the Automatic Acceleration Event.

Bloomberg is a financial information provider. According to Bloomberg, the Bloomberg Generic pricing service uses a pricing algorithm to produce bid and ask quotes for currency exchange rates in real-time derived from quote providers, including money-center and regional banks, broker-dealers, and inter-dealer brokers, as well as foreign currency electronic trading platforms. The exchange rates provided by the Bloomberg Generic pricing service may differ from the WM/Reuters rates provided by Thomson Reuters.

Further Issuances

We may, from time to time, without notice to or the consent of the holders of the ETNs, create and issue additional securities having the same terms and conditions as the ETNs offered by this pricing supplement, and ranking on an equal basis with the ETNs in all respects. If there is substantial demand for the ETNs, we may issue additional ETNs frequently. We may sell additional ETNs of any series at different prices but we are under no obligation to issue or sell additional ETNs of any series at any time, and if we do sell additional ETNs of any series, we may limit or restrict such sales, and we may stop and subsequently resume selling additional ETNs of such series at any time. Furthermore, the stated principal amount of each series of ETNs stated at the top of the cover page of this pricing supplement is the maximum amount of each series of ETNs that we have currently authorized for issuance. Although we have the right to increase the authorized amount of any series of ETNs at any time, it is our current intention not to issue more than the current maximum authorized amount of each series of ETNs, even if there is substantial market demand for additional ETNs of such series. We may also reduce the maximum authorized amount of each series of ETNs at any time and have no obligation to issue up to the maximum authorized amount.

Any limitation or suspension on the issuance of the ETNs may materially and adversely affect the price and liquidity of the ETNs in the secondary market. Alternatively, the decrease in supply may cause an imbalance in the market supply and demand, which may cause the ETNs to trade at a premium over the Intraday Indicative Value of the ETNs. Unless we indicate otherwise, if we suspend selling additional ETNs, we reserve the right to resume selling additional ETNs at any time, which might result in the reduction or elimination of any premium in the trading price. Any premium may be reduced or eliminated at any time. We have no obligation to take your interests into account when deciding to issue or not to issue additional ETNs.

Any further issuances of the ETNs of any series will have the same CUSIP number and will trade interchangeably with the offered ETNs of such series. Any additional ETNs will be consolidated and form a single series with the ETNs of the applicable series.

CGMI may condition its acceptance of a market maker's, other market participant's or investor's offer to purchase the ETNs on its agreeing to purchase certain exchange traded notes issued by us or enter into certain transactions consistent with our hedging strategy, including but not limited to swaps. Any limitation or suspension on the issuance of the ETNs may materially and adversely affect the price and liquidity of the ETNs in the secondary market.

Split or Reverse Split of the ETNs

We may initiate a split or reverse split of any series of ETNs at any time. We will determine the ratio of such split or reverse split, as applicable, using relevant market indicia. If we decide to initiate a split or reverse split, as applicable, we will issue a notice to holders of the relevant ETNs and a press release announcing the split or reverse split, the ratio and specifying the effective date of the split or reverse split (the date of such announcement, the “**announcement date**”).

If any series of ETNs undergoes a split or reverse split as described in the paragraph above, we will adjust the terms of that series of ETNs accordingly. For example, if any series of ETNs undergoes a 4-for-1 split, each investor who holds one ETN via DTC prior to the split will, after the split, hold four ETNs, and, for purposes of calculations from and after the effective date of the split, the Fixing Indicative Value of the relevant series of ETNs on the Trading Day immediately preceding the effective date will be divided by 4 to reflect the 4-for-1 split of that series of ETNs. Similarly, if any series of ETNs undergoes a 1-for-4 reverse split, each investor who holds four ETNs via DTC on the date specified in the announcement of the reverse split will, after the reverse split, hold only one ETN, and, for purposes of calculations from and after the effective date of the reverse split, the Fixing Indicative Value of the relevant series of ETNs on the Trading Day immediately preceding the effective date will be multiplied by four to reflect the 1-for-4 reverse split of that series of ETNs. The effective date for the split will be specified in the announcement, and will be at least three Business Days after the announcement date. Any adjustment of the Fixing Indicative Value of the relevant series of ETNs will be rounded to 8 decimal places.

In the case of a reverse split, we reserve the right to address fractional numbers of ETNs (commonly referred to as “**partials**”) in a manner determined by us in our sole discretion. Holders who own a number of ETNs of the applicable series that is not evenly divisible by 4 in the example above will receive the same treatment as all other holders for the maximum number of ETNs they hold that is evenly divisible by 4, and we will have the right to compensate holders for their remaining or “partial” ETNs in a manner determined by us in our sole discretion. We may, for example, provide holders with a cash payment for their partials on the 17th Business Day following the effective date in an amount equal to the appropriate percentage of the Fixing Indicative Value of the reverse split-adjusted series of ETNs on the 14th Trading Day following the effective date. For example, a holder who held 23 ETNs of the applicable series via DTC would hold 5 ETNs following the reverse split and receive a cash payment on the 17th Business Day following the effective date equal to 75% of the Fixing Indicative Value of the reverse split-adjusted series of ETNs on the 14th Trading Day following the effective date.

Market Disruption Events

If a Market Disruption Event exists on any Scheduled Trading Day with respect to any series of ETNs at 9:00 a.m. New York City time (the “**Fixing Time**”), then the following consequences will result:

- Such Scheduled Trading Day will not be a Trading Day for such series of ETNs, the Fixing Indicative Value for such series of ETNs will not be calculated for such Scheduled Trading Day and, if such day were scheduled to be an Early Redemption Valuation Date, Optional Acceleration Valuation Date or the Final Valuation Date, such date will be postponed to the next succeeding Trading Day.
- For purposes of determining the Fixing Indicative Value of the applicable series of ETNs on the first Trading Day after such Scheduled Trading Day (such Trading Day, the “**Resolution Date**”), the Daily Index Performance for the applicable Index on the Resolution Date will be calculated using the Alternative Fixing Index Level in lieu of the actual Fixing Index Level on the Resolution Date. The “**Alternative Fixing Index Level**” will be calculated by the ETN Calculation Agents in the same manner in which the Fixing Index Level would be calculated on the Resolution Date if the most recent Trading Day were also the most recent Index Business Day (in other words, assuming that any intervening Index Business Days were not actually Index Business Days for purposes of calculating the Fixing Index Level on the Resolution Date), subject to an adjustment based on the relevant forward points published as of the Fixing Time on the Resolution Date to account for the hypothetical rolling of the foreign currency exposure in the relevant Opening Transaction until the Resolution Date.

- If such Scheduled Trading Day would be an Early Redemption Valuation Date, an Optional Acceleration Valuation Date or the Final Valuation Date for such series of ETNs but for the Market Disruption Event, such Early Redemption Valuation Date, Optional Acceleration Valuation Date or Final Valuation Date, as applicable, for such ETNs will be postponed to the first succeeding Trading Day; *provided* that, in no event will any such date be postponed for more than five Scheduled Trading Days or, in any event, past the Scheduled Trading Day immediately preceding the Maturity Date. If any Early Redemption Valuation Date, any Optional Acceleration Valuation Date or the Final Valuation Date is postponed to the last Scheduled Trading Day to which it may be postponed and a Market Disruption Event exists with respect to the applicable series of ETNs at the Fixing Time on that Scheduled Trading Day, then such Scheduled Trading Day will be deemed to be a Trading Day with respect to the ETNs to be redeemed, accelerated or paid at maturity based on such Fixing Indicative Value and the ETN Calculation Agents will determine the Fixing Indicative Value with respect to such ETNs in good faith and in a commercially reasonable manner, taking into account the nature and duration of the Market Disruption Event and such other factors as the ETN Calculation Agents may deem relevant.

The Intraday Indicative Value of a series of ETNs will not be published at any time when a Market Disruption Event exists with respect to the applicable series of ETNs.

A “**Market Disruption Event**” will exist at any time on any Scheduled Trading Day with respect to a series of ETNs if the ETN Calculation Agents determine, in their sole discretion, that at such time:

- any material restriction is imposed under applicable law on the ability of market participants generally to enter into, or settle their obligations via delivery (either inside or outside, or from inside to outside, of the applicable country) under, spot foreign currency transactions referencing the applicable Currency Pair;
- market participants generally are unable to execute spot foreign currency transactions referencing the applicable Currency Pair;
- any Data Input needed to calculate the level of the applicable Index is not published by the applicable Data Source; or
- the Fixing Index Level of the applicable Index is not published at or about the scheduled time.

A “**Scheduled Trading Day**” is a day on which the New York Stock Exchange is scheduled to be open for trading.

Discontinuation or Modification of an Index; Substitution of an Index

If the Index Sponsor discontinues publication of the applicable Index and the Index Sponsor or anyone else publishes a substitute index that the ETN Calculation Agents determine is comparable to the applicable Index, then the ETN Calculation Agents will permanently replace the applicable original Index with that substitute index (the “**Successor Index**”) for all purposes under the applicable series of ETNs, and all provisions described in this pricing supplement as applying to the applicable Index will thereafter apply to the Successor Index instead. In such event, the ETN Calculation Agents will make such adjustments, if any, to any level of the applicable Index or Successor Index that is used for purposes of the ETNs as they determine are appropriate in the circumstances. If the ETN Calculation Agents replace the applicable original Index for any series of ETNs with a Successor Index, then the ETN Calculation Agents will determine the Early Redemption Amount, Optional Acceleration Redemption Amount, Automatic Acceleration Amount or payment at maturity (each, a “**Redemption Amount**”), as applicable, for the applicable series of ETNs by reference to the Successor Index.

If the ETN Calculation Agents determine that the publication of the applicable Index is discontinued and there is no Successor Index, the ETN Calculation Agents will determine the applicable level of the applicable Index, and thus the applicable Redemption Amount, by a computation methodology that the ETN Calculation Agents determine will as closely as reasonably possible replicate the applicable Index.

In addition, if an Index Replacement Event (as defined below) occurs at any time and the Index Sponsor or anyone else publishes an index that the ETN Calculation Agents determine is comparable to the applicable Index (the “**Substitute Index**”), then the ETN Calculation Agents may elect, in their sole discretion, to permanently replace the applicable original Index with the Substitute Index for all purposes under the applicable series of ETNs, and all provisions described in this pricing supplement as applying to the applicable Index will thereafter apply to the Substitute Index instead. In such event, the ETN Calculation Agents will make such adjustments, if any, to any level of the applicable Index or Substitute Index that is used for purposes of the ETNs as they determine are appropriate in the circumstances. If the ETN Calculation Agents elect to replace the applicable original Index with a Substitute Index, then the ETN Calculation Agents will determine the applicable Redemption Amount for the applicable series of ETNs by reference to the Substitute Index. If the ETN Calculation Agents so elect to replace the applicable original Index with a Substitute Index, the ETN Calculation Agents will, within 10 Scheduled Trading Days after the ETN Calculation Agents determine that an Index Replacement Event has occurred, notify you of the Substitute Index through customary channels used to deliver notices to the holders of exchange traded notes.

If the ETN Calculation Agents determine that the applicable Index, the method of calculating any Data Input or the method of calculating the applicable Index is changed at any time in any respect, including whether the change is made by the Index Sponsor under its existing policies or following a modification of those policies, is due to the publication of a Successor Index, is due to events affecting the relevant Data Inputs or is due to any other reason and is not otherwise reflected in the level of the applicable Index by the Index Sponsor pursuant to the methodology described herein, then the ETN Calculation Agents will be permitted (but not required) to make such adjustments in the applicable Index or the method of its calculation as they believe are appropriate to ensure that the applicable Fixing Index Level used to determine the applicable Redemption Amount is equitable.

An “**Index Replacement Event**” means:

- (a) an amendment to or change (including any officially announced proposed change) in the laws, regulations or rules of the United States (or any political subdivision thereof), or any other relevant jurisdiction or entity that (i) makes it illegal for CGMI or its affiliates to hold, acquire or dispose of the foreign currency included in the applicable Index or options, futures, swaps or other derivatives on the applicable Index or the foreign currency included in the applicable Index, (ii) materially increases the cost to us, our affiliates, third parties with whom we transact or similarly situated third parties in performing our or their obligations in connection with the ETNs, (iii) has a material adverse effect on any of these parties’ ability to perform their obligations in connection with the ETNs or (iv) materially affects our ability to issue or transact in exchange traded notes similar to the ETNs, each as determined the ETN Calculation Agents;
- (b) any official administrative decision, judicial decision, administrative action, regulatory interpretation or other official pronouncement interpreting or applying those laws, regulations or rules that is announced on or after the Inception Date that (i) makes it illegal for CGMI or its affiliates to hold, acquire or dispose of the foreign currency included in the applicable Index or options, futures, swaps or other derivatives on the applicable Index or the foreign currency included in the applicable Index, (ii) materially increases the cost to us, our affiliates, third parties with whom we transact or similarly situated third parties in performing our or their obligations in connection with the ETNs, (iii) has a material adverse effect on the ability of us, our affiliates, third parties with whom we transact or a similarly situated third party to perform our or their obligations in connection with the ETNs or (iv) materially affects our ability to issue or transact in exchange traded notes similar to the ETNs, each as determined by the ETN Calculation Agents;
- (c) any event that occurs on or after the Inception Date that makes it a violation of any law, regulation or rule of the United States (or any political subdivision thereof), or any other relevant jurisdiction or entity, or of any official administrative decision, judicial decision, administrative action, regulatory interpretation or other official pronouncement interpreting or applying those laws, regulations or rules, (i) for CGMI to hold, acquire or dispose of the foreign currency included in the applicable Index or options, futures, swaps or other derivatives on the applicable Index or the foreign currency included in the applicable Index, (ii) for us, our affiliates, third parties with whom we transact or similarly situated third parties to perform our or their obligations in connection with the ETNs or (iii) for us to issue or transact in exchange traded notes similar to the ETNs, each as determined by the ETN Calculation Agents;

- (d) any event, as determined by the ETN Calculation Agents, as a result of which we or any of our affiliates or a similarly situated party would, after using commercially reasonable efforts, be unable to, or would incur a materially increased amount of tax, duty, expense or fee (other than brokerage commissions) to, acquire, establish, re-establish, substitute, maintain, unwind or dispose of any transaction or asset it deems necessary to hedge the risk of the ETNs, or realize, recover or remit the proceeds of any such transaction or asset; or
- (e) as determined by the ETN Calculation Agents, the primary exchange or market for trading for the ETNs, if any, announces that pursuant to the rules of such exchange or market, as applicable, the ETNs cease (or will cease) to be listed, traded or publicly quoted on such exchange or market, as applicable, for any reason and are not immediately re-listed, re-traded or re-quoted on an exchange or quotation system located in the same country as such exchange or market, as applicable.

Role of ETN Calculation Agents

CGMI, an affiliate of ours, and JHI will serve as the ETN Calculation Agents. The ETN Calculation Agents will, in their good faith and commercially reasonable judgment, make all calculations and determinations regarding the value of the ETNs, including at maturity or upon early redemption or acceleration, Market Disruption Events (see “—Market Disruption Events”), Business Days and Trading Days, the Daily Investor Fee amount, the Daily Accrual, the Fixing Index Level of each Index on any Trading Day, the Maturity Date, any Early Redemption Dates, any Optional Acceleration Date, any Automatic Acceleration Date, the amount payable in respect of the ETNs at maturity, upon redemption or upon acceleration and any other calculations or determinations to be made by the ETN Calculation Agents as specified herein. CGMI will have the sole ability to make determinations with respect to reduction of the Minimum Redemption Amount, calculation of default amounts, calculations of the intraday exchange rate in connection with determining whether an Automatic Acceleration Event occurs, calculating the Automatic Acceleration Index Level and calculating the Automatic Acceleration Amount. JHI will have the sole ability to calculate and disseminate the number of ETNs outstanding, the Fixing Indicative Value and the Intraday Indicative Value, subject to CGMI’s right to dispute JHI’s calculation of the Fixing Indicative Value, in which case, if the ETN Calculation Agents are unable to agree, CGMI’s determination of the Fixing Indicative Value shall be conclusive and binding. All other determinations will be made by the ETN Calculation Agents jointly, except that, if the ETN Calculation Agents are unable to agree following a dispute resolution procedure, CGMI’s calculation shall be conclusive and binding. Absent manifest error, all determinations of the ETN Calculation Agents will be final and binding on you and us, without any liability on the part of the ETN Calculation Agents. You will not be entitled to any compensation from us for any loss suffered as a result of any of the above determinations by the ETN Calculation Agents.

If any of the ETN Calculation Agents cease to perform their respective roles described in this pricing supplement, we will either, at our sole discretion, perform such roles, appoint another party to do so or accelerate the relevant series of ETNs.

CGMI’s agreement with JHI requires the following statement to appear in this pricing supplement:

ALTHOUGH JANUS HENDERSON INDICES LLC SHALL OBTAIN INFORMATION FOR INCLUSION IN OR FOR USE IN CALCULATIONS RELATED TO THE ETNS AND/OR THE INDICES FROM SOURCES WHICH JANUS HENDERSON INDICES LLC CONSIDERS RELIABLE, NEITHER JANUS HENDERSON INDICES LLC NOR ANY OTHER PARTY GUARANTEES THE ACCURACY AND/OR THE COMPLETENESS OF THE INDICES OR ANY DATA INCLUDED THEREIN OR ANY CALCULATIONS MADE WITH RESPECT TO THE ETNS. NEITHER JANUS HENDERSON INDICES LLC NOR ANY OTHER PARTY MAKES ANY WARRANTY, EXPRESS OR IMPLIED, AS TO RESULTS TO BE OBTAINED BY CITIGROUP GLOBAL MARKETS HOLDINGS INC., ITS CUSTOMERS AND COUNTERPARTIES, HOLDERS OF THE ETNS, OR ANY OTHER PERSON OR ENTITY FROM THE USE OF THE INDICES OR ANY DATA INCLUDED THEREIN OR ANY CALCULATIONS MADE WITH RESPECT TO THE ETNS. NEITHER JANUS HENDERSON INDICES LLC NOR ANY OTHER PARTY MAKES ANY EXPRESS OR IMPLIED WARRANTIES, AND JANUS HENDERSON INDICES LLC HEREBY EXPRESSLY DISCLAIMS ALL WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INDICES OR ANY DATA INCLUDED THEREIN OR ANY CALCULATIONS MADE WITH RESPECT TO THE ETNS. WITHOUT LIMITING ANY OF THE FOREGOING, IN NO EVENT SHALL

JANUS HENDERSON INDICES LLC OR ANY OTHER PARTY HAVE ANY LIABILITY FOR ANY DIRECT, INDIRECT, SPECIAL, PUNITIVE, CONSEQUENTIAL OR ANY OTHER DAMAGES (INCLUDING LOST PROFITS) EVEN IF NOTIFIED OF THE POSSIBILITY OF SUCH DAMAGES.

The ETNs are not sponsored, endorsed or sold by Janus Henderson Indices LLC, nor does Janus Henderson Indices LLC make any representation regarding the advisability of investing in any of the ETNs.

Events of Default

In case an event of default (as defined in the accompanying prospectus) with respect to any series of ETNs shall have occurred and be continuing, the amount declared due and payable for each ETN of that series upon acceleration of those ETNs will be equal to the Fixing Indicative Value for that series of ETNs as of the Trading Day immediately following the date of acceleration.

If the maturity of the ETNs is accelerated because of an event of default as described above, we shall, or shall cause the ETN Calculation Agents to, provide written notice to the Trustee at its New York office, on which notice the Trustee may conclusively rely, and to DTC of the amount due with respect to each ETN and the aggregate cash amount due with respect to the ETNs of the applicable series as promptly as possible and in no event later than two Business Days after the date of acceleration.

Default interest will not accrue either before or after maturity or acceleration of any series of ETNs.

Paying Agent and Trustee

Citibank, N.A. will serve as paying agent and registrar for the ETNs and will also hold the global security representing the ETNs as custodian for DTC. The Bank of New York Mellon will serve as Trustee for the ETNs.

HYPOTHETICAL AND HISTORICAL INDEX PERFORMANCE DATA

This section contains hypothetical back-tested performance data for each Index from January 2, 2004 to October 31, 2017. Each Index was first published on October 31, 2017 and therefore has no actual historical information to report prior to that date. This section also contains actual historical performance data for each Index since October 31, 2017. The hypothetical back-tested and historical performance data shown below is not an indication of future performance, which is impossible to predict.

All Index performance data prior to October 31, 2017 is hypothetical. Hypothetical Index performance data is subject to significant limitations. No representation is made that any Index or ETN is likely to achieve gains or losses similar to those shown. In fact, there are frequently sharp differences between hypothetical performance results and the actual results subsequently achieved by any particular investment. One of the limitations of hypothetical performance information is that it did not involve financial risk and cannot account for all factors that would affect actual performance.

The graphs below show hypothetical and historical performance information for each Index, and not each ETN. The effects of the Daily Investor Fee, which will reduce the performance of each ETN, and the Daily Accrual are not shown in the graphs below. Accordingly, the graphs below do not purport to show how any ETN would have performed during the periods shown.

The hypothetical back-tested and historical performance data were calculated by the Index Sponsor, and we have not independently verified their accuracy. The Index Sponsor has advised us that the hypothetical back-tested performance data were calculated in a manner consistent with the methodology described under “Description of the Indices” in this pricing supplement, using published historical values for the Data Inputs used by each Index.

Hypothetical back-tested and historical Index performance

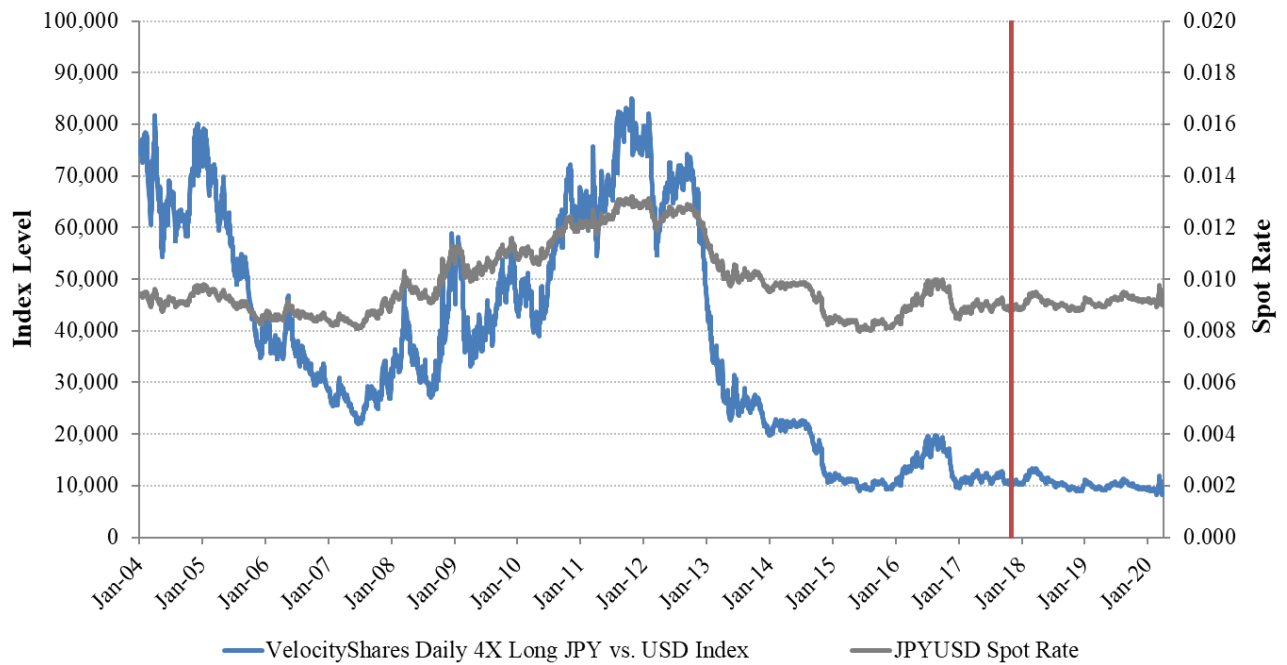
The graphs below depict the hypothetical back-tested and historical Fixing Index Levels for each Index. The vertical red line in each graph below indicates October 31, 2017, the date on which each Index was first published. The performance shown to the left of the vertical red line reflects the hypothetical back-tested performance of each Index, and the performance shown to the right of the vertical red line reflects the actual performance since October 31, 2017.

For comparison purposes, each graph below also depicts the daily Spot Rate for each Index during the period shown. For purposes of these graphs, each Spot Rate is expressed as a number of units of the Reference Currency per 1 unit of the Long Currency. The scale for the hypothetical back-tested daily Fixing Index Levels is set forth on the left vertical axis of each graph, and the scale for the daily Spot Rate is shown on the right vertical axis.

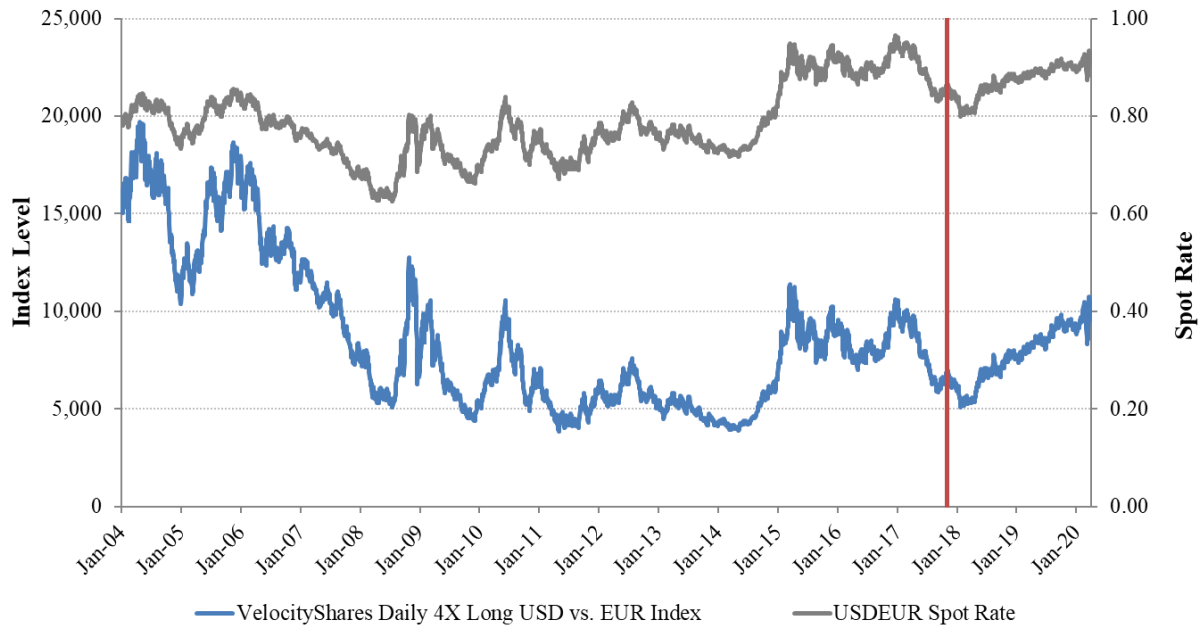
VelocityShares Daily 4X Long USD vs. JPY Index
January 2, 2004 to April 1, 2020



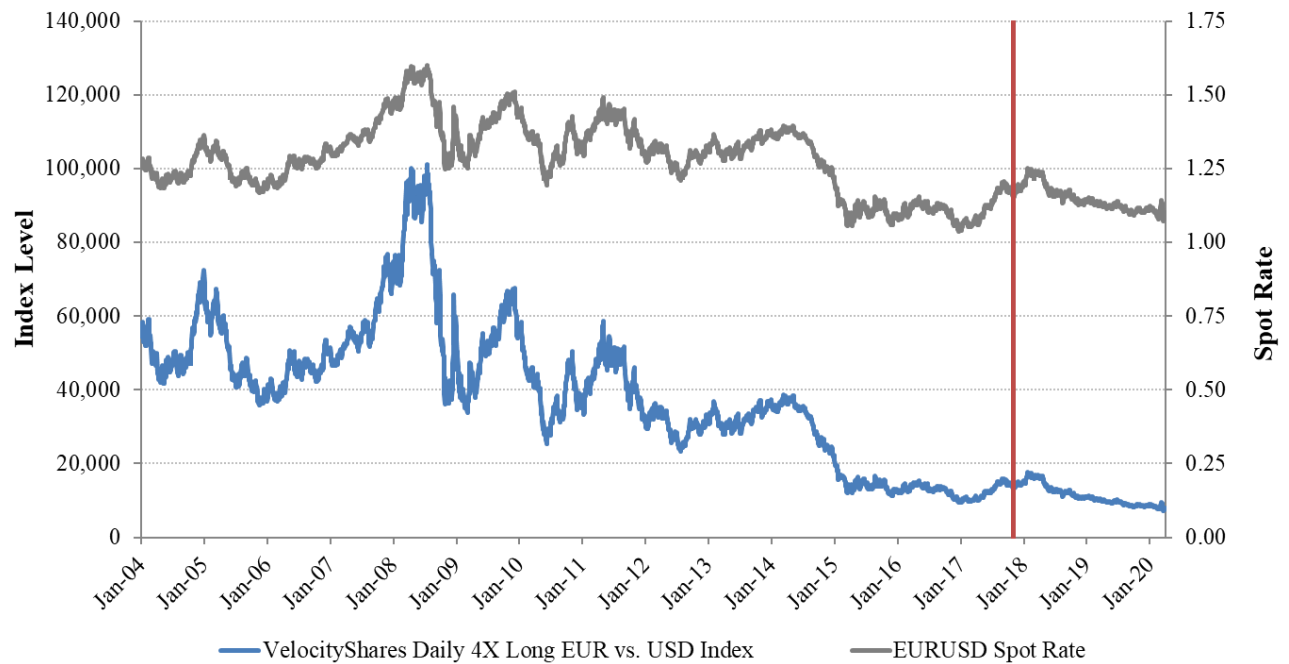
VelocityShares Daily 4X Long JPY vs. USD Index
January 2, 2004 to April 1, 2020



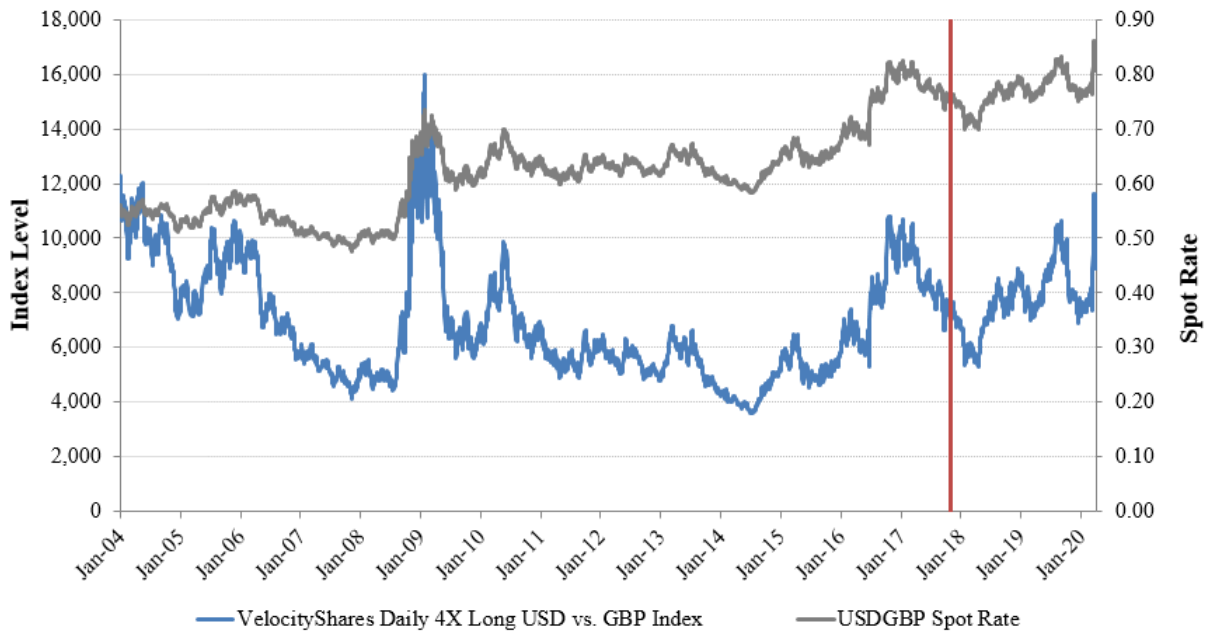
VelocityShares Daily 4X Long USD vs. EUR Index
January 2, 2004 to April 1, 2020



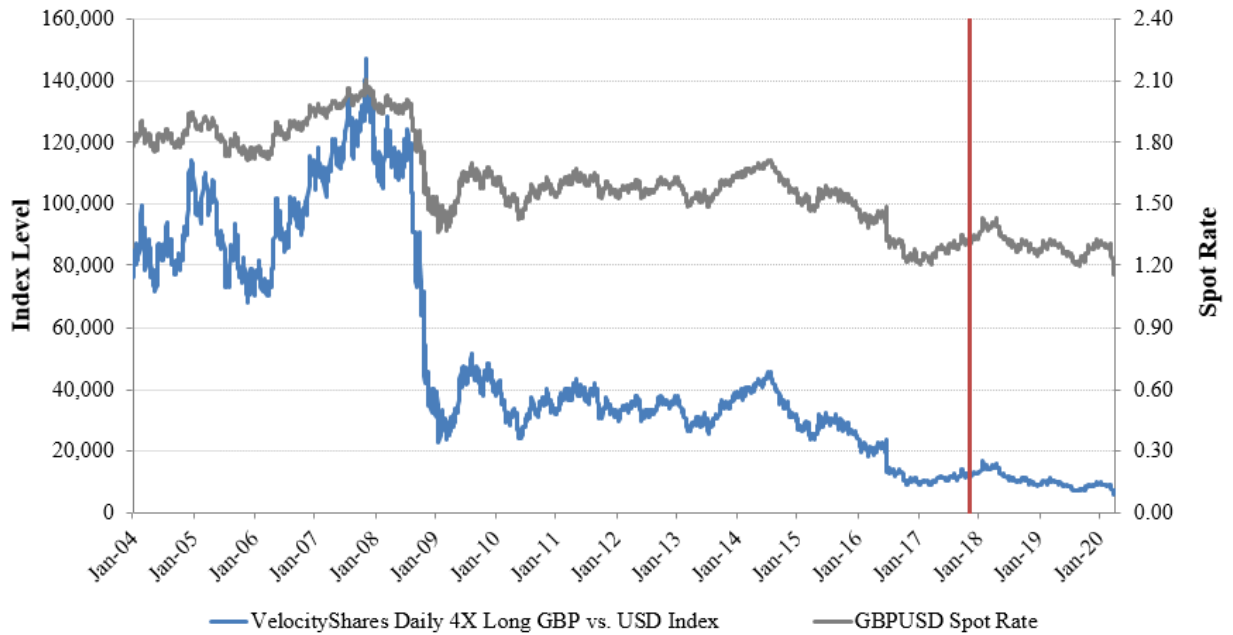
VelocityShares Daily 4X Long EUR vs. USD Index
January 2, 2004 to April 1, 2020



VelocityShares Daily 4X Long USD vs. GBP Index
January 2, 2004 to April 1, 2020



VelocityShares Daily 4X Long GBP vs. USD Index
January 2, 2004 to April 1, 2020



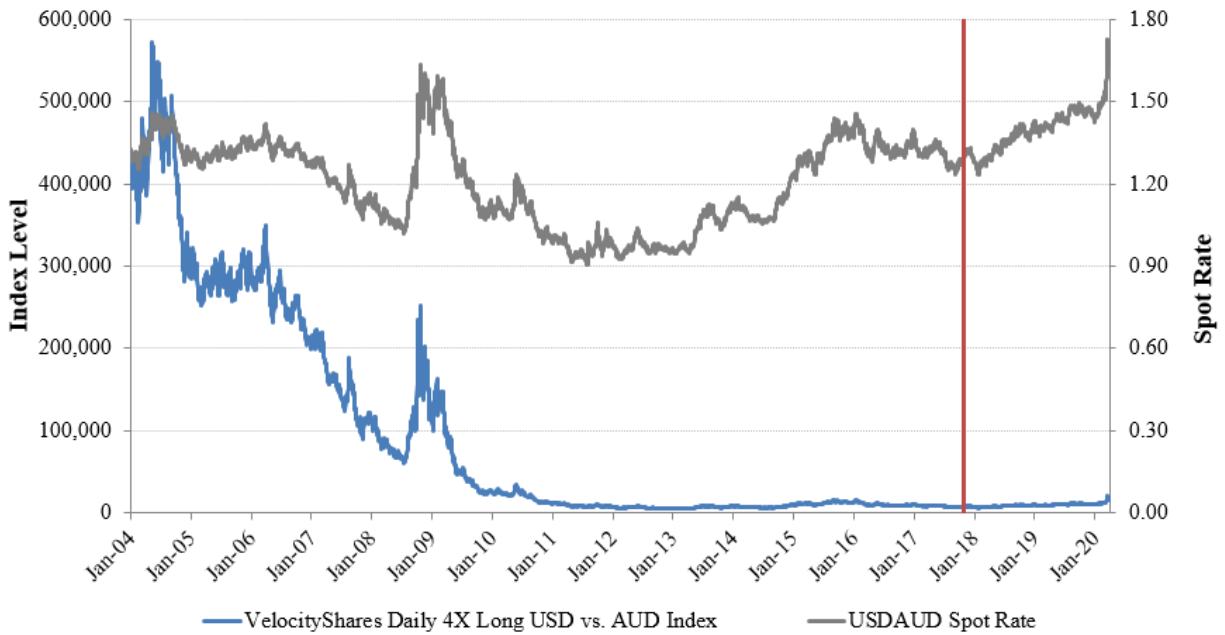
VelocityShares Daily 4X Long USD vs. CHF Index
January 2, 2004 to April 1, 2020



VelocityShares Daily 4X Long CHF vs. USD Index
January 2, 2004 to April 1, 2020



VelocityShares Daily 4X Long USD vs. AUD Index
January 2, 2004 to April 1, 2020



VelocityShares Daily 4X Long AUD vs. USD Index
January 2, 2004 to April 1, 2020



Hypothetical back-tested and historical one-day drawdown information

The following table indicates, for each Index, the largest decline to occur from the Fixing Index Level on one Index Business Day to the Fixing Index Level on the next Index Business Day since the beginning of the period covered by the hypothetical back-tested performance information disclosed above. Note that this information does not capture any decline from the Fixing Index Level on one Index Business Day to an Intraday Index Level on that same day or any decline in the underlying Spot Rate that occurred outside of regular trading session hours on the NYSE Arca, except to the extent that the decline is reflected in the next day's Fixing Index Level. Accordingly, any significant decline that occurred from the Fixing Index Level to an Intraday Index Level or outside of regular trading session hours on the NYSE Arca that might have caused an Automatic Acceleration Event to occur with respect to the ETNs would not be shown in the following table.

We are providing this information to assist an investor in assessing the risk of a large single-day loss on the ETNs. However, no investor should take the table below as an indication of the maximum amount that could be lost on the ETNs in a single day. An investor may lose 100% on an investment in any series of ETNs on any day.

Index	Decline
Long USD vs. JPY	-20.58%
Long USD vs. EUR.....	-15.85%
Long USD vs. GBP.....	-14.81%
Long USD vs. CHF.....	-64.89%
Long USD vs. AUD.....	-28.14%
Long JPY vs. USD.....	-12.24%
Long EUR vs. USD.....	-17.15%
Long GBP vs. USD.....	-32.95%
Long CHF vs. USD.....	-36.82%
Long AUD vs. USD.....	-30.43%

Hypothetical back-tested and historical largest daily impact of bid-ask spreads

The following tables indicate, for each Index, the largest one-day impact of bid-ask spreads on the Fixing Index Level on one Index Business Day to the Fixing Index Level on the next Index Business Day for each year since the beginning of the period covered by the hypothetical back-tested performance information disclosed above.

We are providing this information to assist an investor in assessing the risk of a single-day impact of bid-ask spreads on the ETNs. However, no investor should take the tables below as an indication of the maximum bid-ask spread that could be incurred in a single day. The single-day impact of bid-ask spreads on any Index could be significantly greater in the future.

We are illustrating the largest one-day impact of bid-ask spreads because the Indices are designed to achieve their investment objectives on a daily basis and the ETNs may not be suitable for investors who plan to hold them for more than one day. The negative impact of bid-ask spreads is cumulative, and over any period longer than one day the largest negative impact of bid-ask spreads would have been significantly greater than the amounts shown below.

Year	Index				
	Long USD vs. JPY	Long USD vs. EUR	Long USD vs. GBP	Long USD vs. CHF	Long USD vs. AUD
2004	0.0122%	0.0079%	0.0048%	0.0232%	0.0189%
2005	0.0081%	0.0224%	0.0050%	0.0139%	0.0138%
2006	0.0080%	0.0246%	0.0085%	0.0142%	0.0172%
2007	0.0068%	0.0038%	0.0055%	0.0095%	0.0214%
2008	0.0341%	0.0354%	0.0271%	0.0459%	0.0732%
2009	0.0133%	0.0206%	0.0187%	0.0238%	0.0313%
2010	0.0250%	0.0068%	0.0093%	0.0282%	0.0227%
2011	0.0231%	0.0092%	0.0064%	0.0415%	0.0183%
2012	0.0105%	0.0066%	0.0038%	0.0130%	0.0099%
2013	0.0180%	0.0058%	0.0075%	0.0141%	0.0120%
2014	0.0066%	0.0052%	0.0043%	0.0130%	0.0084%
2015	0.0086%	0.0086%	0.0052%	0.5291%	0.0158%
2016	0.0173%	0.0284%	0.0233%	0.0502%	0.0155%
2017	0.0361%	0.1019%	0.0395%	0.0992%	0.0132%
2018	0.0121%	0.0068%	0.0067%	0.0318%	0.0150%
2019	0.0190%	0.0057%	0.0144%	0.0110%	0.0120%
2020*	0.0332%	0.0154%	0.0243%	0.0292%	0.0265%
Overall	0.0361%	0.1019%	0.0395%	0.5291%	0.0732%

* As of April 1, 2020

Year	Index				
	Long JPY vs. USD	Long EUR vs. USD	Long GBP vs. USD	Long CHF vs. USD	Long AUD vs. USD
2004	0.0069%	0.0058%	0.0046%	0.0178%	0.0147%
2005	0.0460%	0.0221%	0.0039%	0.0080%	0.0104%
2006	0.0562%	0.0241%	0.0080%	0.0090%	0.0169%
2007	0.0057%	0.0033%	0.0040%	0.0089%	0.0176%
2008	0.0339%	0.0349%	0.0255%	0.0324%	0.0826%
2009	0.0071%	0.0189%	0.0194%	0.0149%	0.0178%
2010	0.0226%	0.0052%	0.0072%	0.0254%	0.0127%
2011	0.0228%	0.0082%	0.0048%	0.0532%	0.0154%
2012	0.0087%	0.0045%	0.0028%	0.0094%	0.0062%
2013	0.0178%	0.0035%	0.0055%	0.0083%	0.0092%

2014	0.0063%	0.0041%	0.0032%	0.0103%	0.0062%
2015	0.0087%	0.0057%	0.0043%	0.0676%	0.0106%
2016	0.1865%	0.0275%	0.0275%	0.0486%	0.0092%
2017	0.0361%	0.1014%	0.0392%	0.0989%	0.0119%
2018	0.0124%	0.0062%	0.0059%	0.0313%	0.0147%
2019	0.0188%	0.0056%	0.0085%	0.0099%	0.0105%
2020*	0.0295%	0.0137%	0.0163%	0.0274%	0.0221%
Overall	0.1865%	0.1014%	0.0392%	0.0989%	0.0826%

* As of April 1, 2020

Hypothetical back-tested and historical greatest positive and negative daily impact of forward points

The following tables indicate, for each Index, the greatest positive and negative one-day impact of forward points on the Fixing Index Level for each year since the beginning of the period covered by the hypothetical back-tested performance information disclosed above.

We are providing this information to assist an investor in assessing the risk of a single-day impact of forward points on the ETNs. However, no investor should take the tables below as an indication of the greatest negative impact that could be incurred in a single day. The single-day negative impact of forward points on the ETNs could be significantly greater in the future. Moreover, no investor should take the tables below as an indication of the likelihood that the impact of forward points on any Index will be positive or negative in the future. An investor should consider the relative overnight interest rates between the currencies in the applicable Currency Pair at the time of investing in any ETNs.

We are illustrating the largest one-day impact of forward points because the Indices are designed to achieve their investment objectives on a daily basis and the ETNs may not be suitable for investors who plan to hold them for more than one day. The impact of forward points is cumulative, and over any period longer than one day the greatest negative impact of forward points would have been significantly greater than the amounts shown below.

Year	Index			
	Long USD vs. JPY		Long JPY vs. USD	
	Max Positive Impact	Max Negative Impact	Max Positive Impact	Max Negative Impact
2004	0.0000%	-0.1628%	0.1641%	-0.0001%
2005	0.0001%	-0.2343%	0.2360%	-0.0001%
2006	0.0002%	-0.3360%	0.3371%	-0.0001%
2007	0.0001%	-0.4330%	0.4363%	-0.0001%
2008	0.0111%	-0.1645%	0.2234%	-0.0041%
2009	0.0066%	-0.0739%	0.0824%	-0.0023%
2010	0.0073%	-0.1868%	0.2262%	-0.0037%
2011	0.0775%	-0.0448%	0.0474%	-0.0338%
2012	0.0016%	-0.0475%	0.0511%	0.0000%
2013	0.0198%	-0.0392%	0.0469%	-0.0016%
2014	0.0012%	-0.0534%	0.0544%	-0.0004%
2015	0.0017%	-0.1822%	0.1831%	0.0000%
2016	0.0000%	-0.6184%	0.6271%	0.0000%
2017	0.0091%	-0.2647%	0.3360%	0.0000%
2018	0.0001%	-0.2316%	0.2558%	-0.0001%
2019	0.0001%	-0.4366%	0.4744%	-0.0001%
2020*	0.0004%	-0.0932%	0.1144%	-0.0001%

* As of April 1, 2020

Year	Index			
	Long USD vs. EUR		Long EUR vs. USD	
	Max Positive Impact	Max Negative Impact	Max Positive Impact	Max Negative Impact
2004	0.0562%	-0.0060%	0.0090%	-0.0562%
2005	0.0000%	-0.0907%	0.0940%	0.0000%
2006	0.0001%	-0.1221%	0.1221%	-0.0134%
2007	0.0000%	-0.0824%	0.0851%	0.0000%
2008	0.1273%	-0.1503%	0.1754%	-0.0846%
2009	0.0793%	-0.0111%	0.0139%	-0.0763%
2010	0.0173%	-0.0426%	0.0457%	-0.0145%
2011	0.0643%	-0.0306%	0.0404%	-0.0615%
2012	0.0000%	-0.0392%	0.0422%	0.0000%
2013	0.0261%	-0.0124%	0.0124%	-0.0260%
2014	0.0206%	-0.0196%	0.0228%	-0.0176%
2015	0.0000%	-0.0769%	0.0806%	0.0000%
2016	0.0000%	-0.6656%	0.6812%	0.0000%
2017	0.0000%	-0.1176%	0.3193%	0.0000%
2018	0.0001%	-0.1420%	0.1485%	-0.0001%
2019	0.0001%	-0.1699%	0.1735%	-0.0001%
2020*	0.0001%	-0.0954%	0.0954%	0.0000%

* As of April 1, 2020

Year	Index			
	Long USD vs. GBP		Long GBP vs. USD	
	Max Positive Impact	Max Negative Impact	Max Positive Impact	Max Negative Impact
2004	0.1611%	-0.0001%	0.0001%	-0.1589%
2005	0.1060%	0.0000%	0.0000%	-0.1054%
2006	0.0091%	-0.0264%	0.0282%	-0.0091%
2007	0.0532%	-0.0082%	0.0102%	-0.0532%
2008	0.1545%	-0.0355%	0.0798%	-0.1505%
2009	0.0578%	-0.0024%	0.0028%	-0.0551%
2010	0.0147%	0.0000%	0.0028%	-0.0130%
2011	0.0270%	0.0000%	0.0000%	-0.0270%
2012	0.0154%	-0.0297%	0.0347%	-0.0130%
2013	0.0151%	-0.0073%	0.0097%	-0.0151%
2014	0.0147%	-0.0052%	0.0051%	-0.0143%
2015	0.0135%	-0.0567%	0.0595%	-0.0135%
2016	0.0031%	-0.4455%	0.4457%	0.0000%
2017	0.0000%	-0.0777%	0.1371%	0.0000%
2018	0.0000%	-0.0765%	0.0793%	0.0000%
2019	0.0001%	-0.1071%	0.1103%	-0.0001%
2020*	0.0035%	-0.0521%	0.0717%	0.0000%

* As of April 1, 2020

Year	Index			
	Long USD vs. CHF		Long CHF vs. USD	
	Max Positive Impact	Max Negative Impact	Max Positive Impact	Max Negative Impact
2004	0.0000%	-0.0598%	0.0633%	-0.0001%
2005	0.0001%	-0.1659%	0.1688%	-0.0002%
2006	0.0002%	-0.1997%	0.2026%	-0.0002%
2007	0.0033%	-0.1766%	0.1831%	-0.0002%
2008	0.0818%	-0.1348%	0.1523%	-0.0477%
2009	0.0079%	-0.0244%	0.0279%	0.0000%
2010	0.0142%	-0.0560%	0.0991%	0.0000%
2011	0.0089%	-0.0151%	0.0201%	0.0000%
2012	0.0000%	-0.0436%	0.0521%	0.0000%
2013	0.0000%	-0.0214%	0.0292%	0.0000%
2014	0.0041%	-0.0322%	0.0322%	0.0000%
2015	0.0001%	-0.1255%	0.1337%	-0.0001%
2016	0.0001%	-0.6551%	0.7488%	-0.0001%
2017	0.0001%	-0.2553%	0.4525%	-0.0001%
2018	0.0002%	-0.1799%	0.1799%	-0.0001%
2019	0.0003%	-0.1898%	0.1937%	-0.0003%
2020*	0.0001%	-0.1059%	0.1098%	-0.0001%

* As of April 1, 2020

Year	Index			
	Long USD vs. AUD		Long AUD vs. USD	
	Max Positive Impact	Max Negative Impact	Max Positive Impact	Max Negative Impact
2004	0.2361%	-0.0002%	0.0002%	-0.2361%
2005	0.1361%	-0.0001%	0.0002%	-0.1421%
2006	0.0532%	-0.0001%	0.0218%	-0.0532%
2007	0.0940%	-0.2057%	0.2058%	-0.0897%
2008	0.2735%	-0.1446%	0.1928%	-0.2677%
2009	0.2648%	-0.0002%	0.0003%	-0.2590%
2010	0.2481%	-0.0002%	0.0002%	-0.2481%
2011	0.3121%	-0.0001%	0.0002%	-0.3083%
2012	0.2274%	-0.0002%	0.0002%	-0.2276%
2013	0.1449%	-0.0001%	0.0001%	-0.1449%
2014	0.1523%	-0.0001%	0.0001%	-0.1475%
2015	0.1273%	-0.0001%	0.0001%	-0.1175%
2016	0.0947%	-0.0001%	0.0001%	-0.0947%
2017	0.0533%	-0.0720%	0.0927%	-0.0479%
2018	0.0331%	-0.0341%	0.0625%	-0.0331%
2019	0.0000%	-0.0642%	0.0701%	0.0000%
2020*	0.0136%	-0.0342%	0.0341%	0.0000%

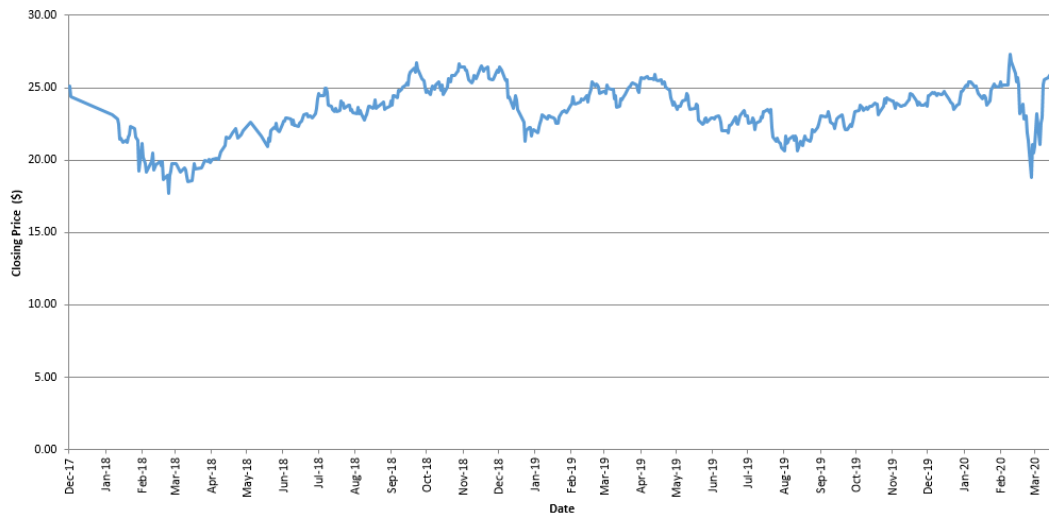
* As of April 1, 2020

Historical Data on the ETNs

The following graphs show the closing prices of the ETNs on each day such prices were available for the limited period from December 12, 2017 to April 1, 2020. The related tables show the high, low, and end-of-quarter closing prices of the ETNs for each quarter during that same period. We have provided this historical information to help you evaluate the behavior of the ETNs. However, past performance is not indicative how the ETNs will perform in the future.

The closing price of the ETNs linked to the VelocityShares Daily 4X Long USD vs. JPY Index on April 1, 2020 was \$21.9407 per \$25.00 stated principal amount.

Historical Daily Closing Prices for the ETNs linked to the VelocityShares Daily 4X Long USD vs. JPY Index December 12, 2017 to April 1, 2020



The closing price of the ETNs linked to the VelocityShares Daily 4X Long USD vs. EUR Index on April 1, 2020 was \$38.0337 per \$25.00 stated principal amount.

Historical Daily Closing Prices for the ETNs linked to the VelocityShares Daily 4X Long USD vs. EUR Index December 12, 2017 to April 1, 2020



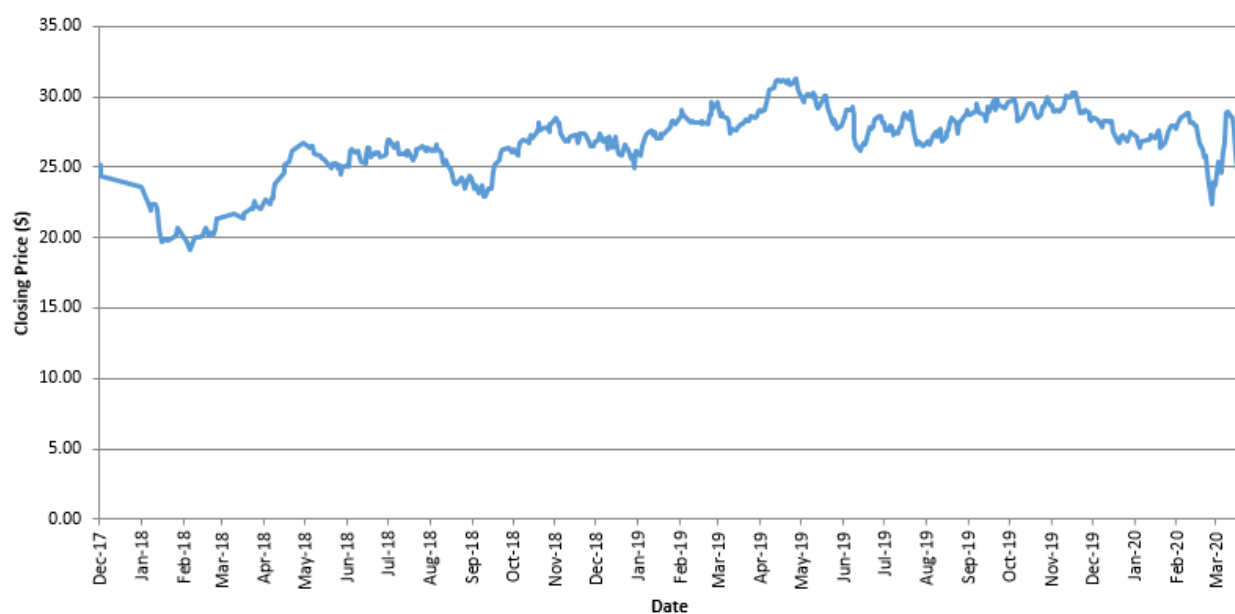
The closing price of the ETNs linked to the VelocityShares Daily 4X Long USD vs. GBP Index on April 1, 2020 was \$31.7665 per \$25.00 stated principal amount.

**Historical Daily Closing Prices for the ETNs linked to the VelocityShares Daily 4X Long USD vs. GBP Index
December 12, 2017 to April 1, 2020**



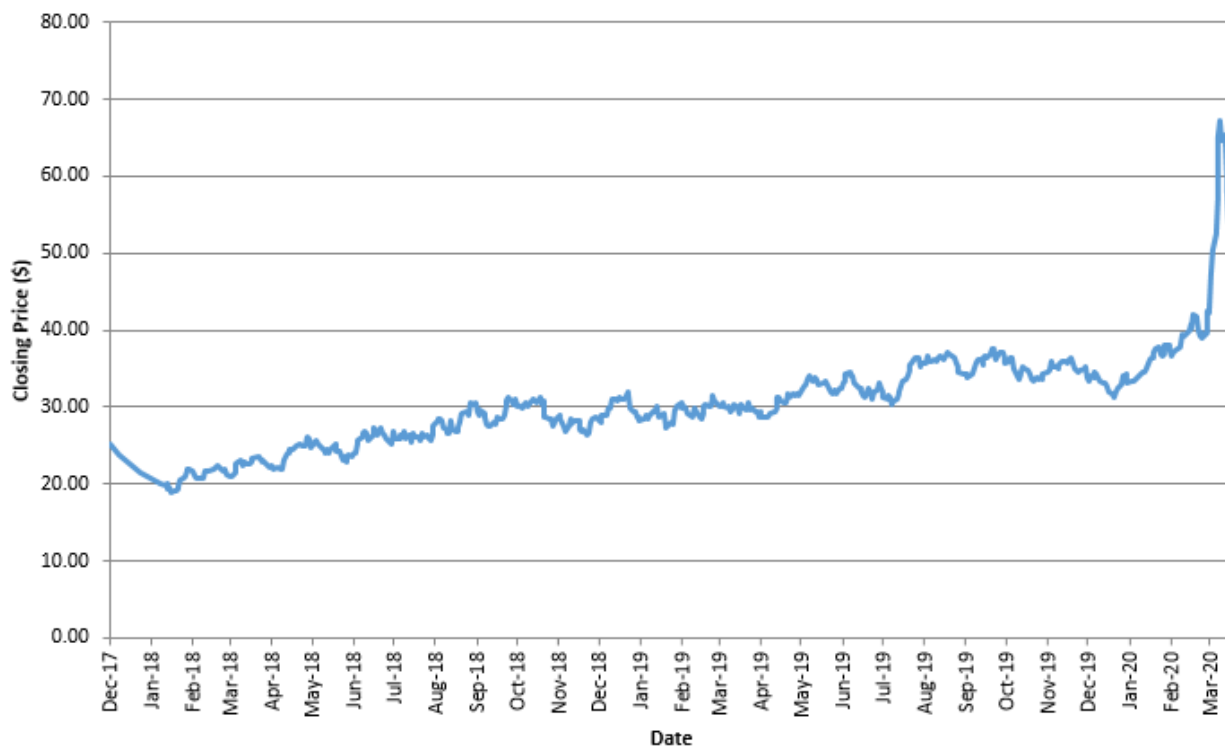
The closing price of the ETNs linked to the VelocityShares Daily 4X Long USD vs. CHF Index on April 1, 2020 was \$26.5351 per \$25.00 stated principal amount.

**Historical Daily Closing Prices for the ETNs linked to the VelocityShares Daily 4X Long USD vs. CHF Index
December 12, 2017 to April 1, 2020**



The closing price of the ETNs linked to the VelocityShares Daily 4X Long USD vs. AUD Index on April 1, 2020 was \$53.1419 per \$25.00 stated principal amount.

**Historical Daily Closing Prices for the ETNs linked to the VelocityShares Daily 4X Long USD vs. AUD Index
December 12, 2017 to April 1, 2020**



The closing price of the ETNs linked to the VelocityShares Daily 4X Long JPY vs. USD Index on April 1, 2020 was \$23.6808 per \$25.00 stated principal amount.

**Historical Daily Closing Prices for the ETNs linked to the VelocityShares Daily 4X Long JPY vs. USD Index
December 12, 2017 to April 1, 2020**



The closing price of the ETNs linked to the VelocityShares Daily 4X Long EUR vs. USD Index on April 1, 2020 was \$14.1336 per \$25.00 stated principal amount.

**Historical Daily Closing Prices for the ETNs linked to the VelocityShares Daily 4X Long EUR vs. USD Index
December 12, 2017 to April 1, 2020**



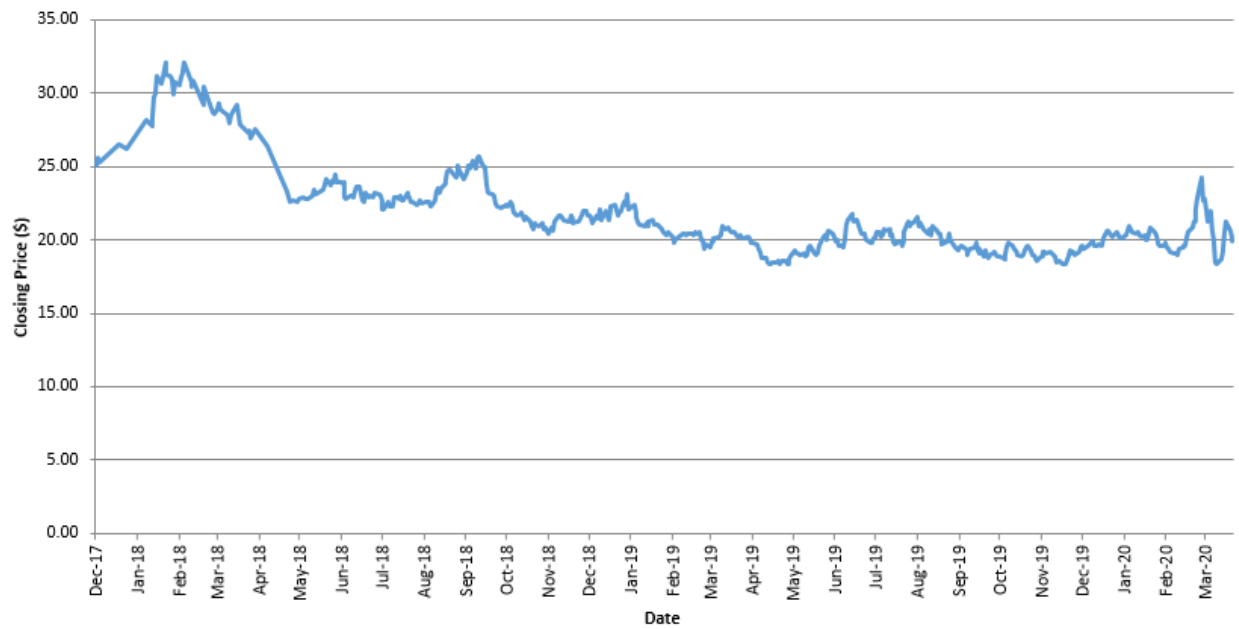
The closing price of the ETNs linked to the VelocityShares Daily 4X Long GBP vs. USD Index on April 1, 2020 was \$14.6042 per \$25.00 stated principal amount.

**Historical Daily Closing Prices for the ETNs linked to the VelocityShares Daily 4X Long GBP vs. USD Index
December 12, 2017 to April 1, 2020**



The closing price of the ETNs linked to the VelocityShares Daily 4X Long CHF vs. USD Index on April 1, 2020 was \$19.9558 per \$25.00 stated principal amount.

**Historical Daily Closing Prices for the ETNs linked to the VelocityShares Daily 4X Long CHF vs. USD Index
December 12, 2017 to April 1, 2020**



The closing price of the ETNs linked to the VelocityShares Daily 4X Long AUD vs. USD Index on April 1, 2020 was \$8.889 per \$25.00 stated principal amount.

**Historical Daily Closing Prices for the ETNs linked to the VelocityShares Daily 4X Long AUD vs. USD Index
December 12, 2017 to April 1, 2020**



UNITED STATES FEDERAL TAX CONSIDERATIONS

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

There is no direct legal authority regarding the proper U.S. federal tax treatment of the ETNs, 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 ETNs are uncertain, and the IRS or a court might not agree with the treatment of the ETNs as prepaid forward contracts. If the IRS were successful in asserting an alternative treatment for the ETNs, the tax consequences of ownership and disposition of the ETNs might be materially and adversely affected. Moreover, any gain or loss recognized by a U.S. Holder (as defined below under “United States Federal Tax Considerations”) with respect to the ETNs generally will be ordinary income or loss unless an election under Section 988(a)(1)(B) of the Internal Revenue Code of 1986, as amended (the “**Code**”), to treat such gain or loss as capital gain or loss (the “Section 988 election”) is available and the U.S. Holder makes such election before the close of the day on which the U.S. Holder purchases the ETNs. Because the scope of the Section 988 election is unclear, the availability of the Section 988 election with respect to an investment in the ETNs is uncertain, and therefore U.S. Holders should consult their tax advisers regarding the possibility and advisability of making the Section 988 election. See “United States Federal Tax Considerations – Tax Consequences to U.S. Holders” in this pricing supplement. In addition, an ETN might also be considered a “foreign currency contract” under Section 1256 of the Code, in which case the U.S. Holder would be required to mark to market the ETN by recognizing gain or loss at the close of each taxable year for which it holds the ETN as if the ETN were sold for its fair market value on the last day of such taxable year. U.S. Holders should consult their tax advisers regarding the possibility and advisability of making the election described above and the potential application of Section 1256 of the Code.

Even if the ETNs are treated as prepaid forward contracts, certain possible taxable events could cause a holder to recognize gain on an ETN prior to maturity or earlier disposition. In addition, as described below under “United 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. Members of Congress have also 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 ETNs, possibly with retroactive effect. Moreover, in 2007 the IRS issued a revenue ruling in which certain financial instruments that were issued and redeemed for U.S. dollars and that provided for a return determined by reference to a foreign currency as well as related market interest rates were treated as debt for U.S. federal income tax purposes. 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 ETNs, as well as tax consequences arising under the laws of any state, local or non-U.S. taxing jurisdiction.

UNITED STATES FEDERAL TAX CONSIDERATIONS

Prospective investors should note that the discussion under the section called “United States Federal Tax Considerations” in the accompanying prospectus supplement does not apply to the ETNs 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 ETNs. It applies to you only if you purchase an ETN 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**”).

This discussion 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 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 ETNs;
- a person holding the ETNs as part of a “straddle” or conversion transaction or one who enters into a “constructive sale” with respect to an ETN;
- 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 ETNs, 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 ETNs or a partner in such a partnership, you should consult your tax adviser as to the particular U.S. federal income tax consequences of holding and disposing of ETNs to you.

This discussion is based on the Code, administrative pronouncements, judicial decisions and final, temporary and proposed Treasury regulations, all as of the date of this pricing supplement, 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 or the consequences to taxpayers subject to special tax accounting rules under Section 451(b) of the Code. You should consult your tax adviser about the application of the U.S. federal income and estate tax laws (including the possibility of alternative treatments of the ETNs) to your particular situation, as well as any tax consequences arising under the laws of any state, local or non-U.S. jurisdiction.

Tax Treatment of the ETNs

In the opinion of our counsel, Davis Polk & Wardwell LLP, which is based on current market conditions, it is more likely than not that the ETNs will be treated as prepaid forward contracts for U.S. federal income tax purposes. By purchasing the ETNs, you agree (in the absence of an administrative determination or judicial ruling to the contrary) to this treatment.

Due to the absence of statutory, judicial or administrative authorities that directly address the U.S. federal tax treatment of the ETNs or similar instruments, significant aspects of the treatment of an investment in the ETNs are uncertain. We do not plan to request a ruling from the IRS, and the IRS or a court might not agree with the treatment described below. Accordingly, you should consult your tax adviser regarding all aspects of the U.S. federal income and estate tax consequences of an investment in the ETNs and with respect to any tax consequences arising under the laws of any state, local or non-U.S. taxing jurisdiction. Unless otherwise indicated, the following discussion is based on the treatment of the ETNs as prepaid forward contracts.

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 an ETN that is:

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

Tax Treatment Prior to Maturity or Disposition. Subject to the discussions under “—Possible Taxable Event” and “—Possible Application of Section 1256 of the Code” below, you generally should not be required to recognize taxable income over the term of the ETNs prior to maturity, other than pursuant to a sale, exchange or

retirement of the ETNs as described below. The ETNs are intended to be daily trading tools for sophisticated investors and are not intended to be held to maturity.

Taxable Disposition of the ETNs. Upon a taxable disposition (including a sale, exchange or retirement) of an ETN, you should recognize gain or loss equal to the difference between the amount realized and your tax basis in the relevant ETN. Because the return on the ETNs is “determined by reference to the value” of a foreign currency, any gain or loss recognized on the ETNs (including any gain or loss resulting from the possible application of Section 1256 of the Code, discussed below) generally will be ordinary income or loss unless an election under Section 988(a)(1)(B) of the Code (the “**Section 988 election**”) to treat such gain or loss as capital gain or loss is available and you make such election before the close of the day on which you purchase the ETNs. The scope of the Section 988 election is unclear, and therefore the availability of the Section 988 election with respect to an investment in the ETNs is uncertain. If the election is available and validly made, any losses on the ETNs may be subject to limitations. If the election is not available or not validly made, you may be subject to special reporting requirements applicable to ordinary foreign exchange losses that exceed certain thresholds. You should consult your tax adviser regarding the possibility and advisability of making the Section 988 election and the reporting requirements discussed above.

Possible Application of Section 1256 of the Code

An ETN might also be considered a “foreign currency contract” within the meaning of Section 1256 of the Code if the non-U.S. currency underlying the relevant Index is traded through regulated futures contracts. If an ETN is considered a “foreign currency contract,” you would be required to mark to market the ETN for U.S. federal income tax purposes, i.e., recognize any gain or loss as if the ETN had been sold at its fair market value on the last business day of each year it is held. In that case, if the Section 988 election described above were available and validly made, any gain or loss you recognize in respect of the ETN would be treated as 60% long-term capital gain or loss and 40% short-term capital gain or loss, without regard to the period during which you had held the ETN. You should consult your tax adviser regarding the possible application of Section 1256 of the Code to the ETNs.

Possible Taxable Event

In the event of a change in the methodology by which the relevant Index is calculated or other change affecting the relevant Index, it is possible that the ETNs could be treated, in whole or part, as terminated and reissued for U.S. federal income tax purposes. In particular, if the ETN Calculation Agents replace an Index with a Successor Index as described under “Description of the ETNs—Discontinuation or Modification of an Index; Substitution of an Index,” such an event could be treated as a taxable event. If the ETNs were terminated and reissued for U.S. federal income tax purposes, you generally would be required to recognize gain or loss (subject to the possible application of the wash sale rules) with respect to the ETNs. In addition, your tax basis and holding period for your ETNs would be affected.

Possible Alternative Tax Treatments of an Investment in the ETNs

Alternative U.S. federal income tax treatments of the ETNs are possible that, if applied, could materially and adversely affect the timing and/or character of income, gain or loss with respect to the ETNs. It is possible, for example, that the ETNs could be treated as debt instruments issued by us. Under this treatment, the ETNs would be subject to Treasury regulations relating to the taxation of contingent payment debt instruments. In this case, regardless of your method of tax accounting for U.S. federal income tax purposes, you would generally be required to accrue income based on our comparable yield for similar non-contingent debt, determined as of the time of issuance of the ETNs, in each year that you held the ETNs, even though we are not required to make any payment with respect to the ETNs until retirement. In addition, any gain on the sale, exchange or retirement of the ETNs would be treated as ordinary income.

Other possible U.S. federal income tax treatments of the ETNs could also affect the timing and character of income or loss with respect to the ETNs. Moreover, 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 ETNs, possibly with retroactive effect.

In 2007, the IRS also issued a revenue ruling holding that a financial instrument which is issued and redeemed for U.S. dollars, but provides a return determined by reference to a foreign currency and related market interest rates, is a debt instrument denominated in the foreign currency. While the ETNs are distinguishable in meaningful respects from the instrument described in the revenue ruling, future guidance that extends the scope of the revenue ruling could materially and adversely affect the tax consequences of an investment in the ETNs for U.S. Holders, possibly with retroactive effect.

You should consult your tax adviser regarding possible alternative tax treatments of the ETNs and potential changes in applicable law.

Tax Consequences to Non-U.S. Holders

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

- 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 and who is not otherwise a resident of the United States for U.S. federal income tax purposes or (ii) a former citizen or resident of the United States. If you are or may become such a person, you should consult your tax adviser regarding the U.S. federal tax consequences of an investment in the ETNs.

Taxable Disposition of the ETNs. Subject to the discussion below under “FATCA,” you generally should not be subject to U.S. federal withholding or income tax in respect of the ETNs, *provided* that (i) income in respect of the ETNs is not effectively connected with your conduct of a trade or business in the United States, and (ii) you comply with the applicable certification requirements.

If you are engaged in a U.S. trade or business, and if income from the ETNs is effectively connected with the conduct of that trade or business, you generally will be subject to regular U.S. federal income tax with respect to that income in the same manner as if you were a U.S. Holder, unless an applicable income tax treaty provides otherwise. If you are such a holder and you are a corporation, you should also consider the potential application of a 30% (or lower treaty rate) branch profits tax.

Tax Consequences Under Possible Alternative Treatments. Subject to the discussion below under “FATCA,” if all or any portion of an ETN were recharacterized as a debt instrument, any payment made to you with respect to the ETN generally would not be subject to U.S. federal withholding or income tax, *provided* that: (i) income or gain in respect of the ETN is not effectively connected with your conduct of a trade or business in the United States, and (ii) you provide to the applicable withholding agent an appropriate IRS Form W-8 certifying under penalties of perjury that you are not a United States person.

Other U.S. federal income tax treatments of the ETNs are also possible. Moreover, as discussed above under “*Tax Consequences to U.S. Holders – Possible Alternative Tax Treatments of an Investment in the ETNs*,” 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 might materially and adversely affect the withholding

tax consequences of an investment in the ETNs, possibly with retroactive effect. You should consult your tax adviser regarding possible alternative tax treatments of the ETNs and potential changes in applicable law. If withholding applies to the ETNs, we will not be required to pay any additional amounts with respect to amounts withheld.

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, the ETNs 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 an investment in the ETNs.

Information Reporting and Backup Withholding

The payment of the proceeds of a taxable disposition of the ETNs may be subject to information reporting and, if you fail to provide certain identifying information (such as an accurate taxpayer identification number if you are a U.S. Holder) or meet certain other conditions, may also be subject to backup withholding at the rate specified in the Code. If you are a Non-U.S. Holder that provides an appropriate IRS Form W-8, 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 relevant 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"). If the ETNs were recharacterized as debt instruments, this legislation would apply to the ETNs. While existing Treasury regulations would also require withholding on payments of gross proceeds of the disposition (including upon retirement) of certain financial instruments treated as paying U.S.-source interest or dividends, the U.S. Treasury Department has indicated in subsequent proposed regulations its intent to eliminate this requirement. The U.S. Treasury Department has stated that taxpayers may rely on these proposed regulations pending their finalization. If withholding applies to the ETNs, 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 ETNs.

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 ETNs.

Prospective investors in the ETNs should consult their tax advisers regarding all aspects of the U.S. federal income and estate tax consequences of an investment in the ETNs and any tax consequences arising under the laws of any state, local or non-U.S. taxing jurisdiction.

SUPPLEMENTAL 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. (“**CGMI**”), govern the sale and purchase of the ETNs.

CGMI, an affiliate of ours, is the agent for this offering. We issued and sold a portion of the ETNs to CGMI on the original issue date and received proceeds equal to 100% of their Fixing Indicative Value as of the Inception Date. After the original issue date, we may issue and sell additional ETNs of each series to CGMI based on their Indicative Value at that time. For any ETNs we issue and sell after the original issue date, we expect to receive proceeds equal to 100% of their Indicative Value at the time we price the sale of the ETNs to CGMI. CGMI may offer and sell ETNs from time to time as principal to investors and to dealers at a price based on the Indicative Value at the time of sale. Dealers may in turn offer and sell ETNs to investors at market prices prevailing at the time of sale, at prices related to market prices or at negotiated prices. CGMI may lend the ETNs to broker-dealers and other market participants who may have made short sales of such ETNs and who may cover such short positions by purchasing such ETNs from CGMI.

We are not obligated to issue and sell additional ETNs at any time to CGMI, and CGMI is not obligated to sell additional ETNs to investors or dealers at any time. The stated principal amount of each series of ETNs stated at the top of the cover page of this pricing supplement is the maximum amount of each series of ETNs that we have currently authorized for issuance. Although we have the right to increase the authorized amount of any series of ETNs at any time, it is our current intention not to issue more than the current maximum authorized amount of each series of ETNs, even if there is substantial market demand for additional ETNs of such series. We may also reduce the maximum authorized amount of each series of ETNs at any time and have no obligation to issue up to the maximum authorized amount. If we discontinue issuances and sales of the ETNs of any series, or if CGMI discontinues sales of the ETNs of any series, the price and liquidity of those ETNs may be subject to significant distortions. See “Risk Factors—We and CGMI are under no obligation to issue or sell additional ETNs of any series at any time, and if we and CGMI do sell additional ETNs of any series, we or CGMI may limit or restrict such sales, and we or CGMI may stop and subsequently resume selling additional ETNs of such series at any time” and “—Any limitation or suspension on the issuance or sale of the ETNs may impact the trading price of the ETNs, including by creating a premium over the indicative value of the ETNs that may be reduced or eliminated at any time.”

We will not pay any commissions or underwriting fees to CGMI or any other dealer. For any ETNs it sells, CGMI is expected to charge to purchasers a creation fee of up to approximately 0.05% *times* the Indicative Value at which CGMI prices the sale of such ETNs, *provided however* that CGMI may from time to time increase or decrease the creation fee. In exchange for providing certain services relating to the distribution of the ETNs, CGMI, a member of the Financial Industry Regulatory Authority (“**FINRA**”), may receive a portion of the Daily Investor Fee. In addition, CGMI will charge investors an Early Redemption Charge of 0.09% *times* the Fixing Indicative Value on the applicable Early Redemption Valuation Date of any ETN that is redeemed at the investor’s option. CGMI and its affiliates may also profit from expected hedging activity related to these offerings, even if the value of the ETNs declines.

We have retained Janus Distributors LLC, doing business as Janus Henderson Distributors (“**JHD**”), a member of FINRA, to provide certain services relating to the placement and marketing of the ETNs of each series. JHD will receive a portion of the Daily Investor Fee in consideration for its role in marketing and placing the ETNs. The actual amount received by JHD in a given year will accrue on a daily basis based on the number of then outstanding ETNs of any series held by investors. CGMI will also pay the Index Sponsor a portion of the Daily Investor Fee in consideration for the license of certain intellectual property of the Index Sponsor, as described under “Description of the Indices—License Agreement” above. CGMI has agreed to indemnify JHD against liabilities relating to material misstatements and omissions. From time to time, JHD (or its predecessor) and its affiliates have, and in the future may, engage in transactions with or perform services for us for which they

have been, and may be, paid customary fees. JHI or its agent is responsible for computing and disseminating the Fixing Indicative Value and Intraday Indicative Value, except as otherwise described herein.

CGMI may from time to time purchase outstanding ETNs of any series in the open market, in connection with early redemptions or in other transactions, and CGMI may use this pricing supplement together with the accompanying prospectus supplement and prospectus in connection with resales of some or all of the purchased ETNs in the secondary market. Broker-dealers, including CGMI, may make a market in the ETNs of any series, although none of them are obligated to do so and any of them may stop doing so at any time without notice. This pricing supplement (including the accompanying prospectus supplement and prospectus) may be used by CGMI or any other dealer in connection with market-making transactions. In these transactions, CGMI or such dealers may resell an ETN covered by this pricing supplement that they acquire from us, CGMI or other holders after the original offering and sale of the ETNs, or they may sell an ETN covered by this pricing supplement in short sale transactions. This pricing supplement (including the accompanying prospectus supplement and prospectus) will be deemed to cover any short sales of the ETNs by market participants who borrow ETNs from us or our affiliates or who cover their short positions with ETNs acquired from us or our affiliates.

In order to hedge our obligations under the ETNs, we have entered into and will enter into one or more swaps or other derivatives transactions with one or more of our affiliates. You should refer to the section “Risk Factors—Foreign currency trading by our affiliates may adversely affect your return on the ETNs” in this pricing supplement and the section “Use of Proceeds and Hedging” in the accompanying prospectus. CGMI may condition its acceptance of an offer to purchase any series of the ETNs on such purchaser’s agreement to purchase certain exchange traded notes issued by us or enter into certain transactions consistent with our affiliates’ hedging strategy.

Broker-dealers and other market participants are cautioned that some of their activities, including borrowing ETNs from one of our affiliates for purposes of short sales or covering short sales with ETNs acquired from one of our affiliates, may result in their being deemed participants in the distribution of the ETNs of any series in a manner that would render them statutory underwriters and subject them to the prospectus delivery and liability provisions of the Securities Act of 1933. A determination of whether a particular market participant is an underwriter must take into account all the facts and circumstances pertaining to the activities of the participant in the particular case, and the example mentioned above should not be considered a complete description of all the activities that would lead to designation as an underwriter and subject a market participant to the prospectus-delivery and liability provisions of the Securities Act. This pricing supplement (including the accompanying prospectus supplement and prospectus) will be deemed to cover any short sales of the ETNs by market participants who borrow ETNs from us or our affiliates or who cover their short positions with ETNs acquired from us or our affiliates.

CGMI may deliver ETNs against payment therefor on a date that is greater than two Business Days following the date of sale of such ETNs. Under Rule 15c6-1 of the Securities Exchange Act of 1934, trades in the secondary market generally are required to settle in two Business Days, unless parties to any such trade expressly agree otherwise. Purchasers who wish to trade ETNs that are to be issued more than two Business Days after the related trade date will be required to specify alternative settlement arrangements to prevent a failed settlement.

No action has been or will be taken by us or our affiliates or any underwriter, dealer or agent that would permit a public offering of the ETNs or possession or distribution of this pricing supplement (including the prospectus supplement and prospectus) or any free writing prospectus in any jurisdiction, other than the United States, where action for that purpose is required. No offers, sales or deliveries of the ETNs, or distribution of this pricing supplement (including the prospectus supplement and prospectus) or any other offering material relating to the ETNs may be made in or from any jurisdiction outside the United States, except in circumstances that will result in compliance with any applicable laws and regulations and will not impose any obligations on us or our affiliates, any underwriter, dealer or agent. You should refer to the section “Plan of Distribution—Certain Selling Restrictions” in the accompanying prospectus supplement.

CGMI is an affiliate of ours. Accordingly, these offerings 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

adopted by FINRA. Client accounts over which Citigroup Inc., its subsidiaries or affiliates of its subsidiaries have investment discretion are not permitted to purchase the ETNs, either directly or indirectly, without the prior written consent of the client.

Prohibition of Sales to EEA Retail Investors

The ETNs may not be offered, sold or otherwise made available to any retail investor in the European Economic Area. For the purposes of this provision:

- (a) the expression “retail investor” means a person who is one (or more) of the following:
 - (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, “MiFID II”); or
 - (ii) a customer within the meaning of Directive 2002/92/EC, where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or
 - (iii) not a qualified investor as defined in Directive 2003/71/EC; and
- (b) the expression “offer” includes the communication in any form and by any means of sufficient information on the terms of the offer and the ETNs offered so as to enable an investor to decide to purchase or subscribe the ETNs.

Janus Henderson Indices LLC

CGMI has entered into a non exclusive license agreement with Janus Index & Calculation Services LLC, renamed Janus Henderson Indices LLC as of January 1, 2019 (“**JHI**”), to license to us and our affiliates, in exchange for a fee, the right to use certain trade names, trademarks and servicemarks, which are owned by Janus International Holding LLC, in connection with certain securities, including the ETNs.

The license agreement between JHI and CGMI provides that the following language must be set forth in this pricing supplement:

“VelocityShares,” the “V Logo” and the “V VelocityShares Logo” are service marks of Janus Henderson Indices LLC, formerly Janus Index & Calculation Services LLC, and have been licensed for use by us. The ETNs are not sponsored, endorsed or sold by Janus Henderson Indices LLC, nor does Janus Henderson Indices LLC make any representation regarding the advisability of investing in any of the ETNs.

NEITHER JANUS HENDERSON INDICES LLC AND ITS AFFILIATES (TOGETHER, “**JANUS**”) NOR ANY OTHER PARTY MAKES ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, TO THE OWNERS OF THE ETNS OR ANY MEMBER OF THE PUBLIC REGARDING THE ADVISABILITY OF INVESTING IN THE ETNS GENERALLY OR THE SIMILARITIES OR VARIATIONS BETWEEN THE PERFORMANCE OF THE ETNS OR THE INDICES AND THE PERFORMANCE OF THE UNDERLYING SECURITIES OR FINANCIAL INSTRUMENTS. JANUS IS THE LICENSOR OF CERTAIN TRADEMARKS, SERVICEMARKS AND TRADE NAMES OF JANUS. NEITHER JANUS NOR ANY OTHER PARTY GUARANTEES THE ACCURACY AND/OR THE COMPLETENESS OF THE INDICES OR ANY DATA INCLUDED THEREIN OR ANY CALCULATIONS MADE WITH RESPECT TO THE ETNS.

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 ETNs. 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 ETNs 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 ETNs. 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 ETNs and related lending transactions, *provided* that neither the issuer of the ETNs 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 ETNs.

Accordingly, the ETNs 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 ETNs will not constitute a non-exempt prohibited transaction under ERISA or Section 4975 of the Code. Each purchaser or holder of the ETNs or any interest therein will be deemed to have represented by its purchase or holding of the ETNs that (a) it is not a Plan and its purchase and holding of the ETNs is not made on behalf of or with “plan assets” of any Plan or (b) its purchase and holding of the ETNs 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 ETNs shall be required to represent (and deemed to have represented by its purchase of the ETNs) 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 ETNs on behalf of or with “plan assets” of any Plan consult with their counsel regarding the relevant provisions of ERISA, the Code or any Similar Laws and the availability of exemptive relief under PTCE 96-23, 95-60, 91-38, 90-1, 84-14, the service provider exemption or some other basis on which the acquisition and holding will not constitute a non-exempt prohibited transaction under ERISA or Section 4975 of the Code or a violation of any applicable Similar Laws.

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

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

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

(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 ETNs has exclusive responsibility for ensuring that its purchase, holding and subsequent disposition of the ETNs does not violate the fiduciary or prohibited transaction rules of ERISA, the Code or any applicable Similar Laws. The sale of any ETNs 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 ETNs if the account, plan or annuity is for the benefit of an employee of Citigroup Global Markets or a family member and the employee receives any compensation (such as, for example, an addition to bonus) based on the purchase of ETNs by the account, plan or annuity.

VALIDITY OF THE ETNS

Restated below are the opinions of Davis Polk & Wardwell LLP, as our special products counsel, Scott L. Flood, General Counsel and Secretary of Citigroup Global Markets Holdings Inc. and Barbara Politi, Assistant General Counsel—Capital Markets of Citigroup Inc., included in Pricing Supplement No. 2017—USNCH0854, Pricing Supplement No. 2017—USNCH0852, Pricing Supplement No. 2017—USNCH0858, Pricing Supplement No. 2017—USNCH0856, Pricing Supplement No. 2017—USNCH0859, Pricing Supplement No. 2017—USNCH0853, Pricing Supplement No. 2017—USNCH0851, Pricing Supplement No. 2017—USNCH0855, Pricing Supplement No. 2017—USNCH0857 and in Pricing Supplement No. 2017—USNCH0860, each dated December 11, 2017:

“In the opinion of Davis Polk & Wardwell LLP, as special products counsel to Citigroup Global Markets Holdings Inc., when the ETNs 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 ETNs 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 ETNs.

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 ETNs nor the issuance and delivery of the ETNs and the related guarantee, nor the compliance by Citigroup Global Markets Holdings Inc. and Citigroup Inc. with the terms of the ETNs 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 ETNs 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 ETNs 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 ETNs 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 ETNs 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.

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.”

ANNEX A

FORM OF OFFER FOR REDEMPTION

Email: ETNOrders@velocityshares.com

The undersigned holder of Exchange-Traded Notes Based on the Performance of the VelocityShares Daily 4X _____ Index due December 15, 2032 issued by Citigroup Global Markets Holdings Inc. and guaranteed by Citigroup Inc., CUSIP No. _____ (the “**VelocityShares® ETNs**”) hereby irrevocably offers to Citigroup Global Markets Holdings Inc. for redemption the VelocityShares® ETNs in the amounts and on the date set forth below as described in the pricing supplement relating to the VelocityShares® ETNs (the “**Pricing Supplement**”). Terms not defined herein have the meanings given to such terms in the Pricing Supplement.

Name:

DTC Account Number:

Ticker:

Number of VelocityShares® ETNs offered for redemption:

Desired Early Redemption Valuation Date:

In addition to any other requirements specified in the Pricing Supplement being satisfied, the undersigned acknowledges that the VelocityShares® ETNs specified above will not be redeemed unless (i) this offer for redemption is delivered to Janus Henderson Distributors on a Business Day, (ii) the Redemption Agent has responded by sending an acknowledgment of the Redemption Notice accepting the redemption request, (iii) the DTC Participant has booked a “delivery vs. payment” (“**DVP**”) trade on the applicable Early Redemption Valuation Date facing Citigroup Global Markets Inc., DTC #0418, and (iv) the DTC Participant instructs DTC to deliver the DVP trade for settlement via DTC at or prior to 10:00 a.m. New York City time on the applicable Early Redemption Date (the third Business Day following the Early Redemption Valuation Date).

The undersigned acknowledges that the redemption obligation is solely an obligation of Citigroup Global Markets Holdings Inc. (guaranteed by Citigroup Inc.) and Janus Henderson Distributors is acting only to facilitate the redemption.

ANNEX B
INDEX RULES

Janus Index & Calculation Services

The VelocityShares 4X Currency Indices Methodology

November 2017

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Introduction

This document describes the VelocityShares 4X Currency Indices Methodology. Each Index in the family of VelocityShares 4X Currency Indices is designed to track a long leveraged exposure to the performance of one currency in a Currency Pair relative to the other on a daily-compounded basis. Each Currency Pair includes the US Dollar as one of the underlying currencies. Because the underlying currencies are traded with ample liquidity, the Indices are fully replicable using standard foreign exchange products.

The index methodology is flexible: it is designed to handle an array of reference currencies, including currencies that are quoted directly and currencies that are quoted indirectly.

The Indices' Inception Date was October 31, 2017. All data prior to this date is a backtest.

Index Sponsor and Index Calculation Agent

The Index Sponsor is Janus Index & Calculation Services LLC. As at the date of this Index Methodology, the Index Sponsor has appointed Solactive as Index Calculation Agent to calculate and publish the Indices in accordance with the Index Methodology contained in this document. The Index Sponsor may, in its sole discretion and without notice, appoint an alternative Index Calculation Agent at any time which may be the Index Sponsor or one of its Affiliates.

The Index Sponsor's determinations in respect of the Indices shall be final.

Index Overview

The VelocityShares 4X Currency Index family of indices is a proprietary suite of indices sponsored by Janus Index & Calculation Services LLC (the “Index Sponsor”). Each Index is designed to reflect 4X leveraged exposure on a daily-resetting basis to one currency in an underlying Currency Pair relative to the other.

Each Index references a particular Currency Pair, where one of the currencies in the pair is the US Dollar and the other is a foreign currency. The exchange rate between the currencies in a Currency Pair may be quoted in one of two ways: (i) as a number of US Dollars per 1 unit of the foreign currency or (ii) as a number of units of the foreign currency per 1 US Dollar. In the foreign exchange market, for a given Currency Pair, if the standard method of quoting the exchange rate is as a number of US Dollars per 1 unit of the foreign currency, that Currency Pair is said to have an “indirect” quotation standard, and if the standard method of quoting the exchange rate is as a number of units of the foreign currency per 1 US Dollar, that Currency Pair is said to have a “direct” quotation standard.

The following is a list of the foreign currencies paired with the US Dollar that are referenced by the Indices along with their currency quotation standard v. the US Dollar:

Currency Code	Currency	Currency Quotation Standard
JPY	Japanese Yen	Direct: An amount of Japanese Yen per 1 U.S. Dollar
EUR	Euro	Indirect: An amount of U.S. Dollars per 1 Euro
GBP	British Pound	Indirect: An amount of U.S. Dollars per 1 British Pound
CHF	Swiss Franc	Direct: An amount of Swiss Francs per 1 U.S. Dollar
AUD	Australian Dollar	Indirect: An amount of U.S. Dollars per 1 Australian Dollar

For each pair of currencies (of which the US Dollar is one currency), there are two Indices, which take the form of the VelocityShares Daily 4X Long FOR vs. USD Index (where “FOR” is a placeholder for a foreign currency) and the VelocityShares Daily 4X Long USD vs. FOR Index. In other words, for each Currency Pair, there is one Index that reflects a long position in the US Dollar relative to the foreign currency, and one Index that reflects a long position in the foreign currency relative to the US Dollar. The currency in which a given Index reflects a long position is referred to as the “Long Currency” for that Index, and the other currency is referred to as the “Reference Currency” for that Index. In sum, there are 5 Currency Pairs and thus there are 10 Indices. The 10 indices and their tickers are provided in Appendix III.

Prices

The Spot prices for each Currency Pair’s standard quotation on an “Index Business Day” are the WM/Reuters Bid, Ask and Mid Spot prices of the Currency Pair as reported by Thomson Reuters as of 9:00AM New York Time on such Index Business Day. The Forward Points for each Currency Pair’s standard quotation on an “Index Business Day” are the WM/Reuters Bid, Ask and Mid Forward Points of the Currency Pair as reported by Thomson Reuters as of 9:00AM New York Time on such Index Business Day. In the event that forward points are not available, forward points from 9:00AM New York Time on the most recent Index Business Day for which these forward points were available are used.

On days where the NYSE is open (and the Index is being calculated) but the Currency Pair has a settlement holiday, the Forward Points for that Currency Pair are zeroed out. However, the underlying Index is still calculated.

For purposes of calculating the levels of the Indices, the Spot Price is always expressed as a number of units of the Reference Currency per 1 unit of the Long Currency. If the standard quotation convention for a given Currency Pair is not consistent with this, then the Indices will determine the applicable Spot Price as the reciprocal of the quotation in the standard convention as set forth in

Appendix IV. The Forward Points will be expressed on a similar basis and, to the extent the standard quotation convention is not consistent with this, the quoted Forward Points will be inverted as set forth in Appendix IV.

Index Calculations for the Indices

Each Index Level on the Index Start Date, January 2, 2004, is a number such that on December 30th 2016 the Index Level is 10,000. The official Index Level on each Index Business Day is referred to as the “Fixing Index Level.”

Each Fixing Index Level on each Index Business Day t (following the Index Start Date) shall be an amount determined by the Index Calculation Agent in accordance with the formula set out below.

Let

$$I_t$$

be the Index Level at time t . I_0 is the Index Level on the Index Start Date.

Let

$$LR = 4$$

Long FOR vs. USD Indices

For Indices where the foreign currency is the Long Currency and the US Dollar is the Reference Currency, all prices are expressed as (or, in the case of Forward Points, in a manner consistent with) a number of US Dollars per 1 unit of the foreign currency.

For Indices where the foreign currency is the Long Currency and the US Dollar is the Reference Currency, the US Dollar exposure on Day 0 is

$$Exp_0^{USD} = I_0 \times LR$$

US Dollar exposure is simply the leverage ratio times the starting Index Level. To compute foreign currency exposure (rounded to 8 decimal points), we use the Spot price on Day 0 (Mid).

$$Exp_0^{FOR} = Exp_0^{USD} / S_0^{Mid}$$

where

$$S_t^{Mid}$$

is, more broadly, the Spot Price (Mid) on Day t . In other words, the USD exposure is what an investor would pay in dollars and the foreign currency exposure is what an investor would receive in foreign currency at settlement. On Day 1, the foreign currency receipt is then valued with a price that settles one day prior to spot settlement, based on the Tom-Next Bid. P&L is calculated versus the price paid for the foreign currency, i.e. the USD exposure from Day 0:

$$\pi_1 = Exp_0^{FOR} \times TN_1^{Bid} - Exp_0^{USD}$$

(Exp_0^{USD} , TN_1^{Bid} , and $Exp_0^{FOR} \times TN_1^{Bid}$ are all rounded to 8 decimal points)

where

$$TN_t^{Bid} = S_t^{Mid} - TNFP_t^{Ask}$$

And TNFP represents the Tom-Next Forward Points. The Index accrues this P&L:

$$I_1 = I_0 + \pi_1$$

The foreign currency exposure is then rolled at the Spot Mid price. Any additional foreign currency exposure (positive or negative) is an adjustment to the foreign currency receipt, which is based off the Index Level at time t:

$$Exp_t^{USD} = LR \times I_t$$

The adjustment is done on the Spot Bid or Ask price, depending on the directionality of the trade:

$$\begin{aligned} ADJ_t^{USD} &= Exp_t^{USD} - Exp_{t-1}^{FOR} \times S_t^{Mid} \\ ADJ_t^{FOR} &= ADJ_t^{USD} / S_t^{B/A} \\ Exp_t^{FOR} &= Exp_{t-1}^{FOR} + ADJ_t^{FOR} \end{aligned}$$

(Exp_t^{USD} , $Exp_{t-1}^{FOR} \times S_t^{Mid}$, $S_t^{B/A}$, and ADJ_t^{FOR} are all rounded to 8 decimal points)

where

$$S_t^{B/A} = \begin{cases} S_t^B & \text{if } ADJ_t^{USD} < 0 \\ S_t^A & \text{if } ADJ_t^{USD} > 0 \end{cases}$$

and

$$S_t^B$$

and

$$S_t^A$$

are the Spot Price (Bid) and Spot Price (Ask) respectively at Day t. Once again the P&L is calculated

$$\pi_t = Exp_{t-1}^{FOR} \times TN_t^{Bid} - Exp_{t-1}^{USD}$$

and added to the Index Level:

$$I_t = I_{t-1} + \pi_t$$

The return on the Index on any given day is

$$r_t = \frac{I_t}{I_{t-1}} - 1$$

Long USD vs. FOR Indices

For Indices where the US Dollar is the Long Currency and the foreign currency is the Reference Currency, all prices are expressed as (or, in the case of Forward Points, in a manner consistent with) a number of units of the foreign currency per 1 US Dollar.

For Indices where the US Dollar is the Long Currency and the foreign currency is the Reference Currency, the US Dollar exposure on Day 0 is

$$Exp_0^{USD} = I_0 \times LR$$

US Dollar exposure is simply the leverage ratio times the starting Index Level. To compute foreign currency exposure (rounded to 8 decimal points), we use the Spot price on Day 0 (Mid).

$$Exp_0^{FOR} = Exp_0^{USD} \times S_0^{Mid}$$

Here, the USD exposure is what an investor would receive in dollars and the foreign currency exposure is what an investor would pay in foreign currency at settlement. On Day 1, the foreign currency receipt is then valued with a price that settles one day prior to spot settlement, based on the Tom-Next Bid Price. P&L is calculated versus the price received for the foreign currency, i.e. the USD exposure from Day 0:

$$\pi_1 = Exp_0^{USD} - Exp_0^{FOR} / TN_1^{Bid}$$

(Exp_0^{USD} , TN_1^{Bid} , and $\frac{Exp_0^{FOR}}{TN_1^{Bid}}$ are all rounded to 8 decimal points)

The Index accrues this P&L:

$$I_1 = I_0 + \pi_1$$

The foreign currency exposure is then rolled at the Spot Mid price. Any additional foreign currency exposure (positive or negative) is an adjustment to the foreign currency payment, which is based off the Index Level at time t:

$$Exp_t^{USD} = LR \times I_t$$

The adjustment is done on the Spot Bid or Ask price, depending on the directionality of the trade:

$$\begin{aligned} ADJ_t^{USD} &= Exp_t^{USD} - Exp_{t-1}^{FOR} / S_t^{Mid} \\ ADJ_t^{FOR} &= ADJ_t^{USD} \times S_t^{B/A} \\ Exp_t^{FOR} &= Exp_{t-1}^{FOR} + ADJ_t^{FOR} \end{aligned}$$

(Exp_t^{USD} , Exp_{t-1}^{FOR} , S_t^{Mid} , $S_t^{B/A}$, and ADJ_t^{FOR} are all rounded to 8 decimal points)

where now

$$S_t^{B/A} = \begin{cases} S_t^B & \text{if } ADJ_t^{USD} < 0 \\ S_t^A & \text{if } ADJ_t^{USD} > 0 \end{cases}$$

Once again the P&L is calculated

$$\pi_t = Exp_{t-1}^{USD} - Exp_{t-1}^{FOR} / TN_t^{Bid}$$

and added to the Index Level:

$$I_t = I_{t-1} + \pi_t$$

The return on the Index on any given day is

$$r_t = \frac{I_t}{I_{t-1}} - 1$$

Intra-day Index Calculation

The value of each index will be calculated intra-day by applying the then current currency prices of the reference currencies as if they were the fixing prices and following the calculations described above. Intra-day index levels are indicative only and may use real-time currency rates from alternative sources other than Thomson Reuters, the primary source.

Index Maintenance

Base Date

Each Index has a level of 10,000 on December 30th, 2016.

Adjustments

The index committee will be solely responsible for the determination and calculation of any adjustments to the price of any underlying currency of an index and of any related determinations and calculations with respect to any adjustment and its determinations and calculations will be conclusive absent manifest error.

Index Policy

Announcements

Announcements regarding changes to any of the indices will be made publicly available prior to the effective date of the change. All announcements will be published on the index website: indices.janushenderson.com.

Holiday Schedule

Each index will be calculated on days when the NYSE is open for trading (each, an “Index Business Day”).

Force Majeure

Calculation of the indices may not be possible or feasible under certain events or circumstances, including, without limitation, market disruptions, a systems failure, natural or man-made disaster, act of God, armed conflict, act of terrorism, riot or labor disruption or any similar intervening circumstance, that is beyond the reasonable control of the index provider and that the index provider determines affects the Indices or underlying currency markets. Upon the occurrence of any occurrence deemed to be a force majeure event as determined by the index provider, the index provider may, in its discretion, elect one (or more) of the following options:

- I. Make such determinations and/or adjustments to the terms of an Index as it considers appropriate to determine any fixing level on any such appropriate Index Business Day; and/or
- II. Defer publication of the information relating to an Index until the next Index Business Day on which it determines that no force majeure event exists; and/or
- III. Permanently cancel the publication of the information relating to an Index.

The index provider employs the methodology described above and its application of the methodology shall be conclusive and binding.

Index Committee

The index committee is responsible for reviewing the design, composition, and calculation of the VelocityShares Indices, the development of new indices, and to determine changes, if any, to the index methodology, and the treatment of corporate actions.

Decisions made by the index committee include all matters relating to index policy and maintenance. The index committee meets periodically to review market conditions and index performance. The committee meets on as-needed basis to address major market developments.

The index committee reserves the right to exercise its discretion in making decisions with respect to any index policy or action. Index committee internal procedures and discussions are confidential.

Index Dissemination

Index Tickers

The indices are calculated in real-time and disseminated over the Consolidated Tape Association every 15 seconds during the US trading Day. Official Fixing Index Levels are published each Index Business Day at approximately 6PM Eastern Time to indices.janushenderson.com.

FTP

Daily Index Level information is available via FTP. Please contact the Index Sponsor for subscription information.

Contact Information

Email: qs@janushenderson.com

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Appendix I: Reference Adjustments

The “Reference Currency Sponsor,” with respect to an Underlying Currency Pair, refers to that company or entity that (a) is responsible for setting and reviewing the rules and procedures and the methods of calculation and adjustments, if any, related to the Reference Currency Prices and (b) announces (directly or through an agent) the level of such Reference Currency Prices.

Successor Reference Currency Sponsor

If Spot Prices and/or Forward Points (“Reference Currency Prices”) are (i) not calculated and announced by the relevant Reference Currency Sponsor but are calculated and announced by a successor sponsor acceptable to the Index Calculation Agent, or (ii) replaced by successor Spot Prices and/or Forward Points using, in the determination of the Index Calculation Agent, the same or a substantially similar formula for and/or method of calculation, then in each case those Spot Prices and/or Forward Points (the “Successor Currency Prices”) will be deemed to be the relevant Reference Currency Prices with effect from the date determined by the Index Calculation Agent who may make such adjustment(s) to the Index Conditions as it determines appropriate to account for such change.

Reference Currency Price Modification and Reference Currency Price Cancellation

If a Reference Currency Sponsor announces that it will make a material change in the formula for or method of calculating a Reference Currency Price or in any other way materially modifies that Reference Currency Price (other than a modification prescribed in that formula or method to maintain that Reference Currency Price) (a “Reference Currency Price Modification”) or permanently cancels that Reference Currency Price and no Successor Reference Currency Price exists (a “Reference Currency Price Cancellation” and, together with a Reference Currency Price Modification, each a “Reference Currency Price Adjustment Event”), then:

- I. 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 event does not occur or continue to occur; and/or
- II. the Index Calculation Agent may select a replacement Reference Currency Price that has substantially similar characteristics to the Reference Currency Price that is being replaced, having regard to the manner in which such Reference Currency Price 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 the Index Conditions as it determines appropriate to account for the effect on the Index of such replacement; and/or
- III. the Index Sponsor may discontinue and cancel the Index.

Cancellation of Reference Currency Price license

If, in respect of a Reference Currency Price, a license granted (if required) to the Index Sponsor and/or the Index Calculation Agent and/or any of their respective Affiliates, to use such Reference Currency Price in connection with the Index is terminated, or any such entity’s right to use such Reference Currency Price in connection with calculating the Index is otherwise disputed, impaired or ceases for any reason, then:

- I. 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 event does not occur or continue to occur; and/or

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- II. the Index Calculation Agent may select a replacement Reference Currency Price that has substantially similar characteristics to the Reference Currency Price that is being replaced, having regard to the manner in which such Reference Currency Price 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 the Index Conditions as it determines appropriate to account for the effect on the Index of such replacement; and/or
 - III. the Index Sponsor may discontinue and cancel the Index.

Corrections of published levels, prices, rates or values in respect of a Reference Currency Price

If, in respect of a Reference Currency Price, any level, price, rate or value (as applicable) in respect of such Reference Currency Price or any related derivative or other related instrument, for any time on any day, which is announced by or on behalf of the person or entity responsible for such publication or announcement and which is used for any calculation or determination in respect of the Index, is subsequently corrected, and such correction (the “Corrected Level”) is published by or on behalf of such person or entity within two Index Business Days after the original publication, then such Corrected Level shall be deemed to be the level, price, rate or value (as applicable) for such Reference Currency Price, related derivative or other related instrument (as the case may be) for the relevant time on the relevant day and the Index Calculation Agent may, but shall not be obliged to, make appropriate adjustments to the Index and the Index Level for the relevant Index Business Day(s).

Appendix II: Holiday Schedule

NYSE Holiday Schedule

2017	2018	2019
January 2	January 1	January 1
January 16	January 15	January 21
February 20	February 19	February 18
April 14	March 30	April 19
May 29	May 28	May 27
July 4	July 4	July 4
September 4	September 3	September 2
November 23	November 22	November 28
December 25	December 25	December 25

Appendix III: Indices

Fixing Index Tickers

Fixing Index Ticker	Index Name	Underlying Foreign Currency
UJPYFV	VelocityShares Daily 4X Long JPY vs. USD Index	Japanese Yen
UEURFV	VelocityShares Daily 4X Long EUR vs. USD Index	Euro
UGBPFV	VelocityShares Daily 4X Long GBP vs. USD Index	British Pound
UCHFFV	VelocityShares Daily 4X Long CHF vs. USD Index	Swiss Franc
UAUDFV	VelocityShares Daily 4X Long AUD vs. USD Index	Australian Dollar
DJPYFV	VelocityShares Daily 4X Long USD vs. JPY Index	Japanese Yen
DEURFV	VelocityShares Daily 4X Long USD vs. EUR Index	Euro
DGBPFV	VelocityShares Daily 4X Long USD vs. GBP Index	British Pound
DCHFFV	VelocityShares Daily 4X Long USD vs. CHF Index	Swiss Franc
DAUDFV	VelocityShares Daily 4X Long USD vs. AUD Index	Australian Dollar

Intraday Index Tickers

Intraday Index Ticker	Index Name	Underlying Foreign Currency
UJPYID	VelocityShares Daily 4X Long JPY vs. USD Index	Japanese Yen
UEURID	VelocityShares Daily 4X Long EUR vs. USD Index	Euro
UGBPID	VelocityShares Daily 4X Long GBP vs. USD Index	British Pound
UCHFID	VelocityShares Daily 4X Long CHF vs. USD Index	Swiss Franc
UAUDID	VelocityShares Daily 4X Long AUD vs. USD Index	Australian Dollar
DJPYID	VelocityShares Daily 4X Long USD vs. JPY Index	Japanese Yen
DEURID	VelocityShares Daily 4X Long USD vs. EUR Index	Euro
DGBPID	VelocityShares Daily 4X Long USD vs. GBP Index	British Pound
DCHFID	VelocityShares Daily 4X Long USD vs. CHF Index	Swiss Franc
DAUDID	VelocityShares Daily 4X Long USD vs. AUD Index	Australian Dollar

Appendix IV: Currency Inversion

For currency inversions, we take reciprocals of the Bid, Mid and Ask Spot prices to yield the Ask, Mid and Bid prices. So, for example, a USDFOR Ask Spot price is the reciprocal of the FORUSD Bid Spot Price. A “USDFOR” price is expressed in terms of a number of units of foreign currency per 1 US Dollar, and a “FORUSD” price is expressed in terms of a number of US Dollars per 1 unit of foreign currency.

Forward Points are calculated as follows, depending on which is provided as the standard quotation:

$$TNFP_t^{FORUSD,Bid} = - \left(\frac{1}{\left(S_t^{USDFOR,Bid} - \frac{TNFP_t^{USDFOR,Ask}}{Scale} \right)} - \frac{1}{S_t^{USDFOR,Bid}} \right) \times Scale$$

$$TNFP_t^{FORUSD,Ask} = - \left(\frac{1}{\left(S_t^{USDFOR,Ask} - \frac{TNFP_t^{USDFOR,Bid}}{Scale} \right)} - \frac{1}{S_t^{USDFOR,Ask}} \right) \times Scale$$

$$TNFP_t^{USDFOR,Bid} = - \left(\frac{1}{\left(S_t^{FORUSD,Bid} - \frac{TNFP_t^{FORUSD,Ask}}{Scale} \right)} - \frac{1}{S_t^{FORUSD,Bid}} \right) \times Scale$$

$$TNFP_t^{USDFOR,Ask} = - \left(\frac{1}{\left(S_t^{FORUSD,Ask} - \frac{TNFP_t^{FORUSD,Bid}}{Scale} \right)} - \frac{1}{S_t^{FORUSD,Ask}} \right) \times Scale$$

Unless otherwise specified, Scale is set to one (we allow for other scaling factors if the forward points are not quoted as true decimals either because of a change in format or change in sourcing).