



INDEX METHODOLOGY

# NASDAQ-100 DAILY COVERED CALL 101™ INDEX

## NDXDC01

### INDEX DESCRIPTION

The Nasdaq-100 Daily Covered Call 101 Index (NDXDC01), the “Index”, tracks the performance of a systematic covered call strategy. The strategy aims to generate income through periodic selling of upside participation using Nasdaq-100 Index® (NDX) call options, typically with one day to expiration.

On each Index Day, the strategy has exposure to the Nasdaq-100® Total Return Index, and short call options on the Nasdaq-100 Index®. For each Index Day that the short call options in the Index expire, new call options are sold that expire on the following Exchange-listed PM-settled NDX options expiration date.

*Unless stated otherwise, all capitalized terms used in this document are defined in Appendix A: Definitions.*

### INDEX CALCULATIONS

#### Index value

On each Index Day  $t$ , the Index values are calculated in accordance with the following formula:

$$I_t = U_t \times XNDX_t - V_t \times C_t$$

*Please reference Appendix B: Glossary of Symbols for all variable definitions.*

#### Short call option units

Subject to a Hedge Delay, for each scheduled Roll Date  $t$ , the units of the new call option selected to be sold on that date are calculated in accordance with the following formula:

$$V_t = \frac{U_{t-1} \times XNDX_{TWAV,t}^{2pm} - V_{t-1} \times C_{TWAMP,t}^{2pm}}{NDX_{TWAV,t}^{2pm}}$$

If the Index Day  $t$  is not a Roll Date, then the units of the short call position do not change:

$$V_t = V_{t-1}$$

For the Index Base Date ( $t_0$ ), the units of the new call option in the Index are calculated in accordance with the following formula:

$$V_{t_0} = \frac{\text{Index\_Base\_Value}}{NDX_{TWAV,t_0}^{2pm}}$$

### Long equity units

Subject to a Hedge Delay, for each scheduled Roll Date  $t$ , the units of the Nasdaq-100® Total Return Index are calculated in accordance with the following formula:

$$U_t = \frac{U_{t-1} \times XNDX_t - V_{t-1} \times \max(0, XQC_t - K_{t-1}) + V_t \times C_{TWABP,t}^{4pm}}{XNDX_t}$$

If the Index Day  $t$  is not a Roll Date, then the long equity units do not change:

$$U_t = U_{t-1}$$

For the Index Base Date ( $t_0$ ), the units of the Nasdaq-100® Total Return Index are calculated in accordance with the following formula:

$$U_{t_0} = \frac{\text{Index\_Base\_Value} + V_{t_0} \times C_{t_0}}{XNDX_{t_0}}$$

## OPTION SELECTION

### Expiration selection

For each Roll Date, the expiration date selected will be the next nearest available PM-settled NDX options expiration date. This will generally be the next business day. However, as of August 2024, there are no Exchange-listed PM-settled NDX options on dates when there are Exchange-listed AM-settled NDX options (usually the third Friday of each month). Therefore, on the Roll Date (usually Thursday) before the third Friday of each month, the option expiration will be the next PM-settled expiration (usually Monday). In the event the third Friday is a scheduled market holiday, the Thursday option of that week is an AM-settled option. Therefore, on the Wednesday of that week, the PM-settled Monday expiry of the following week will be selected, and the Thursday of that week will not be a Roll Date.

### Strike price selection

For each Roll Date, the strike price  $K_t$  of the short call option is equal to the listed strike price (available as of the end-of-day for Index Day  $t - 1$ ) with expiration equal to the selected expiration date that is nearest to the target strike price  $\hat{K}_t$ , calculated below:

$$\hat{K}_t = NDX_{TWAV,t}^{2pm} \times 1.01$$

If  $\hat{K}_t$  is equidistant to two listed strike prices, then  $K_t$  is equal to the larger of the two listed strike prices.

If the Index Day  $t$  is not a Roll Date, then no new option strike price is selected:

$$K_t = K_{t-1}$$

## TWAP AND TWAV CALCULATIONS

### TWAP calculation window

On a Regular Trading Day, the TWAP and TWAV calculation windows for each of the variables are:

Variables	TWAP/TWAV	Lookback Time $T_{LB}$	Start Time $T_S$	End Time $T_E$	Interval $\Delta T$	Time Zone
$XNDX_{TWAV,t}^{2pm}$	TWAV	N/A	14:00:00	14:10:00	15 sec	US/Eastern
$NDX_{TWAV,t}^{2pm}$	TWAV	N/A	14:00:00	14:10:00	15 sec	US/Eastern
$C_{TWAMP,t}^{2pm}$	TWAP	13:00:00	14:00:00	14:10:00	15 sec	US/Eastern
$C_{TWABP,t}^{4pm}$	TWAP	15:00:00	15:59:30	16:00:00	1 sec	US/Eastern

For Half Trading Days, the TWAP and TWAV calculation windows are (Note that the same variable names are used for TWAV and TWAP for consistency):

Variables	TWAP/TWAV	Lookback Time $T_{LB}$	Start Time $T_S$	End Time $T_E$	Interval $\Delta T$	Time Zone
$XNDX_{TWAV,t}^{2pm}$	TWAV	N/A	11:00:00	11:10:00	15 sec	US/Eastern
$NDX_{TWAV,t}^{2pm}$	TWAV	N/A	11:00:00	11:10:00	15 sec	US/Eastern
$C_{TWAMP,t}^{2pm}$	TWAP	10:00:00	11:00:00	11:10:00	15 sec	US/Eastern
$C_{TWABP,t}^{4pm}$	TWAP	12:00:00	12:59:30	13:00:00	1 sec	US/Eastern

### Index TWAV calculations

Index TWAV is the Time Weighted Average Value of an index within a specified time window.

In respect of an Index TWAV calculation, for the intraday time window  $W = [T_S, T_E]$  given by 'Start Time' ( $T_S$ ) and 'End Time' ( $T_E$ ), the time window  $W$  is divided into  $N$  intervals each of width equal to  $\Delta T$  where:

$$N = \frac{T_E - T_S}{\Delta T}$$

For  $0 \leq i < N$ , the  $i^{th}$ -interval is given by the points  $[T_S + i \times \Delta T, T_S + (i + 1) \times \Delta T)$ . Note that the interval includes the start-point and excludes the endpoint.

In respect of an Index TWAV calculation, for each  $i^{th}$ -interval the  $IndexLevel_i$  is defined as:

*IndexLevel<sub>i</sub> = First Index Level in the  $i^{th}$  – interval*

If there is no available Index value in the  $i^{th}$ -interval, then  $IndexLevel_i$  is not defined. Further  $\delta_i$  is defined as,

$$\delta_i = \begin{cases} 1 & \text{if } IndexLevel_i \text{ is defined} \\ 0 & \text{if } IndexLevel_i \text{ not defined} \end{cases}$$

The TWAV for the given Index and window  $W$  is calculated in accordance with the following formula:

$$TWAV(W) = \frac{\sum_{i=0}^{N-1} \delta_i \times IndexLevel_i}{\sum_{i=0}^{N-1} \delta_i}$$

If  $IndexLevel_i$  is not defined for all the  $N$  intervals, then  $TWAV(W)$  for that window is deemed not available.

## Options TWAP calculations

Option TWAP is the Time Weighted Average Price, using either the mid-price or bid price, as applicable, of an option contract within a specified time window.

In respect of an Option TWAP calculation, for the intraday time window  $W = [T_S, T_E]$  given by ‘Start Time’ ( $T_S$ ) and ‘End Time’ ( $T_E$ ), the time window  $W$  is divided into  $N$  intervals each of width equal to  $\Delta T$  where:

$$N = \frac{T_E - T_S}{\Delta T}$$

For  $0 \leq i < N$ , the  $i^{th}$ -interval is given by the points  $[T_{LB}, T_S + (i + 1) \times \Delta T)$ . Note that the interval always starts at the Lookback Time  $T_{LB}$  and ends at  $T_S + (i + 1) \times \Delta T$  (excludes the endpoint).

In respect of an Option TWAP calculation, for each  $i^{th}$ -interval the  $Offer_i$  and the  $Bid_i$  is defined as:

*Offer<sub>i</sub> = Last available NBBO Offer price(non – zero) in the  $i^{th}$  – interval*

*Bid<sub>i</sub> = Last available NBBO Bid price(zero included) in the  $i^{th}$  – interval*

If for the  $i^{th}$ -interval, both  $Offer_i$  and  $Bid_i$  are available, then the  $Mid_i$  price is defined as:

$$Mid_i = \frac{Offer_i + Bid_i}{2}$$

If  $Offer_i$  or  $Bid_i$  is not defined then in the  $i^{th}$ -interval, then  $Mid_i$  is not defined. Further  $\delta_i$  is defined as:

$$\delta_i = \begin{cases} 1 & \text{if } Mid_i \text{ is defined} \\ 0 & \text{if } Mid_i \text{ not defined} \end{cases}$$

The TWAP for a given Option, using mid-prices and a window  $W$  is calculated in accordance with the following formula:

$$TWAMP(W) = \frac{\sum_{i=0}^{N-1} \delta_i \times Mid_i}{\sum_{i=0}^{N-1} \delta_i}$$

If  $Mid_i$  is not defined for all the  $N$  intervals, then  $TWAMP(W)$  for that window is deemed not available.

The TWAP for a given Option, using bid prices and a window  $W$  is calculated in accordance with the following formula:

$$TWABP(W) = \frac{\sum_{i=0}^{N-1} \delta_i \times Bid_i}{\sum_{i=0}^{N-1} \delta_i}$$

If  $Bid_i$  is not defined for all the  $N$  intervals, then  $TWABP(W)$  for that window is deemed not available.

Note: For quotes that have a zero-offer size, the associated bid and offer prices for such quotes are excluded from any TWAP calculations.

## INDEX CALENDAR

### Holiday schedule

The Index is calculated Monday through Friday, except on days when the Nasdaq Stock Market and Nasdaq Options Market are scheduled to be closed (the “Holiday Schedule”).

### Index calculation and dissemination schedule

Index values are made available after the market close on each Index Day via the [Nasdaq Global Index Watch \(GIW\) website](#).

## ADDITIONAL INFORMATION

### Announcements

Nasdaq announces Index-related information via the [Nasdaq Global Index Watch \(GIW\) website](#).

For more information on the general Index Announcement procedures, please refer to the [Nasdaq Index Methodology Guide](#).

### Recalculation and restatement policy

For information on the Recalculation and Restatement Policy, please refer to the [Nasdaq Index Recalculation Policy](#).

## Contact information

For any questions regarding an Index, please contact the Nasdaq Index Client Services team at [indexservices@nasdaq.com](mailto:indexservices@nasdaq.com).

## Index dissemination

Where applicable, Index values and weightings information are available through the [Nasdaq Global Index Watch \(GIW\) website](#) as well as the Nasdaq Global Index FlexFile Delivery Service (GIFFD) and Global Index Dissemination Services (GIDS). Similar to the GIDS offerings, Genium Consolidated Feed (GCF) provides real-time Index values and weightings for the Nordic Indexes.

For more detailed information regarding Index Dissemination, please see the [Nasdaq Index Methodology Guide](#).

## Website

For further information, please refer to the [Nasdaq Global Index Watch \(GIW\) website](#).

## FTP and dissemination service

Where applicable, Index values and weightings are available via FTP on the Nasdaq Global Indexes FlexFile Delivery Service (GIFFD). Index values are available via Nasdaq's Global Index Dissemination Services (GIDS).

# GOVERNANCE

## Index governance

All Nasdaq Indexes are managed by the governance committee structure and have transparent governance, oversight, and accountability procedures for the index determination process. For further details on the Index Methodology and Governance overlay, please refer to the [Nasdaq Index Methodology Guide](#).

## APPENDIX A: DEFINITIONS

Term	Description
<b>Components</b>	In respect of an Index Day, the Nasdaq-100® Total Return Index and the short call options on the Nasdaq-100® Index referenced in the Index for that day.
<b>Consequences of a Market Disruption Event</b>	If a Market Disruption Event occurs or is occurring on an Index Day that the Index Administrator determines materially affects the Index, the Index Administrator may: <ul style="list-style-type: none"> <li>• Delay the calculation of the Index and halt the dissemination of the value of the Index and /or other information relating to the Index until such time, which may be a subsequent Index Day, that the Index Administrator determines that such Market Disruption Event is no longer occurring.</li> <li>• Determine a good faith estimate of any affected or missing input data required to calculate the Index or the value of the Index for such Index Day or time for such Index Day.</li> </ul>
<b>Disrupted Day</b>	In respect of a Component, an Index Day on which there is a Market Disruption Event.
<b>Exchange</b>	The Nasdaq Stock Market and Nasdaq Options Market.
<b>Half Day Trading</b>	An Index Day on which markets are scheduled to early closure at 1:00pm ET instead of 4:00pm ET as published by <a href="#">Nasdaq</a> , as may change from time to time.
<b>Hedge Delay</b>	In respect of a Component, if a Trading Disruption or Exchange Disruption, as defined in <i>Market Disruption Event</i> below, occurs on a scheduled Roll Day for such Component, then no change of units of that Component shall occur on that day.
<b>Index Base Date</b>	January 2, 2019
<b>Index Base Value</b>	100.00.
<b>Index Day</b>	Starting with the Index Base Date, each weekday that is not a scheduled holiday according to the Index Holiday Schedule as defined in the <i>Index Calendar</i> section.
<b>Market Disruption Event</b>	In respect of a Component, the occurrence of one or more of the following events that affects that Component, or any underlying instrument of the Component, and that the Index Administrator deems to be material to the Index: <ul style="list-style-type: none"> <li>• <b>Trading Disruption:</b> Any unscheduled closure of the relevant exchange; a material suspension, limitation or disruption of trading on such exchange; a failure of such exchange to publish the relevant price, level, value or other information; a halt in trading, such as a circuit breaker or other exchange imposed halt, including an exchange imposed daily “limit price”; or any other event that materially affects the ability of market participants to trade, effect transactions in, maintain or unwind positions in that Component or any underlying instrument of that Component.</li> <li>• <b>Exchange Disruption:</b> Any exchange related event on a relevant exchange that disrupts or impairs the ability of market participants to effect transactions or obtain market values or price discovery of a component used directly or indirectly in the Index.</li> <li>• <b>Price Failure:</b> Any event that impairs or prevents the ability of the Index Administrator to obtain a relevant price, level, rate, value or any other</li> </ul>

	<p>information from an exchange or other source necessary, on a timely basis and in a manner acceptable to the Index Administrator, in order to perform the calculation of the Index.</p> <ul style="list-style-type: none"> <li>• <b>Inaccurate Data:</b> The price or value of a component, or other input data, used directly or indirectly in the index that, in the determination of the Index Administrator, is inaccurate, incomplete and/or does not adequately reflect the true market price or value of such component or input data.</li> <li>• <b>Force Majeure:</b> Any event or circumstance (including, without limitation, 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, or restrictions due to emergency powers enforced by federal, state or local government agencies), that is beyond the reasonable control of the Index Administrator and that the Index Administrator determines, in its sole discretion, affects the Index, a component of the Index, any input data required to calculate the Index, or that prevents the ability of the Index Administrator to calculate the Index.</li> <li>• <b>General Moratorium:</b> The Index Administrator observes on any day that there has been a declaration of a general moratorium in respect of banking activities in any relevant jurisdiction.</li> </ul>
<b>Regular Day Trading</b>	An Index Day that is not a “Half Trading Day”.
<b>Roll Date</b>	The first Roll Date of the Index is the Index Base Date. Thereafter, a Roll Date is each Index Day where there are PM-settled NDX options for that day.
<b>Roll Date Disruption</b>	If a Market Disruption Event occurs on a scheduled Roll Date for a Component, then no change of units of that Component shall occur on that day.

For additional key terms not defined above, please refer to the [Nasdaq Index Methodology Guide](#).



## APPENDIX B: GLOSSARY OF SYMBOLS

Symbol	Description
$I_t$	The Daily Covered Call Index value calculated for day $t$ .
$U_t$	The number of units of Nasdaq-100 <sup>®</sup> Total Return Index in the Daily Covered Call Index for day $t$ .
$V_t$	The number of units of the selected short call option in the Daily Covered Call Index for day $t$ .
$\hat{K}_t$	The target value for the strike price of the short call option selected on day $t$ .
$K_t$	The strike price of the short call option selected on day $t$ .
$XNDX_t$	The closing level of the Nasdaq-100 <sup>®</sup> Total Return Index for day $t$ .
$NDX_t$	The closing level of the Nasdaq-100 Index <sup>®</sup> for day $t$ .
$XQC_t$	The value of the Nasdaq-100 <sup>®</sup> PM Settlement Value Index for day $t$ .
$XNDX_{TWAV,t}^{2pm}$	The Time Weighted Average Value of Nasdaq-100 <sup>®</sup> Total Return Index for day $t$ .
$NDX_{TWAV,t}^{2pm}$	The Time Weighted Average Value of Nasdaq-100 Index <sup>®</sup> for day $t$ .
$C_t$	The closing NBBO mid-price of the NDX call option in the Index for day $t$ .
$C_{TWAMP,t}^{2pm}$	The Time Weighted Average Price (Mid) of the short call option expiring on day $t$ , calculated using the relevant TWAP window for day $t$ .
$C_{TWABP,t}^{4pm}$	The Time Weighted Average Price (Bid) of the new short call option on day $t$ , calculated using the relevant TWAP window for day $t$ .

## DISCLAIMER

Nasdaq may, from time to time, exercise reasonable discretion as it deems appropriate in order to ensure Index integrity, including but not limited to, quantitative inclusion criteria. Nasdaq may also, due to special circumstances, if deemed essential, apply discretionary adjustments to ensure and maintain the high quality of the index construction and calculation. Nasdaq does not guarantee that any Index accurately reflects future market performance.

Neither Nasdaq, Inc., its third-party providers, nor any of their respective affiliates (collectively “Corporations”) make any recommendation to buy or sell any security or any representation about the financial condition of any company. Investors should undertake their own due diligence and carefully evaluate companies before investing. The information contained herein is provided for informational and educational purposes only, and nothing contained herein should be construed as investment advice, either on behalf of a particular security or an overall investment strategy. **ADVICE FROM A SECURITIES PROFESSIONAL IS STRONGLY ADVISED.**