



JANUS HENDERSON INDICES

Janus Henderson Upside Maximization Protocol (JUMP)

Index Methodology

June 2020

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Introduction

This document describes the Janus Henderson JUMP Index Methodology. The Janus Henderson JUMP Index methodology consists of a Downside Mitigation Index (the “DM Index”) and the Janus Henderson Upside Maximization Protocol Index (the “JUMP Index”).

The DM Index is designed to replicate a portfolio consisting of stocks based on their market capitalizations and downside deviations. The percentage weight of each stock within each Index is determined in accordance with the JUMP Index methodology described below.

The DM Index is rebalanced quarterly, when the weights are recalculated. On each quarterly Calculation Day, the stocks are reselected by reference according to their market capitalizations and downside deviations at the time and the percentage weight of each stock to be included in each Index is determined in accordance with the JUMP Index methodology. These new stocks are given effect in their respective weights as of the related Rebalancing Day.

The DM Index is designed to be investible – an investor holding the reference securities associated with the Index at the same weights adjusted daily should realize returns similar to that of the DM Index. The reference securities are US listed equities.

The JUMP Index applies a Volatility Control Mechanism and Participation Enhancement Process to the DM Index. The Volatility Control Mechanism targets a 15% annualized volatility, while the Participation Enhancement Process applies a return adjustment to twenty equally-weighted volatility-controlled sub-indices. The JUMP Index is not replicable without additionally considering the pricing adjustment required to include the overlay in a portfolio.

The DM Index inception date and JUMP Index inception date are both December 31, 2019. All data prior to this date is pre-inception index performance (PIP).

Index Sponsor and Index Calculation Agent

The index sponsor is Janus Henderson Indices LLC (the “Index Sponsor”). The Index Sponsor’s determinations in respect of each Index shall be final.

Index Overview

The Index is a notional rules-based proprietary index sponsored by the Index Sponsor, described below.

Reference Index

Solactive US Large Cap Index (Bloomberg Ticker: SOLUSLCP Index)

Scheduled Index Business Days

Weekdays in which the New York Stock Exchange is open for trading.

Index Business Days

Weekdays in which the New York Stock Exchange is open for trading on which no Index Disruption Event exists.

Index Calculation Days

The last Index Business Day of each quarter (January, April, July, and October), starting with the last Index Business Day of January 2000.

Rebalance Days

The close of the 5th Index Business Day after an Index Calculation Day starting in April 2000; provided, however, that if such date is an Index Disruption Day, the rebalancing scheduled for such date will be postponed until the first Calculation Day which is not an Index Disruption Day. The Index has coinciding Calculation and Rebalance Days on Base Date on January 31, 2000.

Index Calculations

The DM Index Level on the Index Base Date, January 31, 2000, shall be 1,000:

$$I_0 = 1000$$

The Jump Index Level on the Index Base Date shall also be 1,000:

$$I_0^{JUMP} = 1000$$

For the DM Index Start Date, define the initial weights ($W_{i,t}$) as described in the section “Weights” below. Define the initial share count for each stock in the index, i , as

$$S_{i,0} = \frac{W_{i,0} \times 1000}{P_{i,0}}$$

where

$P_{i,t}$ = Constituent Closing Level of Constituent i on Index Business Day t

and

$S_{i,t}$ = Index Share Count of Constituent i on Index Business Day t

and

$i = 1 \dots N$

where N is the number of constituents in the eligible universe.

The DM Index Level on each Index Business Day t shall be an amount determined by the Index Calculation Agent in accordance with the formula set out below. The formula aggregates the product of each Constituent’s Constituent Closing Level and its prevailing share count:

$$I_t = \sum_1^N S_{i,t} P_{i,t}$$

adjusted for corporate actions where necessary.

The Excess Return of the DM Index uses the US Federal Funds Effective Rate (FEDL01 Index) as the risk-free rate (r^f), and d is the number of calendar days from and including the immediately prior Index Business Day to but excluding the current Index Business Day:

$$I_t^{ER} = I_{t-1}^{ER} * \left\{ \frac{I_t}{I_{t-1}} - \left(r_{t-1}^f * \frac{d}{365} \right) \right\}$$

Index Rebalance

On a given Index Calculation Day ($t = Calc$), new share counts are calculated for the rebalance. Define the Rebalance Share Counts for each stock i as:

$$\tilde{S}_{i,t} = S_{i,Calc} = \frac{W_{i,Calc} I_{Calc}}{P_{i,Calc}}$$

Let

$$\tilde{I}_t = \sum_{i=1}^N \tilde{S}_{i,t} P_{i,t}$$

On a Rebalance Day,

$$S_{i,Rebal} = \tilde{S}_{i,Rebal} \times \frac{I_{Rebal}}{\tilde{I}_{Rebal}}$$

and thus,

$$I_{Rebal} = \sum_{i=1}^N S_{i,Rebal} P_{i,Rebal}$$

Share Counts are subject to change as a result of Additional Rebalancing Event, Dividend Adjustment Event, Stock Split Adjustment Event, Rights Issue Adjustment Event or other Adjustment Events, as described below. Unless adjusted by one of these events or a rebalance,

$$S_{i,t} = S_{i,t-1}$$

and

$$\tilde{S}_{i,t} = \tilde{S}_{i,t-1}$$

Subject to the occurrence or existence of a Disrupted Day, the Index Level is calculated by the Index Calculation Agent at 6:30PM Eastern Time (the “Index Valuation Time”) on each Index Business Day. The Index Level is the closing level of the Index for the relevant Index Business Day. The Index Calculation Agent may also, but is not obliged to, calculate the level of the Index in respect of any other valuation time on any Index Business Day or any other day with the consent of the Index Sponsor.

The detailed procedures for the calculation of the Index Level in respect of each Index Business Day are set out below.

Selection and Weighting Methodology

Each stock in the Eligible Universe will receive a weight on each Index Calculation Day. The weight is calculated as follows:

On each Index Calculation Day the Downside Deviation ($V_{i,Calc}$) of each Eligible Universe Index Constituent is calculated as the annualized standard deviation of negative values during the trailing 252 Index Business Days for daily returns based on dividend-adjusted closing prices as of the Index Calculation Day. Any stock listed less than 252 business days prior to the Index Calculation Day is removed and ineligible for inclusion. The Downside Deviation Score, $\tilde{V}_{i,Calc}$, is the Downside Deviation for a given stock if it is one of the lowest 100 deviations calculated. Otherwise, the Downside Deviation Score is set to zero.

The weight of the constituents is calculated pro-rata based on Downside Deviation Score, and is as follows:

$$w_{i,calc} = \frac{1/\tilde{V}_{i,calc}}{\sum_{j=1}^{N^*} 1/\tilde{V}_{j,calc}}$$

$$N^* \in N \text{ s.t. } \tilde{V}_{i,calc} > 0$$

Weights are capped at 3%. Any residual weight is redistributed proportionally across all uncapped constituents. If the redistribution of residual weights causes another constituent's weight to increase above 3%, the additional constituent's weight will be capped at 3% and the redistribution will be repeated.

Weights are fixed as of the Index Calculation Day and converted to shares of each constituent. The shares (potentially adjusted for corporate actions) form the basis for the rebalance of the portfolio on the Index Rebalance Day. That is, the weights may evolve over that time due to market movements, etc., but the share counts (potentially adjusted for corporate actions) remain fixed and scaled according to the index value of the rebalanced portfolio relative to the Index each day between Index Calculation Day and Index Rebalance Day.

The DM Index is a gross total return index, with notional reinvestment of dividends. The DM Index is described as replicating notional positions in the Constituents because there is no actual portfolio of assets to which any person is entitled or in which any person has any ownership interest. The DM Index simply references certain investment positions, the performances of which are used as reference points for the purpose of calculating DM Index Levels.

The JUMP Index

The JUMP Index takes the DM Index (I_t) described above and adds two overlays: a Volatility Control Mechanism and a Participation Enhancement Process. The Volatility Control Mechanism aims to control the volatility of the DM Index to a pre-defined level, while the Participation Enhancement Process applies a modification to the monthly performance that zeros out the return during a 20-business day period if that return falls between zero and a predetermined JUMP Barrier.

Volatility Control Mechanism

The Volatility Control Mechanism seeks to transform the DM Index (I_t) into a Volatility Control Index (I_t^{VC}) by targeting a pre-defined volatility of 15%.

Two calculations of the realized volatility of the DM Index are calculated using an exponentially weighted moving average: a Short-Term (σ_t^S) and a Long-Term (σ_t^L) Realized Volatility:

$$\sigma_t^S = \sqrt{\lambda_S * \sigma_{t-1}^S{}^2 + (1 - \lambda_S) * 252 \ln^2 \frac{I_t}{I_{t-1}}}$$

$$\sigma_t^L = \sqrt{\lambda_L * \sigma_{t-1}^L{}^2 + (1 - \lambda_L) * 252 \ln^2 \frac{I_t}{I_{t-1}}}$$

$$\text{Where: } \begin{cases} \lambda_S = 0.94 \\ \lambda_L = 0.97 \\ \sigma_0^S = \sigma_0^L = 15.40\% \end{cases}$$

The two realized volatilities are used to calculate a daily time series (σ_t):

$$\sigma_t = \max[\sigma_t^S; \sigma_t^L]$$

Target Exposure

To calculate the target exposure, first the target volatility (15%) is divided by the realized volatility (σ_t) of the DM Index, and this ratio is multiplied by the volatility adjustment factor (VAF_t). The VAF_t is a scalar that depends on the realized volatility of the Volatility Control Index (I_t^{VC}) as described below. The final target exposure (TE_t) is capped at 300%. Thus,

$$TE_t = \min \left[300\%; VAF_t * \frac{15\%}{\sigma_t} \right]$$

where,

The Volatility Adjustment Factor (VAF_t) is calculated as the ratio of the target volatility (15%) divided by the realized volatility of the Volatility Control Index (σ_t^{VC}), with a floor of 50% and a ceiling of 200%. Initial values of VAF are set to 1 until there are a sufficient number of days in I_t^{VC} to calculate the realized volatility (10 days):

$$VAF_t = \begin{cases} \min \left[200\%; \max \left[50\%; \frac{15\%}{\sigma_t^{VC}} \right] \right], & t > 10 \\ 1, & t \leq 10 \end{cases}$$

The realized volatility of the Volatility Control Index (σ_t^{VC}) is an annualized standard deviation of the trailing ten daily log-returns of I_t^{VC} :

$$\sigma_t^{VC} = \sqrt{\frac{252}{10} * \sum_{k=0}^9 \ln^2 \frac{I_{t-k}^{VC}}{I_{t-k-1}^{VC}}}$$

In order to reduce excessive trading resulting from large swings in exposure, the actual exposure (E_t) caps the maximum daily change at 50%, with the initial exposure set to the initial target exposure:

$$E_t = E_{t-1} + \min \left[50\%; \max \left[-50\%; TE_t - E_{t-1} \right] \right]$$

$$E_1 = TE_1$$

Daily Return of the Volatility Control Index

The daily return of the Volatility Control Index is calculated by multiplying the Exposure from the previous Index Business Day by the excess return of the DM Index

$$I_t^{VC} = I_{t-1}^{VC} * \left\{ 1 + E_{t-1} \left[\frac{I_t^{ER}}{I_{t-1}^{ER}} - 1 \right] \right\}$$

Performance Enhancement Process

The JUMP Index takes the Volatility Control Index (I_t^{VC}) described above as a base for twenty sub-indices that each start on a consecutive business day and reset every twenty business days as described below. The JUMP Participation Enhancement Process sets the periodic return to zero during each reset period for each sub-index if it falls between zero and a JUMP Barrier (K^*). Therefore, when the applicable Performance Control Sub-Index is above the JUMP Barrier or negative, the JUMP index return is not affected.

Formally, the Performance Control Index is calculated by calculating twenty unique Performance Control Sub-Indices ($\hat{I}_{t,i}^{JUMP}$ for $i = 1, 2, 3, \dots, 20$), with a different Performance Control Sub-Index resetting its observation day ($\tau(t, i)$) over the course of a 20-business day cycle. On each index day t , we denominate

τ to be the observation day $\tau(t, i)$ for sub-index $\hat{I}_{t,i}^{JUMP}$. Over the course of each twenty-day cycle, each of the 20 Performance Control Sub-Indices will have a different observation day $\tau(t, i)$.

The cumulative return since the most recent observation day $\tau(t, i)$ for each Performance Control Sub-Index $\hat{I}_{t,i}^{JUMP}$ as $r_{t,i}^{JUMP}$ is

$$r_{t,i}^{JUMP} = \begin{cases} \frac{I_t^{VC}}{I_{\tau(t,i)}^{VC}} - 1 & \text{if } \frac{I_t^{VC}}{I_{\tau(t,i)}^{VC}} - 1 < 0 \\ 0 & \text{if } 0 \leq \frac{I_t^{VC}}{I_{\tau(t,i)}^{VC}} - 1 < K^* \\ \frac{I_t^{VC}}{I_{\tau(t,i)}^{VC}} - 1 & \text{if } \frac{I_t^{VC}}{I_{\tau(t,i)}^{VC}} - 1 > K^* \end{cases}$$

Where the JUMP Barrier, $K^* = 2\%$

Therefore, each Performance Control Sub-Index $\hat{I}_{t,i}^{JUMP}$ level grows with respect to its most recent Performance Control Sub-Index level on observation day $\tau(t, i)$:

$$\hat{I}_{t,i}^{JUMP} = \hat{I}_{\tau(t,i)}^{JUMP} * [1 + r_{t,i}^{JUMP}]$$

Finally, the daily returns of the twenty Performance Control Sub-Indices are averaged to calculate the daily return of the JUMP Performance Control Index. Therefore, the Index level on day t is calculated as follows:

$$I_t^{JUMP} = \begin{cases} I_{t-1}^{JUMP} * \left\{ \frac{1}{20} \sum_{i=1}^{20} \frac{\hat{I}_{t,i}^{JUMP}}{\hat{I}_{t-1,i}^{JUMP}} - \left(MF * \frac{d}{365} \right) \right\}, & t > 20 \\ 100, & t \leq 20 \end{cases}$$

Where MF is the maintenance fee of 0.50%.

Constituent Prices

The closing price for each Constituent on an Index Business Day is the price of the security, expressed in US dollars, at the regular close of the principal trading session on the primary exchange on which the security is listed as published by the Consolidated Tape for that Index Business Day and reported by FactSet.

Changes in the Eligible Universe

Whenever a stock that is a Constituent of the Index is removed from the Reference Index (e.g., due to a Delisting or Merger), the Constituent (the "Removed Constituent") will be removed from the Index and its weight will be redistributed across the remaining Constituents in the Index on the same day (an "Additional Rebalancing Day"), except in the event where a Constituent is acquired by another Constituent, in which case the stock portion (if any) of the acquisition is transferred to the acquirer and the cash portion is redistributed across the remaining Constituents in the Index. The introduction of a new stock into the Reference Index will not result in an adjustment to the Index until the next Rebalancing Day. Changes to the composition of the Reference Index are normally announced by the sponsor of the Eligible Universe in advance of the effective date of such changes.

If, due to any applicable law or regulation or policy, the Index Sponsor or the Index Calculation Agent is not permitted (or there is a reasonable likelihood that, within the next 30 Index Business Days, it will not be permitted) to continue to sponsor or calculate, as applicable, an index that includes a stock which is a

Constituent of the Index, then the Removed Constituent will be removed from the Index on the Additional Rebalancing Day designated by the Index Calculation Agent or the Index Sponsor (in which case the Index Sponsor will notify the relevant date to the Index Calculation Agent).

Upon the removal of one or more Removed Constituents from the Index on an Additional Rebalancing Day, the Percentage Weights of the remaining Constituents are scaled up such that the Percentage Weight of the Removed Constituent(s) is proportionally redistributed to the remaining Constituents. In the event that any such Percentage Weight as a result would be greater than 3% in the DM Index, then the Index Calculation Agent shall determine the Percentage Weights to be applied to each remaining Constituent upon the removal of the relevant Removed Constituent(s) by distributing the excess pro rata across the remaining Constituents. If the resulting redistribution causes another Constituent in the DM Index to exceed a 3% weight, the process is repeated until the 3% cap on each Constituent is satisfied.

Intra-Day Index Calculation

The value of each Index will be calculated intra-day by applying the then current adjusted market prices of the selected Constituents as if they were the end of day prices and following the end-of-day calculations described above.

Index Maintenance

Index Base Date Level

Each Index has a level of 1000 on the Index Base Date, and on each Index Business Day thereafter the Index Level is equal to the Index Level at the beginning of the period times one plus the Index Return (R) for the period.

Corporate Actions

The Index Committee, as described further below, will be solely responsible for the determination and calculation of any adjustments to the price of any instrument underlying an Index and of any related determinations and calculations with respect to any corporate action and its determinations and calculations will be conclusive absent manifest error.

Complex corporate actions: should any corporate action exist which the Index Committee deems requires a price adjustment, it will be solely responsible for determining the method and timing for any necessary price adjustments. In the case of simultaneous corporate actions, the Index Committee will determine the application of the above price adjustments which is the most accurate reflection of the impact of the corporate actions.

For most routine corporate actions the Index Committee delegates the implementation of standard corporate action procedures as outlined in this document to the Index Calculation Agent.

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: <https://indices.janushenderson.com/indices>.

Holiday Schedule

Each Index will be calculated on days when (a) the New York Stock Exchange is open for trading and (b) the primary exchange for the reference securities is open for trading. (Please see the Appendix.)

Force Majeure

Calculation of an Index 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 Calculation Agent and/or the Index Sponsor determines affects an Index or underlying markets. Upon the occurrence of any such force majeure event, 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 closing 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.

The Index Sponsor employs the methodology described above and its application of the methodology shall be conclusive and binding.

Market Disruption

“Disrupted Day” shall mean, in respect of a Share, any Scheduled Trading Day for such Share on which any of the events set out below occurs:

- (a) any relevant Exchange or any relevant Related Exchange fails to open for trading during its regular trading session; or
- (b) the occurrence or existence at any time during the one hour period which ends at the relevant Valuation Time of any suspension of or limitation imposed (whether by reason of movements in price exceeding permitted limits or otherwise) on the trading on (i) any relevant Exchange of such Share; or (ii) any relevant Related Exchange of futures contracts or options contracts relating to such Share; or
- (c) the occurrence or existence at any time during the one hour period which ends at the relevant Valuation Time of any other event (other than an event described in Sub-paragraph (d) or Sub-paragraph (e) of this definition) which disrupts or impairs the ability of market participants in general (i) (on any relevant Exchange) to effect transactions in or to obtain market values for such Share; or (ii) (on any relevant Related Exchange) to effect transactions in or to obtain market values for any futures contracts or options contracts relating to such Share; or

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- (d) the closure on any Exchange Business Day of any relevant Exchange prior to its Scheduled Closing Time (unless such earlier closing time is announced by such Exchange at least one hour prior to the earlier of (i) the actual closing time for the regular trading session on such Exchange on such Exchange Business Day; and (ii) the deadline for the submission of orders to be entered into such Exchange system for execution at the relevant Valuation Time on such Exchange Business Day); or
 - (e) the closure on any Exchange Business Day of any relevant Related Exchange in respect of futures contracts or options contracts relating to such Share prior to its Scheduled Closing Time (unless such earlier closing time is announced by such Related Exchange at least one hour prior to the earlier of (i) the actual closing time for the regular trading session on such Related Exchange on such Exchange Business Day; and (ii) the deadline for the submission of orders to be entered into such Related Exchange system for execution at the Valuation Time on such Exchange Business Day).

Index Committee

The Index Committee is responsible for reviewing the design, composition, and calculation of the Indices, the development of new indices, and to determine changes, if any, to the Index Methodology (including rules for selecting companies, share counts or other matters), and the treatment of corporate actions.

Decisions made by the Index Committee include all matters related to Index Policy and Maintenance. The Index Committee meets periodically to review market conditions and Index performance, or on an 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 by the Consolidated Tape Association (CTA) every 15 seconds during the U.S. trading day. Official closing Index Levels are published on each Index Business Day at approximately 6:30 p.m. Eastern Time and are made available on <https://indices.janushenderson.com/indices>.

FTP

Daily Index Level information is available via FTP. Please contact indexgroup@janushenderson.com for subscription information.

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Appendix I: Reference Index Adjustments

“Reference Index” refers to the Eligible Universe Index.

“Reference Index Sponsor” means, in respect of a Reference Index, the corporation or other entity which (a) is responsible for setting and reviewing the rules and procedures and the methods of calculation and adjustments, if any, related to such Reference Index and (b) announces (directly or through an agent) the level of such Reference Index.

Successor Reference Index and Successor Reference Index Sponsor

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

Reference Index Modification and Reference Index Cancellation

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

- (i) the Index Sponsor may suspend the calculation, publication and dissemination of the respective Index and 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 Sponsor may select a replacement Reference Index that has substantially similar characteristics to the Reference Index that is being replaced, having regard to the manner in which such Reference Index is used in the calculation of the Index, in which case the Index Sponsor 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 Index License

If, in respect of a Reference Index, 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 Index in connection with the Index is terminated, or any such entity’s right to use such Reference Index in connection with calculating the Index is otherwise disputed, impaired or ceases for any reason, then:

- (i) the Index Sponsor 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 Sponsor may select a replacement Reference Index that has substantially similar characteristics to the Reference Index that is being replaced, having regard to the manner in which such Reference Index is used in the calculation of the Index, in which case the Index Sponsor 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 Index

If, in respect of a Reference Index, any level, price, rate or value (as applicable) in respect of such Reference Index 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 Index, related derivative or other related instrument (as the case may be) for the relevant time on the relevant day and the Index Sponsor 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: Dividends, Stock Splits and Rights Issues

Upon the occurrence of a Dividend Adjustment Event, a Stock Split Adjustment Event or a Rights Issue Adjustment Event (each as defined below), the Index Calculation Agent will make the appropriate adjustments to the composition of an Index including, in particular, the Share Counts of the Constituents. For the avoidance of doubt, Dividend Adjustment Events, Stock Split Adjustment Events and Rights Issue Adjustment Events shall not constitute Adjustment Events for the purpose of the Index Conditions. Between Index Calculation Days and Rebalance Days the Share Counts calculated for an upcoming rebalance are also adjusted in the manner described below.

Dividend Adjustments (Regular Dividends: Cash and/or Stock Dividends)

Following the declaration by the issuer of any Constituent of a Dividend (as defined below) (a “Dividend Adjustment Event”), the Index Calculation Agent shall adjust the Weight of such Constituent on the Index Business Day of the Ex-Dividend Date (as defined below) in relation to such Dividend in accordance with the formula set out below.

The Share Count of the relevant Constituent shall be adjusted such that:

$$S_{i,ex} = S_{i,ex-1} \times \left(1 + \frac{\text{Dividend Percentage}_i \times \text{Dividend Amount}_i}{P_{i,ex-1} - \text{Dividend Amount}_i} \right)$$

$S_{i,ex}$ = Share Count of Constituent i on the first Index Business Day that the Constituent trades Ex-Dividend.

$S_{i,ex-1}$ = Share Count of Constituent i on the Index Business Day immediately preceding the Ex-Dividend Date.

$\text{Dividend Percentage}_i$ = The applicable Dividend Percentage (as defined below).

Dividend Amount_i = The applicable Dividend Amount (as defined below).

$P_{i,ex-1}$ = Constituent Closing Level of Constituent i on the Index Business Day immediately preceding the applicable Ex-Dividend Date.

“Dividend” means, in respect of a Constituent, any regular dividend (in the form of a cash dividend and/or a scrip (stock) dividend) declared by the issuer of such Constituent for which the Ex-Dividend Date falls on any day after the Index Base Date (excluding any Extraordinary Dividend).

“Dividend Amount” means, in respect of a Dividend:

- (i) if such Dividend is a cash dividend, 100% of the gross cash dividend per one stock as declared by the issuer of the relevant Constituent, before the withholding or deduction of taxes at source by or on behalf of any applicable authority having power to tax in respect of such a dividend (an “Applicable Authority”), and shall exclude (a) any imputation or other credits, refunds or deductions granted by an Applicable Authority (together, the “Credits”), and (b) any taxes, credits, refunds or benefits imposed, withheld, assessed or levied on the Credits referred to in (a) above (converted, if necessary, at the applicable FX Rate for the conversion of the currency

in which the relevant Dividend Amount is denominated into the currency in which the Constituent Closing Level of the relevant Constituent is published).

- (ii) if such Dividend is a non-cash dividend, an amount per one stock equal to the cash value declared by the issuer of the relevant Constituent (whether or not such non-cash dividend includes stock that are the Constituent) or, if no cash value is declared by the issuer of the relevant Constituent, the cash value of such non-cash dividend as determined by the Index Sponsor, calculated by reference, where available, to the closing price of any stocks or the Constituent Closing Level (as the case may be) comprising such non-cash dividend on the last trading day immediately preceding the relevant Ex-Dividend Date, taking into account (where such non-cash dividend consists of the stock of the Constituent) any diluting effect on the theoretical value of the Constituent stock resulting from such non-cash dividend. The cash value of a non-cash dividend shall be converted, if necessary, at the applicable FX Rate for the conversion of the currency in which the relevant Dividend Amount is denominated into the currency in which the Constituent Closing Level of the relevant Constituent is published.

“Dividend Percentage” means, in respect of a Dividend Amount, the Dividend Percentage specified by the Index Sponsor from time to time in respect of the country or jurisdiction in which the issuer of the relevant Constituent is domiciled for tax purposes. As of the date of this Index Methodology, the Dividend Percentage is set to 100%. The Index Sponsor shall notify the Index Calculation Agent of any change in the Dividend Percentage applicable to any country or jurisdiction, in which case the current Dividend Percentage will be available from the Index Sponsor.

“Ex-Dividend Date” means, in respect of a stock and a dividend payment which has been announced by the issuer of such stock, the first day on which a purchaser of such stock will not be entitled to receive the relevant dividend payment, as fixed by the issuer of such stock and/or the primary exchange on which such stock is traded.

“Extraordinary Dividend” has the meaning given to such term in the Index General Conditions and will generally include any dividend which is described as “special,” “extra,” “irregular” or a “return of capital”.

“FX Rate” means, in respect of the notional exchange of one currency to another currency, the applicable WM/Reuters “Closing Spot Rate” as published by The World Markets Company plc in conjunction Reuters at approximately 4.00 p.m. (London Time) on the Ex-Dividend Date or, if such rate is discontinued or unavailable on the relevant day for any reason, such other exchange rate for the relevant currency conversion as the Index Sponsor shall determine appropriate by reference to an alternative foreign exchange rate service.

Dividend Adjustments (Extraordinary Dividends, Bonus Shares)

Following the declaration by the issuer of any Constituent of an Extraordinary Dividend (as defined below) (a “Dividend Adjustment Event”), the Index Calculation Agent shall adjust the Share Count of such Constituent on the Ex-Dividend Date (as defined below) in relation to such Extraordinary Dividend in accordance with the formula set out below. If such Ex-Dividend Date is not an Index Business Day, the adjustment shall be made on the next following Index Business Day.

The Share Count of the relevant Constituent shall be adjusted such that:

$$S_{i,ex} = S_{i,ex-1} \times \left(\frac{\text{Dividend Percentage}_i \times \text{Extra Dividend Amount}_i}{P_{i,ex-1} - \text{Extra Dividend Amount}_i} + 1 \right)$$

where:

$S_{i,ex}$	=	Share Count of Constituent i on the applicable Ex-Dividend Date (or, if such day is not an Index Business Day, on the immediately following Index Business Day).
$S_{i,ex-1}$	=	Share Count of Constituent i on the Index Business Day immediately preceding the applicable Ex-Dividend Date.
<i>Dividend Percentage_i</i>	=	The applicable Dividend Percentage (as defined below).
<i>Extra Dividend Amount_i</i>	=	The applicable Extraordinary Dividend Amount (as defined below).
$P_{i,ex-1}$	=	Constituent Closing Level of Constituent i on the Index Business Day immediately preceding the applicable Ex-Dividend Date.

“Extraordinary Dividend” means (i) an “Extraordinary Dividend,” as such term is defined in the Index General Conditions and will generally include any dividend (in the form of a cash dividend and/or a scrip (stock) dividend) which is described as “special,” “extra,” “irregular” or a “return of capital”; or (ii) a free distribution or dividend of stock of such Constituent to existing holders by way of bonus, capitalization or similar issue, for which in each case the applicable Ex-Dividend Date falls on any day after the Index Base Date.

“Extraordinary Dividend Amount” means, in respect of an Extraordinary Dividend:

- (i) if such Dividend is a cash dividend, 100% of the gross cash dividend per one stock as declared by the issuer of the relevant Constituent, before the withholding or deduction of taxes at source by or on behalf of any applicable authority having power to tax in respect of such a dividend (an “Applicable Authority”), and shall exclude (a) any imputation or other credits, refunds or deductions granted by an Applicable Authority (together, the “Credits”), and (b) any taxes, credits, refunds or benefits imposed, withheld, assessed or levied on the Credits referred to in (a) above (converted, if necessary, at the applicable FX Rate for the conversion of the currency in which the relevant Extraordinary Dividend Amount is denominated into the currency in which the Constituent Closing Level of the relevant Constituent is published).
- (ii) if such Extraordinary Dividend is a non-cash dividend, an amount per one stock equal to the cash value declared by the issuer of the relevant Constituent (whether or not such non-cash dividend includes stock that are the Constituent) or, if no cash value is declared by the issuer of the relevant Constituent, the cash value of such non-cash dividend as determined by the Index Sponsor, calculated by reference, where available, to the closing price of any stocks or the Constituent Closing Level (as the case may be) comprising such non-cash dividend on the last trading day immediately preceding the relevant Ex-Dividend Date, taking into account (where such non-cash dividend consists of the stock of the Constituent) any diluting effect on the theoretical value of the Constituent stock resulting from such non-cash dividend. The cash value of a non-cash dividend shall be converted, if necessary, at the applicable FX Rate for the conversion of the currency in which the relevant Extraordinary Dividend Amount is denominated into the currency in which the Constituent Closing Level of the relevant Constituent is published.

“Dividend Percentage” means, in respect of an Extraordinary Dividend Amount, the Dividend Percentage specified by the Index Sponsor from time to time in respect of the country or jurisdiction in which the issuer of the relevant Constituent is domiciled for tax purposes. As of the date of this Index Methodology, the Dividend Percentage is set to 100%. The Index Sponsor shall notify the Index Calculation Agent of any

change in the Dividend Percentage applicable to any country or jurisdiction, in which case the current Dividend Percentage will be available from the Index Sponsor.

“Ex-Dividend Date” means, in respect of a stock and an Extraordinary Dividend, the first day on which a purchaser of such stock will not be entitled to receive the relevant Extraordinary Dividend Amount, as fixed by the issuer of such stock and/or the primary exchange on which such stock is traded.

“FX Rate” means, in respect of the notional exchange of one currency to another currency, the applicable WM/Reuters “Closing Spot Rate” as published by The World Markets Company plc in conjunction Reuters at approximately 4.00 p.m. (London Time) on the Ex-Dividend Date or, if such rate is discontinued or unavailable on the relevant day for any reason, such other exchange rate for the relevant currency conversion as the Index Sponsor shall determine appropriate by reference to an alternative foreign exchange rate service.

Dividend Recovery

If, in respect of a Dividend or an Extraordinary Dividend, (a) the gross cash or non-cash dividend declared or estimated by the issuer of the relevant Constituent (a “Declared Dividend”) to holders of record of the stock in the Constituent is not equal to the gross amount deemed to be paid by the issuer of such Constituent (notwithstanding that such payment is made to either any relevant taxing authority or holders of record) in respect of such Dividend (a “Dividend Mismatch Event”) or (b) the issuer of the relevant Constituent fails to make any payment or delivery in respect of that Declared Dividend by the third Index Business Day following the relevant due date, then in either case the Index Sponsor may (but shall not be obliged to) determine:

- (i) any appropriate adjustment to be made to the Index, including the Weight of any Constituent, to account for that Dividend Mismatch Event or non-payment or non-delivery, as the case may be; and
- (ii) the effective date of any such adjustment.

In the event that an issuer of a Constituent makes a payment or delivery in respect of a Dividend or an Extraordinary Dividend that has already been the subject of an adjustment in accordance with this paragraph 3 (Dividend Recovery), the Index Sponsor shall determine any appropriate adjustment(s) to be made in respect of the Index in order to account for the economic effect of such subsequent payment or delivery.

Stock Split Adjustments

Following the declaration by the issuer of a Constituent of a Stock Split (as defined below) (a “Stock Split Adjustment Event”), the Index Calculation Agent shall adjust the Weight of such Constituent on the Ex-Date (as defined below) in relation to such Stock Split in accordance with the formula set out below. If such Ex-Date is not an Index Business Day, the adjustment shall be made on the next following Index Business Day.

The Share Count of the relevant Constituent shall be adjusted such that:

$$S_{i,ex} = S_{i,ex-1} \times Split Ratio_i$$

where:

$S_{i,ex}$	=	Share Count of Constituent i on the applicable Ex-Date (or, if such day is not an Index Business Day, on the immediately following Index Business Day).
$S_{i,ex-1}$	=	Share Count of Constituent i on the Index Business Day immediately preceding the applicable Ex-Date.
$Split Ratio_i$	=	In respect of the applicable Stock Split, the ratio of the new total number of shares (B) for the old total number of shares (A) (e.g., split ratio=B/A) in respect of the Constituent i.

“Ex-Date” means, in respect of a Stock Split in respect of a Constituent, the effective date of such Stock Split, as fixed by the issuer of such Constituent and/or the primary exchange on which such Constituent is traded.

“Stock Split” means, in respect of a Constituent, a stock split, subdivision, reverse stock split, consolidation or similar reclassification of the stock of such Constituent, for which the Ex-Date falls on any day after the Index Base Date.

Rights Issue Adjustments

Following the declaration by the issuer of a Constituent of a Rights Issue (as defined below) (a “Rights Issue Adjustment Event”), the Index Calculation Agent shall adjust the Weight of such Constituent on the Ex-Rights Date (as defined below) in relation to such Rights Issue in accordance with the formula set out below. If such Ex-Rights Date is not an Index Business Day, the adjustment shall be made on the following Index Business Day.

The Share Count of the relevant Constituent shall be adjusted such that:

$$S_{i,ex} = S_{i,ex-1} \times \frac{1 + N_i}{1 + \left(\frac{SP_i}{P_{i,ex-1}}\right) \times N_i}$$

where:

$S_{i,ex}$	=	Share Count of Constituent i on the applicable Ex-Rights Date (or, if such day is not an Index Business Day, on the immediately following Index Business Day).
$S_{i,ex-1}$	=	Share Count of Constituent i on the Index Business Day immediately preceding the applicable Ex-Rights Date.
N_i	=	In respect of the applicable Rights Issue, the rights ratio in respect of such Rights Issue of Constituent i, $N = B/A$ where A is the number of existing stocks and B is the number of new stocks entitlement.
SP_i	=	In respect of the applicable Rights Issue, the subscription price per stock in Constituent i.
$P_{i,ex-1}$	=	Constituent Closing Level of Constituent i on the Index Business Day for Constituent i immediately preceding the Ex-Rights Date.

“Ex-Rights Date” means, in respect of a Rights Issue in respect of a Constituent, the first day on which a purchaser of such stock would not be entitled to participate in such Rights Issue, as fixed by the issuer of such Constituent and/or the primary exchange on which such Constituent is traded.

“Rights Issue” means, in respect of a Constituent, a distribution to existing holders of stock in such Constituent of any securities, rights, warrants or other assets, in any case for payment (whether in cash or otherwise) at less than their prevailing market price or any other similar event as determined by the Index Sponsor and for which the Ex-Rights Date falls on any day after the Index Base Date.

Appendix III: Eligible Universes and Reference Funds

Index	Eligible Universe
Janus Henderson JUMP Index	Solactive US Large Cap Index (Bloomberg: SOLUSLCP Index)

Appendix IV: Holiday Schedule

NYSE Holiday Schedule

2020	2021	2022
January 1	January 1	January 17
January 20	January 18	February 21
February 17	February 15	April 15
April 10	April 2	May 30
May 25	May 31	July 4
July 3	July 5	September 5
September 7	September 6	November 24
November 26	November 25	December 26
December 25	December 24	