

# Nasdaq US Contrarian Value Index<sup>SM</sup> Methodology

## Index Description

The Nasdaq US Contrarian Value Index is designed to provide exposure to the balance sheet value risk premia of companies within the Nasdaq US Large Mid Cap Index, while attempting to avoid those companies that exhibit value traps.

## Index Calculation

The Nasdaq US Contrarian Value Index<sup>SM</sup> is a decile weighted index. The value of the Index equals the aggregate value of the Index share weights, also known as the Index Shares, of each of the Index Securities multiplied by each such security's Last Sale Price<sup>1</sup>, and divided by the divisor of the Index. The divisor serves the purpose of scaling such aggregate value to a lower order of magnitude which is more desirable for reporting purposes. The Index began on June 26, 2017, at a base value of 1000.

The formula for index value is as follows:

Aggregate Adjusted Market Value/Divisor

The formula for the divisor is as follows:

(Market Value after Adjustments/Market Value before Adjustments) X Divisor before Adjustments

Three versions of the Index are calculated:

- The price return index (Nasdaq: NQUSCV) is ordinarily calculated without regard to cash dividends on Index Securities.
- The total return index (Nasdaq: NQUSCVT) reinvests cash dividends on the ex-date.
- The net total return index (Nasdaq: NQUSCVN) reinvests cash dividends on the ex-date based on an Index security's country of incorporation withholding rate.

All Indexes reflect extraordinary cash distributions.

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

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<sup>1</sup>For purposes of this document, Last Sale Price refers to the last regular way trade reported on such security's Index Market. The Index Market is the listing market for which prices are received and used by Nasdaq in the Index calculation and generally will represent the most liquid trading market of the Index Security. If a security does not trade on its Index Market on a given day or the Index Market has not opened for trading, the most recent last sale price from the Index Market (adjusted for corporate actions, if any) is used. For securities where Nasdaq is the Index Market, the Last Sale Price may be the Nasdaq Official Closing Price (NOCP) when Nasdaq is closed.

## Eligibility

Index eligibility is limited to specific security types only. The security types eligible for the Index include common stocks and REITs.

## Eligibility Criteria

To be eligible for inclusion in the Index, a security must meet the following criteria:

- be a component of the Nasdaq US Large Mid Index (NQUSBLM);
- security cannot be classified as a Utilities company according under Industry Classification Benchmark (ICB)<sup>2</sup>; be in the top three deciles of book yield if the market environment is classified as a “bear market” or be in the top three deciles of adjusted book yield if the market environment is classified as “normal market”, as is outlined in the Ranking Review section below;
- one security per issuer is permitted<sup>3</sup>;
- may not have entered into a definitive agreement or other arrangement which would likely result in the security no longer being Index eligible; and
- may not be issued by an issuer currently in bankruptcy proceedings; and
- additional proprietary eligibility criteria are applied.

## Ranking Review

All securities in NQUSBLM are segregated into Financials and non-Financials (with Utilities excluded from the benchmark index) by the ICB. Then the book yield for each security in NQUSBLM, using book value per share and price as of the most recent quarter end, is calculated for each of the last 28 quarters. Then the median book yield of NQUSBLM is calculated for each of the last 28 quarters. If the most recent median book yield of NQUSBLM is greater than two standard deviations plus the average of the median book yields of the last 28 quarters of NQUSBLM, then the market condition is classified as “bear market”; otherwise, the market condition is classified as “normal market”.

Once the market condition is determined, the rank and decile for each security is calculated based on the most recent quarter end book yield. If the market condition is “bear market”, then the top three deciles by book yield are selected as the final basket. If the market condition is “normal market”, then the leverage (net debt/EBITDA), twelve-month price volatility, and forward earnings dispersion (standard deviation of earnings estimates) for each security is calculated as of most recent quarter end. Then the rank and decile of the leverage, twelve-month price volatility, and forward earnings dispersion values are determined. If a security is in the top three deciles by book yield but is in deciles nine and ten by leverage, twelve-month price volatility, or forward earnings dispersion, then that security is placed at the 50<sup>th</sup> percentile within the book yield ranks. This is the adjusted book yield rank of a security. The final book yield rank is determined by re-ranking the adjusted book yield rank. Then the top three deciles are selected from the final book yield ranks to determine the final basket.

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<sup>2</sup> Industry Classification Benchmark (ICB) is a product of FTSE International Limited and has been licensed for use.

<sup>3</sup> If an issuer has multiple securities, the security with the highest dollar trading volume will be selected for possible inclusion into the Index.

## **Index Evaluation**

The Index is evaluated annually in February, using prior year-end securities from NQUSBLM, irrespective of market condition. The market condition is evaluated quarterly in February, May, August, and November. If there is a reversal in the market condition from the prior quarter (either a change from "bear market" to "normal market" or "normal market" to "bear market"), then there is a special rebalance. The above Eligibility Criteria are applied during either the annual rebalance in February or during a special rebalance in May, August, or November, utilizing market data as of most recent quarter end (March, June, September, or December) and securities from NQUSBLM from prior year-end. Securities that meet the criteria are included in the index. Security additions and deletions are made effective after the close of trading on the third Friday in March, June, September, or December.

Additionally, if at any time during the year other than the Evaluation, an Index Security no longer meets the Eligibility Criteria, or is otherwise determined to have become ineligible for inclusion in the Index, the security is removed from the Index and is not replaced. Ordinarily, a security will be removed from the Index at its Last Sale Price. If, however, at the time of its removal the Index Security is halted from trading on its primary listing market and an official closing price cannot readily be determined, the Index Security may, in Nasdaq's discretion, be removed at a zero price. The zero price will be applied to the Index Security after the close of the market but prior to the time the official closing value of the Index is disseminated, which is ordinarily 17:16:00 ET.

## **Index Maintenance**

Index Share changes are not made during the quarter however changes arising from stock dividends and stock splits are made to the Index on the evening prior to the effective date of such corporate action. In the case of certain spin-offs or rights issuances, the price of the Index Security is adjusted.

A special cash dividend announced by the listing exchange, will result in an adjustment to the Last Sale Price of an Index Security prior to market open on the ex-date for the special amount distributed. A corresponding adjustment will be made to the Index Shares of the security such that the weight of the Index Security will not change as a result of the action. A special dividend may also be referred to as extra, extraordinary, non-recurring, one-time, unusual, etc.

Ordinarily, whenever there is a change in an Index Security or a change to the price of an Index Security due to spin-offs, rights issuances or special cash dividends as mentioned above, the divisor is adjusted to ensure that there is no discontinuity in the value of the Index which might otherwise be caused by any such change. All changes are announced in advance and are reflected in the Index prior to market open on the Index effective date.

## **Index Rebalancing**

The Index employs a decile-based weighting methodology. At the rebalancing, the Index is rebalanced such that the weights laid out in the Ranking Review and Eligibility Criteria for each Index security are applied.

The weighting methodology is applied to the capitalization of each Index Security, using the Last Sale Price of the security at the close of trading on the last trading day in February. In the event of a special rebalance due to a reversal in market condition, the corresponding

prior month end prices are used in calculating shares (May, August and November) for effectives on the third Friday in June, September and December.

The top three deciles in the Index get a weight of 50%, 35% and 15%, respectively. The top three deciles are selected from Financials and non-Financials separately, with decile one in Financials getting the weight of Financials in NQUSBLM multiplied by 50% and decile one in non-Financials getting the weight of non-Financials in NQUSBLM multiplied by 50%. The same process is applied for deciles two and three to derive the final weights of the Index constituents. The securities are then equal-weighted within each decile within Financials and non-Financials, respectively.

Nasdaq may, from time to time, exercise reasonable discretion as it deems appropriate in order to ensure Index integrity.

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