



INDEX METHODOLOGY

# NASDAQ FACTOR FAMILY US LOW VOLATILITY INDEX

## NQFFUSLV

### INDEX DESCRIPTION

The Nasdaq Factor Family US Low Volatility Index is designed to track the performance of a portfolio of securities exhibiting low volatility characteristics.

### SECURITY ELIGIBILITY CRITERIA

#### Security universe

A security must be included in the Nasdaq US 500 Large Cap Index (NQUS500LC) as of the Index Reconstitution Reference Date. Refer to NQUS500LC's methodology for further information on its constituent selection.

#### Eligible security types

Eligible security types generally include common stocks and REITs.

#### Seasoning eligibility

A security must have been publicly traded for at least 12 months.

#### Other eligibility criteria

If, at Index Reconstitution, Nasdaq becomes aware that an issuer or security will soon undergo a fundamental change that makes it ineligible, Nasdaq may remove the security from consideration. This includes events such as filing bankruptcy or similar protection from creditors, delisting or other arrangement including mergers or acquisitions.

Generally, a security in the Index as of the Reconstitution Reference Date that would become ineligible soon after the Index Reconstitution Effective Date or a security not in the Index as of the Index Reconstitution Reference Date would be removed from consideration

## INDEX CALENDAR

### Reconstitution schedule

The Index is reconstituted semi-annually in April and October, according to the Constituent Selection described below.

### Reconstitution reference dates

Unless otherwise specified, the Security Eligibility Criteria is applied using data as of the ninth business day prior to the fourth business day in April and October.

### Reconstitution announcement dates

Index Reconstitution announcements are made approximately four business days prior to the Reconstitution Effective Date.

### Reconstitution effective dates

Index Reconstitutions become effective at market open on the fourth business day of April and October.

### Rebalance schedule

The Index is rebalanced semi-annually in conjunction with the Index Reconstitution, according to the Constituent Weighting described below. The Rebalance reference, announcement and effective dates are the same as those of the Index Reconstitution.

## CONSTITUENT SELECTION

### Constituent selection process

All securities meeting the applicable Security Eligibility Criteria are considered for inclusion in the Index. Index Securities are selected using the following four-step process:

- 1) A Volatility Change Score is calculated for each eligible security.

$$\text{Volatility Change Score} = \frac{\sum \left( \frac{Vol_{-1,0}}{Vol_{-3,0}}, \frac{Vol_{-3,0}}{Vol_{-6,0}}, \frac{Vol_{-6,0}}{Vol_{-9,0}}, \frac{Vol_{-9,0}}{Vol_{-12,0}} \right)}{4}$$

where  $Vol_{-t,0}$  represents a security's realized volatility measured across the date range spanning from  $t$  calendar months prior to the Index Reconstitution Reference Date to the Index Reconstitution Reference Date.

- 2) A Volatility Strength Score is calculated for each security still considered for index inclusion, using the same volatility measurements as the Volatility Change Score.

$$\text{Volatility Strength Score} = \frac{\Sigma(\text{Vol}_{-1,0}, \text{Vol}_{-3,0}, \text{Vol}_{-6,0}, \text{Vol}_{-9,0}, \text{Vol}_{-12,0})}{5}$$

- 3) Any security whose Volatility Change Score or Volatility Strength Score falls outside the 200 lowest calculated in Steps 1& 2 is excluded from consideration.
- 4) The 50 securities with lowest Volatility Strength Scores are selected for inclusion in the Index.

## CONSTITUENT WEIGHTING

### Constituent weighting scheme

The Index is a modified Volatility Strength Score-weighted index.

### Constituent weighting process

Index Securities' weights are determined by dividing each Index Security's inverse Volatility Strength Score by the sum of the inverse Volatility Strength Scores of all Index Securities.

For additional information about index weighting, refer to the **Nasdaq Index Weight Calculations**.

## INDEX MAINTENANCE

### Deletion policy

If, at any time other than an Index Reconstitution, Nasdaq becomes aware that an Index Security has become ineligible for continued inclusion, it is removed from the Index as soon as practicable. This includes events such as filing bankruptcy or similar protection from creditors, delisting or other arrangement including mergers and acquisitions. Refer to **Nasdaq's Corporate Actions and Events Manual – Equities** for more information.

### Replacement policy

Index Securities are not replaced between Index Reconstitutions.

### Corporate actions

In the interim periods between scheduled index reconstitution events, individual Index securities may be the subject to a variety of corporate actions and events that require maintenance and adjustments to the Index. Specific treatment of each type of corporate action or event is described in **Nasdaq Corporate Actions and Events Manual – Equities**, which is incorporated herein by reference.

In certain cases, corporate actions and events are handled according to the weighting scheme or other index construction techniques employed. Wherever alternate methods are described, the Index will follow the "Non-Market Cap Corporate Action Method".

## **Index share adjustments**

Other than as a direct result of corporate actions, the index does not normally experience share adjustments between scheduled index rebalance and reconstitution events.

## **ADDITIONAL INFORMATION**

### **Announcements**

Nasdaq announces Index-related information via the Nasdaq Global Index Watch (GIW) website at <http://indexes.nasdaq.com>.

For more information on the general Index Announcement procedures, refer to the **Nasdaq Index Methodology Guide**.

### **Holiday schedules**

The Indexes are calculated Monday through Friday, except on days when The Nasdaq Stock Market is closed.

### **Unexpected market closures**

For information on Unexpected Market Closures, refer to the **Nasdaq Index Methodology Guide**.

### **Calculation types**

For information on the Index calculation types as well as the mathematical approach used to calculate the Index(es), refer to the **Calculation Manual – Equities and Commodities**.

### **Recalculation and restatement policy**

For information on the Recalculation and Restatement Policy, refer to the **Nasdaq Index Recalculation Policy**.

### **Data sources**

For information on data sources, refer to the **Nasdaq Index Methodology Guide**.

### **Contact information**

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

## Index dissemination

Index values and weightings information are available through Nasdaq Global Index Watch (GIW) website at <https://indexes.nasdaq.com/> 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, refer to the **Nasdaq Index Methodology Guide**.

## Index calculation and dissemination schedule

The Indexes are calculated during the trading day based on the Last Sale Price and are disseminated once per second from 09:30:01 to 17:16:00 ET. The closing value of the indexes may change up until 17:15:00 ET due to corrections to the Last Sale Price of the Index Securities.

## Website

For further information, refer to Nasdaq GIW website at <https://indexes.nasdaq.com/>.

## FTP and dissemination service

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

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, refer to the **Nasdaq Index Methodology Guide**.

## Nasdaq Index Management Committee

The Nasdaq Index Management Committee is responsible for the overall oversight of activities related to the development, issuance and operation of Nasdaq Indexes. The Committee reviews and approves all new Index Methodologies as well as material updates to existing methodologies.

**For a detailed overview of the Index Management Committee, refer to the Nasdaq Index Methodology Guide.**

## Nasdaq U.S. Oversight Committee

The U.S. Oversight Committee is responsible for the oversight of the overall Benchmark determination process and is responsible for the overall governance of the U.S.-based Index business including review

and approval of the control framework, certain policies and procedures, certain methodologies and methodologies changes and other Index management oversight.

For a detailed overview of the U.S. Oversight Committee, refer to the **Nasdaq Index Methodology Guide**.

### **Internal reviews of methodology**

All new methodologies or updated to existing methodologies must be reviewed by the Index Management Committee. Additionally, all in-scop Index Methodologies are subject to an annual review by the Index Management Committee and U.S. Oversight Committee. For a detailed description on internal reviews of the Methodology, refer to the **Nasdaq Index Methodology Guide**.

### **Communication with stakeholders and consultations**

In certain circumstances, Nasdaq will seek feedback from clients and market participants via consultations. For a detailed description on Consultations and Communications with Stakeholders, refer to the **Nasdaq Index Methodology Guide**.

### **Index cessation**

Nasdaq has a documented procedure that is followed for Index Cessation that includes termination/retirement of an Index or Index Family. For more information, refer to the **Nasdaq Index Cessation Policy**.

### **Discretionary adjustment**

This Index Methodology was created by Nasdaq to achieve the aforementioned objective of measuring the underlying purpose of each Index governed by this methodology document. Any deviations from this methodology are made in the sole judgment and discretion of Nasdaq so that the Index continues to achieve its objective.

For more information on potential adjustments including Calculation and Pricing Disruptions, Expert Judgment, and Unexpected Reconstitution/Rebalances, refer to the **Nasdaq Index Methodology Guide**.

## **GLOSSARY OF TERMS AS USED IN THIS DOCUMENT**

For the glossary of key terms, refer to the **Nasdaq Index Methodology Guide**.

## **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.

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