



NASDAQ-100 INDEX METHODOLOGY

December 2018

TABLE OF CONTENTS

TABLE OF CONTENTS.....	2
1. Introduction.....	4
2. Security Eligibility.....	4
2.1 Overview of Selection Criteria for NASDAQ-100 Index.....	4
2.2 Detailed Initial Security Selection Criteria.....	5
2.2.1 Listings.....	5
2.2.2 Security Types.....	5
2.2.3 Market Capitalization.....	5
2.2.4 Liquidity.....	6
2.2.5 Security Seasoning Criteria.....	6
2.3 Detailed Continued Eligibility Security Criteria.....	6
2.3.1 Index Evaluation.....	6
3. Index Calculations.....	7
3.1 Last Sale Price.....	9
3.2 Index Shares.....	9
3.3 Index Security Market Value and Index Market Value.....	9
3.4 Base Date.....	10
3.5 Base Value.....	10
3.6 Price Return Divisor.....	10
3.7 Price Return Index Value Calculation.....	10
3.8 Gross Total Return Index.....	10
3.9 Notional Net Total Return Index.....	11
4. Index Dissemination.....	11
5. Index Maintenance.....	11
5.1 Index Rebalancing.....	12
5.2 Index Security Changes.....	13
5.2.1 Bankruptcy.....	13
5.3 Index Share Changes.....	13
5.3.1 Total Shares Outstanding Changes.....	14
6. Corporate Actions.....	14
6.1 Stock Split and Stock Dividend.....	14
6.2 Reverse Stock Split.....	14

6.3	Special Cash Dividends	14
6.4	Cash and Stock Dividends	15
6.5	Stock Distribution of Another Security.....	15
6.6	Spin-offs	15
6.7	Rights Offerings	15
7.	General Announcement Policy.....	16
8.	Discretionary Adjustments.....	17
	About NASDAQ Global Indexes	18
	About Nasdaq, Inc.	18
	Disclaimer.....	18
	Limits of Liability	19

1. INTRODUCTION

The NASDAQ-100 Index[®] includes 100 of the largest non-financial companies listed on The Nasdaq Stock Market[®], based on market capitalization. It does not contain securities of financial companies including investment companies.

The NASDAQ-100 Index provides a transparent, rules-based benchmark for institutional investors and is calculated as Price Return, Total Return and Notional Net Total Return in multiple currencies.

- + **NASDAQ-100 Index (NDX)**
- + **NASDAQ-100 Total Return Index (XNDX)**
- + **NASDAQ-100 Notional Net Total Index (XNDXNNR)**
- + **NASDAQ-100 HKD Index (NDXHKD)**
- + **NASDAQ-100 HKD Total Return Index (XNDXHKD)**
- + **NASDAQ-100 HKD Notational Net Return Index (XNDXHKDNNR)**
- + **NASDAQ-100 Index CAD (NDXCAD)**
- + **NASDAQ-100 Index Total Return Index CAD (XNDXCAD)**
- + **NASDAQ-100 Index Notational Net Return Index CAD (XNDXNNRCAD)**
- + **NASDAQ-100 Index Index GBP (NDXGBP)**
- + **NASDAQ-100 Index Total Return Index GBP (XNDXGBP)**
- + **NASDAQ-100 Index Notational Net Return Index GBP (XNDXNNRGBP)**
- + **NASDAQ-100 Index Index CHF (NDXCHF)**
- + **NASDAQ-100 Index Total Return Index CHF (XNDXCHF)**
- + **NASDAQ-100 Index Notational Net Return Index CHF (XNDXNNRCHF)**
- + **NASDAQ-100 Index Index EUR (NDXEUR)**
- + **NASDAQ-100 Index Total Return Index EUR (XNDXEUR)**
- + **NASDAQ-100 Index Notational Net Return Index EUR (XNDXNNREUR)**
- + **NASDAQ-100 Mini Index (MNX1)**
- + **NASDAQ-100 Reduced Value Index (NOXM5)**

2. SECURITY ELIGIBILITY

2.1 OVERVIEW OF SELECTION CRITERIA FOR NASDAQ-100 INDEX

To be eligible for initial inclusion in the NASDAQ-100 Index (“The Index”), an Index Security¹ must meet the following criteria:

- + the issuer of the security’s primary U.S. listing must be exclusively listed on the Nasdaq Global Select Market or the Nasdaq Global Market (unless the security was dually listed on another U.S.

¹ An Index Security is defined as a security meeting all eligibility requirements for the Index.

- market prior to January 1, 2004 and has continuously maintained such listing);
- + a security must be issued by a non-financial company²;
 - + a security may not be issued by an issuer currently in bankruptcy proceedings;
 - + a security must have average daily trading volume of at least 200,000 shares in the previous three months (measured annually during the Ranking Review process);
 - + if the issuer of the security is organized under the laws of a jurisdiction outside the U.S., then such security must have listed options on a recognized options market in the U.S. or be eligible for listed-options trading on a recognized options market in the U.S. (measured during the Ranking Review process);
 - + the issuer of the security may not have entered into a definitive agreement or other arrangement where the transaction is determined to be highly probable and would likely result in the security no longer being Index eligible;
 - + the issuer of the security may not have annual financial statements with an audit opinion that is currently withdrawn;
 - + the security must have “seasoned” on Nasdaq, NYSE, or CBOE. Generally, a company is considered to be seasoned if it has been listed on a market for at least three full months (excluding the first month of initial listing).

2.2 DETAILED INITIAL SECURITY SELECTION CRITERIA

2.2.1 LISTINGS

For inclusion in the Index, an Index Security must be listed exclusively on the Nasdaq Global Select Market or Nasdaq Global Market (unless the security was dually listed on another U.S. market prior to January 1, 2004 and has continuously maintained such listing).

2.2.2 SECURITY TYPES

Security types generally eligible for the Index include common stocks, ordinary shares, ADRs, and tracking stocks. Security or company types not included in the Index are closed-end funds, convertible debentures, exchange traded funds, limited liability companies, limited partnership interests, preferred stocks, rights, shares or units of beneficial interest, warrants, units and other derivative securities. The Index does not contain securities of investment companies.

2.2.3 MARKET CAPITALIZATION

There is no minimum market capitalization requirement. Inclusion will be determined based on the top 100 largest issuers based on market capitalization meeting all other eligibility requirements. Market capitalization is determined by multiplying a security’s Last Sale Price³ by its total shares outstanding.

² Non-Financial companies are those companies that are classified under all Industry Codes except 8000 according to the Industry Classification Benchmark (ICB), a product of FTSE International Limited and has been licensed for use.

³ See Section 3.1 for description of Last Sale Price.

2.2.4 LIQUIDITY

Each security must have a minimum three-month average daily trading volume (ADTV) of 200 thousand shares. The ADTV is determined by the average of the sum product of the security's daily trading volume for each day during the previous three month period.

2.2.5 SECURITY SEASONING CRITERIA

The security must have been traded for at least full three months, not including month of initial listing, on Nasdaq, NYSE, or CBOE.

2.3 DETAILED CONTINUED ELIGIBILITY SECURITY CRITERIA

To be eligible for continued inclusion in the NASDAQ-100 Index ("The Index"), an Index Security⁴ must meet the following criteria:

- + the issuer of the security's primary U.S. listing must be exclusively listed on the Nasdaq Global Select Market or the Nasdaq Global Market
- + the security must be issued by a non-financial company⁵;
- + the security may not be issued by an issuer currently in bankruptcy proceedings;
- + the security must have average daily trading volume of at least 200,000 shares in the previous three month trading period (measured during the Ranking Review process);
- + if the issuer of the security is organized under the laws of a jurisdiction outside the U.S., then such security must have listed options on a recognized options market in the U.S. or be eligible for listed-options trading on a recognized options market in the U.S.;
- + the issuer must have an adjusted market capitalization equal to or exceeding 0.10% of the aggregate adjusted market capitalization of the Index at each month-end. In the event a company does not meet this criterion for two consecutive month-ends, it is removed from the Index effective after the close of trading on the third Friday of the following month; and
- + the issuer of the security may not have annual financial statements with an audit opinion that is currently withdrawn.

For the purposes of Index eligibility criteria, if the security is a depositary receipt representing a security of a non-U.S. issuer, then references to the "issuer" are references to the issuer of the underlying security.

2.3.1 INDEX EVALUATION

Except under extraordinary circumstances that may result in an interim evaluation, Index composition is reviewed on an annual basis as follows. Issuer securities which meet the applicable eligibility criteria are ranked

⁴ Index Securities are defined as securities meeting all eligibility requirements for The Index.

⁵ Non-Financial companies are those companies that are classified under all Industry Codes except 8000 according to the Industry Classification Benchmark (ICB), a product of FTSE International Limited and has been licensed for use.

by market value. Index-eligible securities which are already in the Index and whose issuer is ranked in the top 100 eligible companies (based on market capitalization) are retained in the Index. An Index Issuer that is ranked 101 to 125 is generally retained, provided that such issuer was ranked in the top 100 eligible issuers as of the previous Ranking Review or was added to the Index subsequent to the previous Ranking Review. Index issuers not meeting such criteria are replaced.

Additionally, if at the time of the Index Evaluation an eligible Issuer not currently in the Index is ranked within the top 75 Index eligible securities by market capitalization and is not one of the replacement securities it will be automatically added to the Index and the smallest Issuer by market capitalization will be removed from the Index.

The replacement securities chosen are those Index-eligible securities not currently in the Index whose issuers have the largest market capitalization. The data used in the ranking includes market data as of the last trading day of October and is updated for total shares outstanding submitted in a publicly filed SEC document via EDGAR through the end of November⁶.

Replacements are made effective after the close of trading on the third Friday in December. Moreover, if at any time during the year other than the Ranking Review, an Index Issuer no longer meets the Continued Eligibility Criteria, or is otherwise determined to have become ineligible for continued inclusion in the Index, it is replaced with the largest market capitalization issuer not currently in the Index and meeting the Initial Eligibility criteria listed above. 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.

3. INDEX CALCULATIONS

The NASDAQ-100 Index is a modified market capitalization-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 Price⁷, 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 Index reporting purposes. If trading in an Index Security is halted on its primary listing market, the most recent Last Sale Price for that security is used for all index computations until trading on such market resumes. Likewise, the most recent Last Sale Price is used if trading in a security is halted on its primary listing market before the market is open. The Index began on January 31, 1985 at a base value of 125.00, as adjusted.

The following versions of the Index are calculated:

- The price return index in USD (Nasdaq: NDX) is ordinarily calculated without regard to cash dividends on Index Securities.

⁶ If a security is a depositary receipt, the total shares outstanding is the actual depositary shares outstanding as reported by the depositary banks.

⁷ For purposes of this document Last Sale Price refers to the last sale price on Nasdaq, which may be the Nasdaq Official Closing Price (NOCP).

- The total return index in USD (Nasdaq: XNDX) reinvests cash dividends on the ex-date. The total return index was synchronized to the value of the price return index at the close on March 4, 1999.
- The notional net total return index in USD (Nasdaq: XNDXNNR) is designed to reflect a net total return index reinvesting 70% of cash dividends, and factors in a deduction based on an indicative 30% tax rate. The notional net total return index was synchronized to the value of the total return index at the close on October 7, 2011.
- The price return index in HKD (Nasdaq: NDXHKD) is ordinarily calculated without regard to cash dividends on Index Securities. The price return index in HKD began on December 14, 2015 at a base value of 1000.00.
- The total return index in HKD (Nasdaq: XNDXHKD) reinvests cash dividends on the ex-date. The total return index in HKD began on December 14, 2015 at a base value of 1000.00.
- The notional net total return index in HKD (Nasdaq: XNDXHKDNNR) is designed to reflect a net total return index reinvesting 70% of cash dividends, and factors in a deduction based on an indicative 30% tax rate. The notional net total return index in HKD began on December 14, 2015 at a base value of 1000.00.
- The price return index in CAD (Nasdaq: NDXCAD) is ordinarily calculated without regard to cash dividends on Index Securities. The price return index in CAD began on March 6, 2017 at a base value of 1000.00.
- The total return index in CAD (Nasdaq: XNDXCAD) reinvests cash dividends on the ex-date. The total return index in CAD began on March 6, 2017 at a base value of 1000.00.
- The notional net total return index in CAD (Nasdaq: XNDXCADNNR) is designed to reflect a net total return index reinvesting 70% of cash dividends, and factors in a deduction based on an indicative 30% tax rate. The notional net total return index in CAD began on March 6, 2017 at a base value of 1000.00.
- The price return index in GBP (Nasdaq: NDXGBP) is ordinarily calculated without regard to cash dividends on Index Securities. The price return index in GBP began on March 6, 2017 at a base value of 1000.00.
- The total return index in GBP (Nasdaq: XNDXGBP) reinvests cash dividends on the ex-date. The total return index in GBP began on March 6, 2017 at a base value of 1000.00.
- The notional net total return index in GBP (Nasdaq: XNDXGBPNNR) is designed to reflect a net total return index reinvesting 70% of cash dividends, and factors in a deduction based on an indicative 30% tax rate. The notional net total return index in GBP began on March 6, 2017 at a base value of 1000.00.
- The price return index in CHF (Nasdaq: NDXCHF) is ordinarily calculated without regard to cash dividends on Index Securities. The price return index in CHF began on March 6, 2017 at a base value of 1000.00.
- The total return index in CHF (Nasdaq: XNDXCHF) reinvests cash dividends on the ex-date. The price return index in CHF began on March 6, 2017 at a base value of 1000.00.
- The notional net total return index in CHF (Nasdaq: XNDXCHFNNR) is designed to reflect a net total return index reinvesting 70% of cash dividends, and factors in a deduction based on an indicative 30% tax rate. The notional net total return index in CHF began on March 6, 2017 at a base value of 1000.00.
- The price return index in EUR (Nasdaq: NDXEUR) is ordinarily calculated without regard to cash dividends on Index Securities. The price return index in CHF began on March 6, 2017 at a base value of 1000.00.

- The total return index in EUR (Nasdaq: XNDXEUR) reinvests cash dividends on the ex-date. The price return index in CHF began on March 6, 2017 at a base value of 1000.00.
- The notional net total return index in EUR (Nasdaq: XNDXEURNNR) is designed to reflect a net total return index reinvesting 70% of cash dividends, and factors in a deduction based on an indicative 30% tax rate. The notional net total return index in EUR began on March 6, 2017 at a base value of 1000.00.
- The price return index of MNX1 in USD (Nasdaq: MNX1) is ordinarily calculated without regard to cash dividends on Index Securities. The index is 1/10 value of the NDX in USD. The price return index of MNX1 in USD began on November 16, 2016 at a base value of 476.447412.
- The price return index of NQXM5 in USD (Nasdaq: NQXM5) is ordinarily calculated without regard to cash dividends on Index Securities. The index is 1/5 value of the NDX in USD. The price return index of NQXM5 in USD began on May 29, 2018 at a base value of 1183.232433.

All index calculations reflect extraordinary cash distributions.

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.

3.1 LAST SALE PRICE

The Last Sale Price refers to the closing price reported on each Index Security's Index Market. The Index Market is the index eligible stock market for which the Index Security's prices are received and used by Nasdaq in the Index calculation.

If an Index 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. If an Index Security is halted during the trading day the most recent Last Sale Price is used until trading resumes.

If an Index Security is removed from an Index, it will ordinarily be removed at its Last Sale Price. If, however, at the time of its removal the Index Security is halted from trading on its Index Market and a Last Sale Price cannot readily be determined, the Index Security may, at Nasdaq's discretion, be removed at a price of \$0.00000001 ("zero price"). This price will be applied to the Index Security after the close of all the trading markets in the Index but prior to the time the official closing value of the Index is disseminated.

3.2 INDEX SHARES

Index Shares value is based on the number of total shares outstanding of an Index Security.

3.3 INDEX SECURITY MARKET VALUE AND INDEX MARKET VALUE

The Index Security Market Value is the Last Sale Price of the Index Security multiplied by its Index Shares. The Index Market Value is the aggregate of each of the Index Security's Market Value.

3.4 BASE DATE

The Base Date is the date the Index began to be calculated. The Index began on January 31, 1985.

3.5 BASE VALUE

The Base Value is the starting value for the Index and may be adjusted due to the split of the Index Value. The Index began at a base value of 125.00, as adjusted.

3.6 PRICE RETURN DIVISOR

The Divisor serves the purpose of scaling an Index Market Value to a lower order of magnitude which is recommended for reporting purposes. The Divisor is adjusted to ensure that changes in Index Securities either by corporate actions or index participation occurring outside of trading hours do not affect the value of the Index. All Divisor changes occur after the close of Index Security markets contained in the Index.

The Price Return Index Divisor for day t is calculated as the ratio of the Start of Day (SOD) market value and the previous day index value as follows:

$$\text{Price Return Index Divisor}_t = \frac{\text{Index SOD Market Value}_t}{\text{Index Value}_{t-1}}$$

3.7 PRICE RETURN INDEX VALUE CALCULATION

The Price Return Index value reflects changes in market value of Index Securities during the trading day and is calculated without regard to ordinary cash dividends, but includes special dividends and the formula is as follows:

$$\text{Price Return Index}_t = \frac{\text{Index Market Value}_t}{\text{Index Divisor}_t}$$

3.8 GROSS TOTAL RETURN INDEX

The Gross Total Return Index value reflects ordinary cash and special dividends and the formula is as follows:

$$\text{Gross Total Return Index}_t = \text{Gross Total Return Index}_{t-1} \times \frac{\text{Price Return Index}_t + \text{IDP}}{\text{Price Return Index}_{t-1}}$$

Gross Total Return Index_t = the value of the Gross Total Return Index on current day

Gross Total Return Index_{t-1} = the previous day's closing Gross Total Return Index value

Price Return Index_t = the value of the Price Return Index on current day

Price Return Index_{t-1} = the previous day's closing Price Return Index value

$$IDP(\text{Index Dividend Points}) = \frac{\text{Index Dividend Market Value}_t}{\text{Price Return Index Divisor}_t}$$

Index Dividend Market Value_t = sum of the Index Security Dividend Market Values (SOD or EOD) for all Index Securities on current day

Index Security Dividend Market Value_t = dividend per share, for Index Security with ex-dividend date on the current day multiplied by the Index Shares of that Index Security

3.9 NOTIONAL NET TOTAL RETURN INDEX

The Notional Net Total Return Index value reflects a net total return reinvesting 70% of cash dividends and factors in a deduction based on an indicative 30% tax rate:

$$\text{Net Total Return Index}_t = \text{Net Total Return Index}_{t-1} \times \frac{\text{Net Price Return Index}_t + \text{NetIDP}_t}{\text{Net Price Return Index}_{t-1}}$$

Net Total Return Index_t = the value of the Net Total Return Index on current day

Net Total Return Index_{t-1} = the previous day's closing Net Total Return Index value

Net Price Return Index_t = the value of the Net Price Return Index on current day

Net Price Return Index_{t-1} = the previous day's closing Net Price Return Index value

$$\text{Net Price Return Index}_t = \frac{\text{Net Price Return Index Market Value}_t}{\text{Net Price Return Index Divisor}_t}$$

Net Price Return Index value is not publically distributed. It is calculated only as the basis for the Net Total Return Index.

$$\text{Net IDP}(\text{Net Index Dividend Points}) = \frac{\text{Index Net Dividend Market Value}_t}{\text{Net Price Return Index Divisor}_t}$$

Net Index Dividend Market Value_t = sum of the Security Dividend Market Values (SOD or EOD) adjusted for withholding tax rate for all Index Securities on current day

Net Index Security Dividend Market Value_t = dividend per share adjusted for withholding tax rate (WTR) for Index Security with ex-dividend date on the current day multiplied by the Index Shares of that Index Security

4. INDEX DISSEMINATION

The Index Values are calculated during the U.S. market trading day and are disseminated once per second.

5. INDEX MAINTENANCE

5.1 INDEX REBALANCING

On a quarterly basis coinciding with the quarterly scheduled Index Share adjustment procedures in March, June and September, the Index will be rebalanced if it is determined that: (1) the current weight of the single largest market capitalization Index Security is greater than 24.0% or (2) the “collective weight” of those Index Securities whose individual current weights are in excess of 4.5%, when added together, exceeds 48.0% of the Index.

If either one or both weight distribution requirements are met upon quarterly review or it is determined that a special rebalancing is required, a weight rebalancing will be performed.

First, relating to weight distribution requirement (1) above, if the current weight of the single largest Index Security exceeds 24.0%, then the weights of all Large Stocks (those greater than 1%) all stocks with weights greater than 4.5% will be scaled down proportionately towards 1.0% for the adjusted weight of the single largest Index Security to be set to 20.0%.

Second, relating to weight distribution requirement (2) above, for those Index Securities whose individual current weights or adjusted weights in accordance with the preceding step are in excess of 4.5%, if their “collective weight” exceeds 48.0%, then the weights of all stocks with weights greater than 4.5% will be scaled down proportionately towards 1.0% for the “collective weight,” so adjusted, to be set to 40.0%.

On an annual basis coinciding with the annual evaluation in December, the index will be rebalanced if it is determined that the “collective weight” of the five largest Index Securities by weight, when added together, exceeds 40.0% of the Index. In addition, a special rebalancing of the Index may be conducted at any time if it is determined necessary to maintain the integrity of the Index.

If the weight distribution requirement is met upon the annual evaluation or it is determined that a special rebalancing is required, a weight rebalancing will be performed.

If the “collective weight” of the five largest Index Securities by weight, when added together, exceeds 40.0% of the Index at the time of the annual evaluation, those top five securities will be scaled down proportionately towards 1.0% for the “collective weight,” so adjusted, to be set to 38.5%. The excess weight due to capping from the five largest, capped securities is redistributed to the remaining securities. Thereafter, all other securities are capped at 4.5%⁸ and the weight is proportionally redistributed to all securities that have not yet been capped.

In the event of a special rebalance, either coinciding with the quarterly review or annual evaluation (or at any other point in time where necessary), prior month-end shares outstanding and prices for each security in the index are utilized to calculate the weights that require capping and the associated index shares. If a special rebalance were to occur in accordance with the quarterly scheduled index adjustment or annual evaluation, the

⁸ If, after capping the top five securities to reduce the aggregate weight to 38.5%, the fifth largest security has a weight less than 4.5%, all remaining securities are capped at the weight of the fifth largest security.

Index weights will be determined anew based upon the last sale prices and aggregate capitalization of the Index at the close of trading on the last day in February, May, August and November. Changes to the Index weights will be made effective after the close of trading on the third Friday in March, June, September and December and an adjustment to the divisor is made to ensure continuity of the Index.

Ordinarily, new rebalanced weights will be determined by applying the above procedures to the current Index weights. However, Nasdaq may from time to time determine rebalanced weights, if necessary, by applying the above procedure to the actual current market capitalization of the Index components. In such instances, Nasdaq would announce the different basis for rebalancing prior to its implementation.

At the quarterly rebalancing, data is cutoff as of the previous month end and no changes are made to the Index from that cutoff until the quarterly share change effective date with the single exception for corporate actions with an ex-date.

5.2 INDEX SECURITY CHANGES

If at any time during the year other than an annual Index Evaluation, an Index Security no longer meets the Eligibility Criteria, or is otherwise determined to have become ineligible for inclusion in the Index(es), the Index Security is removed from its Index. If the Index Security is the only security of the Issuer in the Index, the Issuer is replaced with the next eligible issuer by market capitalization. Index Securities will be removed at their Last Sale Price in accordance with Section 3.1 Last Sale Price.

In the case of mergers and acquisitions, the effective date for the removal of an Index Issuer will be largely event-based, with the goal to remove the security as soon as completion of the acquisition or merger has been deemed highly probable. Notable events include, but are not limited to, completion of various regulatory reviews, the conclusion of material law suits and/or shareholder and Board approvals.

If at the time of the removal of the Index Security there is not sufficient time to provide advance notification of the replacement security so that both the removal and replacement can be effective on the same day, the Index Security being removed will be retained and persisted in the Index calculations at its Last Sale Price until the effective date of the replacement security's entry to the Index.

5.2.1 BANKRUPTCY

If a company files for bankruptcy, the Index Security(ies) of the Issuer will be removed from the Index as soon as practicable thereafter. The value of the Index Security(ies) will be considered \$0.00000001, if no other applicable price can be observed on Nasdaq Global Select Market or the Nasdaq Global Market.

5.3 INDEX SHARE CHANGES

Changes in Index Shares can result from a change in total shares outstanding.

5.3.1 TOTAL SHARES OUTSTANDING CHANGES

Changes in the price and/or Index Shares driven by corporate events such as stock dividends, stock splits and certain spin-offs and rights issuances are adjusted on the ex-date. If the change in total shares outstanding arising from other corporate actions is greater than or equal to 10.0%⁹, the change is made as soon as practicable. Otherwise, if the change in total shares outstanding is less than 10%, then all such changes are accumulated and made effective at one time on a quarterly basis after the close of trading on the third Friday in each of March, June, September and December. The Index Shares are derived from the security's total shares outstanding. The Index Shares are adjusted by the same percentage amount by which the total shares outstanding have changed.

6. CORPORATE ACTIONS

The following corporate actions will be made effective in the Index on the ex-date. If there is no ex-date announced by the Index Exchange, there will be no adjustment to the Index as a result of a Corporate Action.

6.1 STOCK SPLIT AND STOCK DIVIDEND

A stock split and stock dividend is the action of an Index Security in increasing its Index Shares and decreasing the par value in proportion. There is no flow of capital into or out of the company. The number of Index Shares increases but the market capitalization of the company remains unchanged.

The price of the Index Security is adjusted to reflect the ratio of a stock split and stock dividend a corresponding inverse adjustment to the Index Shares is made.

6.2 REVERSE STOCK SPLIT

A reverse stock split is the action of an Index Security in decreasing its Index Shares and decreasing the par value in proportion. There is no flow of capital into or out of the company. The number of Index Shares decreases but the market capitalization of the company remains unchanged.

The price of the Index Security is adjusted to reflect the ratio of the reverse stock split a corresponding inverse adjustment to the Index Shares is made.

6.3 SPECIAL CASH DIVIDENDS

A dividend is considered special if the information provided by the listing exchange in their announcement of the ex-date indicates that the dividend is special. Other nomenclature for a special dividend may be (but not limited to) extra, extraordinary, non-recurring, one-time, unusual, etc. The price of the Index Security is adjusted for the amount of the special cash dividend.

⁹ If a security is a depositary receipt, the total shares outstanding is the actual depositary shares outstanding as reported by the depositary banks.

6.4 CASH AND STOCK DIVIDENDS

If an Index Security is paying a cash and stock dividend on the same date, the cash dividend is applied before the stock dividend unless otherwise indicated in the information provided by the Index Exchange. Additionally, in the case of an optional dividend which allows the holder to choose between receiving cash or stock, the adjustment will be made in the manner the dividend has been announced by the Index Exchange.

6.5 STOCK DISTRIBUTION OF ANOTHER SECURITY

If an Index Security is distributing shares of a different security, the value of the Index Security will be adjusted downward to reflect the ratio of the distribution. There is no adjustment to Index Shares. If the security being distributed is another class of common shares of the same Issuer, the value of the existing Index Security will be adjusted downward to reflect the ratio of the distribution with no adjustment to Index Shares, and the new class of shares may be added to the Index on a pro-rata basis.

6.6 SPIN-OFFS

If an Index Security is spinning off a security, the value of the Index Security will be adjusted downward to reflect the ratio of the distribution. There is no adjustment to Index Shares. If a when-issued market is established for the spinco, the price of the Index Security is adjusted downward by the value of the spinoff. The value of the spin-off is determined by multiplying the spin-off ratio by the when-issued price. In the event the value of the spinoff has not been established as indicated above then no price adjustment is made to the Index Security. The new security resulting from the spin-off transaction is not added to the Index.

6.7 RIGHTS OFFERINGS

The price of an Index Security is adjusted on the ex-date for rights offerings if the rights are transferable and has a subscription price on an equivalent per share basis that is less than the closing price of the Index Security the right entitles a holder to purchase (the "Underlying Security") on the day prior to the ex-date (in-the-money). The price of the Index Security is adjusted downward for the value of the right. The value of the right is determined by the previous Last Sale Price (LSP) of the Underlying Security minus the sum of the Subscription Price of the right plus the cash dividend of the Underlying Security, if any, divided by the number of rights required to purchase one share, plus one.

7. GENERAL ANNOUNCEMENT POLICY

Nasdaq announces Index-related information via our premier service Global Index Watch at <http://indexes.nasdaqomx.com>.

Generally, the list of annual additions and deletions as a result of the annual evaluation is publicly announced via a press release in the early part of December in conjunction with the announcement on Global Index Watch.

Corporate actions are implemented in the Indexes in accordance with the Index maintenance rules. Announcement is made prior to the effective date of the corporate actions.

In the event that a change has been made to an Index intraday, an announcement will be made to inform clients of the change.

In the event that an Index calculation has been corrected historically an announcement will be provided and clients are asked to update their databases accordingly.

8. DISCRETIONARY ADJUSTMENTS

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

ABOUT NASDAQ GLOBAL INDEXES

Nasdaq Global Indexes has been creating innovative, market-leading, transparent indexes since 1971. Today our index offering spans geographies and asset classes and includes diverse families such as the Dividend & Income, Global Equity, Nasdaq BulletShares, Nordic, Green Economy and Commodity Indexes.

We continuously offer new opportunities for financial product sponsors across a wide-spectrum of investable products and for asset managers to measure risk and performance. Nasdaq Global Indexes also provides custom index services, data, design and calculation solutions as well as ETP listings.

For more information, visit <http://indexes.nasdaqomx.com>.

ABOUT NASDAQ, INC.

Nasdaq (Nasdaq:NDAQ) is a leading provider of trading, clearing, exchange technology, listing, information and public company services across six continents. Through its diverse portfolio of solutions, Nasdaq enables customers to plan, optimize and execute their business vision with confidence, using proven technologies that provide transparency and insight for navigating today's global capital markets. As the creator of the world's first electronic stock market, its technology powers more than 70 marketplaces in 50 countries, and 1 in 10 of the world's securities transactions. Nasdaq is home to more than 3,500 listed companies with a market value of approximately \$9.5 trillion and more than 10,000 corporate clients. To learn more, visit: nasdaq.com/ambition or business.nasdaq.com.

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. nor any of its affiliates (collectively "Nasdaq") makes 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.**

LIMITS OF LIABILITY

Nasdaq, Inc. and its affiliates (“Nasdaq”) assume no liability of any nature (including, but not limited to negligence) for any loss, damages, costs, claims and expenses related to or arising out of the use of the Indexes or any data included therein. Nasdaq expressly disclaims all warranties, expressed or implied, as to the availability, accuracy, uninterrupted calculation, completeness, merchantability or fitness for a particular purpose with respect to the Indexes or any data included therein. Neither Nasdaq nor any third party makes any express or implied warranties or representations with respect to the Indexes, the results to be obtained by their use or the value of the Indexes at any given time. Without limiting any of the foregoing, in no event shall Nasdaq have any liability for any direct damages, lost profits or special, incidental, punitive, indirect, or consequential damages, even if notified of the possibility of such damages.