INDEX METHODOLOGY

NASDAQ-100 RISK CONTROL 40™ INDEXES

INDEX DESCRIPTION

The Nasdaq-100 Risk Control 40 Indexes, each an “Index" and collectively the “Indexes”, are designed to provide variable exposure to the Nasdaq-100 e-mini futures, via the Nasdaq-100 Futures Excess Return Index, while targeting a specified level of volatility. Each Index uses a volatility control mechanism to dynamically adjust exposure to the Component on a daily basis with the aim of achieving the specified volatility target.

INDEX CALCULATION

For each Index, the Index value is equal to the Index Base Value on the Index Base Date. Thereafter, for each Index Day, the value of an Index is calculated in accordance with the following formula:

$$I_t = I_{t-1} + U_{t-1} \times (P_t - P_{t-1}) - TC_t - FC_t + AF_t$$

where:

t = an Index Day t.

$t - 1$ = the Index Day immediately preceding Index Day t.

I_x = the value of the Index for Index Day x.

U_x = the number of units of the Component for Index Day x (see *Rebalancing process* section below for more details).

P_x = the daily closing price of the Component for Index Day x (rounded to four decimal places).

TC_t = the estimated trading costs for the Component for Index Day t as determined in accordance with the following formula:

$$TC_t = |U_t - U_{t-1}| \times P_t \times CTC$$

where:

CTC = the assigned Component trading cost of 0.00 (0.00%).

FC_t = the estimated funding costs for the Component for Index Day t as determined in accordance with the following formula:

$$FC_t = U_{t-1} \times P_{t-1} \times FR \times \frac{Days_{t-1,t}}{360}$$

where:

FR = the assigned financing rate of 0.00 (0.00%).

$Days_{t-1,t}$ = the number of calendar days from Index Day $t-1$ (inclusive) and Index Day t (exclusive).

AF_t = the decrement adjustment for Index Day t as determined in accordance with the following formula:

$$AF_t = -\left(I_{t-1} \times AR \times \frac{Days_{t-1,t}}{360}\right)$$

where:

AR = the decrement rate as detailed in the *Index parameters* section below.

Index values are rounded to four decimals places.

If the value for a Component is unavailable on a given Index Day t, then such value shall be the last available value for that Component, as determined by the Index Administrator.

INDEX CONSTRUCTION

Index parameters

The table below details parameters specific to the construction and calculation of the Index.

Index (Symbol)	Component (Symbol)	Target Volatility	Maximum Exposure	Minimum Exposure	Maximum Exposure Change	Decrement Rate
Nasdaq-100 Risk Control 40 Index (NXQR40)	Nasdaq-100 Futures Excess Return Index (NDXNQER)	40%	400%	0%	20%	0%
Nasdaq-100 Risk Control 40 4D Index (NXQR404)						4%

For information on the Component, please refer to the Nasdaq-100 Futures Excess Return Index Methodology document.

Index components and weighting

Each Index may only include the Component as detailed in the *Index parameters* section above.

For each Index Day, an Index's Component target exposure is determined based on two exponential weighted measures of the Component value (half-lives of 6.5 and 10 days), and subject to a maximum exposure and a maximum exposure change per day.

The Index then rebalances each Index Day into units of the Component (see *Rebalancing process* section below).

Rebalancing process

Subject to a Hedge Delay, each Index is rebalanced daily as of the market close. The number of units of the Component is determined in accordance with the following formula:

$$U_t = \frac{I_{t-1} \times ER_{t-1}}{P_{t-1}}$$

where:

I_{t-1} = the Index Value on Index Day $t-1$.

ER_{t-1} = the exposure ratio for the Component for Index Day $t-1$ (see *Appendix B: Exposure Determination Process*).

P_{t-1} = the daily closing price of the Component for Index Day $t-1$ (rounded to four decimal places).

For the Index Base Date (t_0), the initial Units of the Component are determined based on information from the Index Day prior to the Index Base Date and calculated in accordance with the following formula:

$$U_{t_0} = \frac{100 \times ER_{t_0-1}}{P_{t_0-1}}$$

Units are rounded to eight decimal places.

INDEX CALENDAR

Holiday schedule

Each Index is calculated Monday through Friday, except on days when the Chicago Mercantile Exchange (CME) is scheduled to be closed, as published by CME and as may be updated from time to time (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.

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
Component	In respect of an Index, the Component for that Index as detailed in the *Index parameters* section.
Consequences of a Market Disruption Event	In respect of an Index, 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: • 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. • 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.
Disrupted Day	In respect of an Index and a Component, an Index Day on which there is a Market Disruption Event.
Evaluation Date	In respect of an Index, each Index Day.
Hedge Delay	In respect of an Index and a Component, if a Trading Disruption or Exchange Disruption, as defined in *Market Disruption Event* below, occurs on a scheduled Rebalance Day for a Component, then no change of units for that Component shall occur on that day.
Index Base Date	February 28, 2006
Index Base Value	100.0000
Index Day	In respect of an Index and starting with the Index Base Date, each weekday that is not a scheduled holiday according to the Index Holiday Schedule as defined in the *Index Calendar* section.
Market Disruption Event	In respect of an Index and a Component, the occurrence of one or more of the following events that affects that Component or any underlying instrument of that Component, and that the Index Administrator deems to be material to the Index: • **Trading Disruption:** 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. • **Exchange Disruption:** 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. • **Price Failure:** Any event that impairs or prevents the ability of the Index Administrator to obtain a relevant price, level, rate, value or any other 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.

	• **Inaccurate Data:** 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. • **Force Majeure:** 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. • **General Moratorium:** 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.
Rebalance Day	In respect of an Index and an Evaluation Date, the Index Day immediately after that Evaluation Date that is not a Disrupted Day.

For additional key terms not defined above, please refer to the Nasdaq Index Methodology Guide.

APPENDIX B: EXPOSURE DETERMINATION PROCESS

For each Evaluation Date, the specified volatility measure(s) for an Index are evaluated and used to determine an exposure ratio with the aim of targeting a specified level of risk for such Index. The exposure ratio is determined as follows:

1. Determine the exponential weighted moving average volatility of the Component ($EWVol_t^h$) for a half-life of 6.5 days (h=6.5) and 10 days (h=10) each calculated in accordance with the following formula:

$$EWVol_t^h = \sqrt{\frac{252 \times \sum_{j=0}^{W-1} w_j}{\left(\sum_{j=0}^{W-1} w_j\right)^2 - \sum_{j=0}^{W-1} {w_j}^2} \times \sum_{k=0}^{W-1} \left[w_k \times \left(ln\left(\frac{P_{t-k}}{P_{t-k-1}}\right)\right)^2\right]}$$

where w_x equals the x^{th} element of a weighting vector, calculated by

$$w_x = (0.5)^{\frac{x}{h}}$$

The number of elements (W) in the weighting vector is 45 and 70 for a half-life of 6.5 days and 10 days, respectively.

2. Determine the initial exposure ratio (IER_t):

$$IER_t = Round\left(\frac{TR}{Min(EWVol_t^{6.5}, EWVol_t^{10})} \times \frac{100}{r}, 0\right) \times \frac{r}{100}$$

where:

TR = the Target Risk for the Index (see Target Volatility in the *Index parameters* section above).

r = 1, meaning the initial exposure ratio is rounded to the nearest 1%.

3. Determine the exposure ratio (ER_t), which starts with the initial exposure ratio (IER_t) and applies any maximum or minimum exposure or maximum daily change constraints:

$$ER_t = Min\left(ER_{t-1} + Daily\_Limit, Exp\_Cap, Max(IER_t, ER_{t-1} - Daily\_Limit, Exp\_Floor)\right)$$

where:

ER_x = the exposure ratio for Index Day x.

$Daily\_Limit$ = the maximum exposure change for an Index (see Maximum Exposure Change in the *Index parameters* section above).

Exp_Cap = the maximum exposure for an Index (see the *Index parameters* section above).

Exp_Floor = the minimum exposure for an Index (see the *Index parameters* section above).

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**.

