NYSE Sector Indexes
Methodology Guide

- NYSE Energy Index[SM] (Symbol: NYE.ID)
- NYSE Financial Index[SM] (Symbol: NYK.ID)
- NYSE Health Care Index[SM] (Symbol: NYP.ID)

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1. Index Overview and Description

The NYSE Sector Indexes are subsets of the NYSE Composite Index and consist of three separate indexes representing the following market sectors: Energy, Financial, and Health Care. Component in each of the three NYSE Sector Indexes include NYSE-listed common stocks that are classified according to the Dow Jones Global Classification System. These indexes are introduced to give investors and issuers a more defined snapshot of key segments of the NYSE marketplace. The three new sector indexes supersede the old NYSE sub-indexes – Industrial, Financial, Transportation, and Utilities indexes.

2. Key Features

    2.1 Membership Criteria

    A company must have its shares listed on the New York Stock Exchange in order to be eligible for inclusion in any of the NYSE Sector Indexes. Only common stocks, ADRs, REITs and tracking stocks listed on the NYSE are eligible for inclusion; multiple classes of shares can also be included in the Composite. Preferred stocks, closed-end funds, exchange-traded funds, trust units, shares of beneficial interest, limited partnerships, and derivative securities such as warrants and rights are not eligible.

    2.2. Base Date and Base Value

    Each of the three NYSE Sector Indexes has a base date of December 31, 2002. The closing market value on this date was given an index value of 5,000 (December 31, 2002=5,000).

    2.3. Calculation and Dissemination

    Like the Consumer Price Index, each NYSE Sector Index is a Laspeyres index which measures price changes against a fixed base period quantity weight. A detailed explanation of Laspeyres's formula is provided in Section 5.2.

    The NYSE Sector Indexes are calculated whenever the New York Stock Exchange is open using the latest traded price on the NYSE for each company in the indexes. Following the determination of the previous day's closing index value, the Sector Index value for the current day is updated and disseminated following the opening of NYSE trading on a real-time basis beginning when the first traded price of any of the index components are received.

    If trading in a stock is suspended while the NYSE is open, the last traded price for that stock on the NYSE is used for all subsequent index computations until trading resumes. If trading is suspended before the opening, the stock's adjusted closing price from the previous day is used to calculate the indexes. Until a particular stock opens, its adjusted closing price from the previous day is used in the index computation. These prices are computed on both a price and total-return basis in U.S. dollars. The price index is updated on a real-time basis, while the total-return index is calculated and disseminated on an end-of-day basis. The NYSE Sector Indexes are calculated and maintained by Dow Jones Indexes.

    2.4. Index Divisor Adjustments

    The market capitalizations of the NYSE Sector Indexes are affected by numerous events other than daily security price changes. At the company level, market caps are affected by share

changes caused by corporate actions such as takeovers, secondary offerings, repurchase programs, rights offerings and spin-offs. Changes also result from company additions and deletions to the index.

In order to insulate the members of the NYSE Sector Indexes from the effects of index component changes and corporate actions, each index's market cap is divided by an adjustment factor called the index divisor after the close of trading on each day when there is a change in either index membership or shares outstanding for an index component. (This procedure, which links each successive weighted basket of securities in the index with the proceeding basket, is called "chaining," and the result is technically referred to as a Laspeyres chain index.) The initial index divisor was, of course, exactly 1/5000 of the index's base market capitalization. That divisor, which was used to calculate changes in each NYSE Sector Index, gave a closing value of 5,000 on December 31, 2002.

The procedure for updating the index divisor is straightforward. During the trading day, the index is computed by dividing the index's current market capitalization (the number of a company's float shares in the index times the latest traded price, summed across all the index components) by that day's divisor. If there are no corporate actions or component changes, the divisor remains unchanged for the next trading day. If there is an event resulting in a capitalization change, the index's new adjusted base market cap is calculated after the close using the adjusted prices and adjusted share figures. Then a new divisor is calculated for use at the opening on the next trading day.

The new divisor links the closing index value to the new adjusted base market cap. Conceptually, the new divisor could be calculated by solving the following simple equation:

(today's adjusted base market cap/tomorrow's new divisor) = today's closing index value

However, because the index values are rounded to two decimal places, this straightforward approach would quickly introduce rounding errors into the divisor adjustment process. Therefore the following formula is used, which solves for the new divisor through the ratio of the new adjusted base market cap to the current day's closing market cap:

Next day's new divisor = current day's divisor x (adjusted base market cap for next day / current day's market cap)

Dividing the new divisor calculated with the above formula into today's adjusted base market cap will produce today's closing index value. Detail on the divisor calculation and the directional impact of specific corporate actions on the divisor is provided in Section 5.

2.5. Weighting

The NYSE Sector Indexes are weighted by float-adjusted market capitalization, rather than full market capitalization, to reflect the actual number of shares available to investors. Detail on the float-adjustment rules is provided in Section 6.

2.6. Dividend Treatment

Normal dividend payments are not taken into account in the price index, whereas they are reinvested and accounted for in the total return index. However, special dividends from non-operating income require index divisor adjustments to prevent the distributions from distorting the price index.

3. Index Maintenance

Index maintenance includes monitoring and implementing the adjustments for company additions and deletions, share changes, stock splits, stock dividends, corporate restructurings, spin-offs, or other corporate actions. Some corporate actions, such as stock splits and stock dividends, require simple changes in the common shares outstanding and the stock prices of the component companies in the indexes. Other corporate actions, such as share issuances, change the aggregate free-float adjusted market capitalization of the NYSE Sector Indexes and, therefore, require an index divisor adjustment as well. To avoid index discontinuity due to adjusting for corporate actions, offsetting index divisor adjustments are ordinarily made. By adjusting the index divisor for the changes in the aggregate free-float adjusted market capitalization of the index arising from one or more corporate actions affecting component stocks, the value of the index remains constant. This helps keep the value of the index accurate as a barometer of stock market performance and ensures that the movement of the index will not be improperly affected by corporate actions in the component stocks. Any corporate action, whether it requires divisor adjustments or not, will be implemented after the close of trading on the day prior to the ex-date of such corporate actions. Whenever possible, changes to the index's components will be announced at least two business days prior to their implementation date.

3.1. Constituent Changes

- Additions

Additions to the NYSE Sector Indexes can be a result of new NYSE listings, IPOs, spin-offs and takeovers. New listings and IPOs are added to an NYSE Sector Index at the close of trading on their first day of trading on the NYSE. If an index constituent spins off a portion of its business to form one or more new companies, all new companies will be immediately included in the Sector Index. If an index constituent merges with another company, the newly formed company becomes a member of the Sector Index after the close of trading on the effective date of the merger provided it meets the membership criteria.

- Deletions

Deletions from the NYSE Sector Indexes can be a result of NYSE delistings, takeovers, and bankruptcies. A stock delisted from the NYSE is deleted from a NYSE Sector Index on the day it stops trading on the Exchange. If an index component is taken over by another component company, the former will be removed from the index immediately upon completion of the takeover. A component company in bankruptcy proceedings that continue to trade will stay in the index until delisted.

3.2. Changes in Shares Outstanding

Shares outstanding for component stocks are constantly changing. Share changes less than 10% are implemented once a quarter, ordinarily after the third Friday of March, June, September and December. If the number of outstanding shares for an index component changes by more than 10% due to a corporate action, such as those listed in Section 5.2., the company's share outstanding will be updated after the close of trading on the day prior to the ex-date of the corporate action.

4. Index Divisor Adjustments

Corporate actions affect the share capital of component stocks and therefore trigger increases or decreases in the index. To avoid distortion, the divisor of the index is adjusted accordingly.

Changes in the index's market capitalization due to changes in composition, weighting, or corporate actions result in a divisor change to maintain the index's continuity. By adjusting the divisor, the index value retains its continuity before and after the event. Corporate actions that require divisor adjustments will be implemented prior to the opening of trading on the effective date.

4.1. Formulae for Divisor Adjustment

The following formulae will be used for divisor adjustments. (Note: No divisor adjustments are necessary for stock splits, since market capitalization does not change and the share number and share price are adjusted prior to the opening of trading on the split's ex-date.)

$$D_{t+1} = D_t \times \frac{\sum (p_{it} \times q_{it}) \pm \Delta MC_{t+1}}{\sum (p_{it} \times q_{it})}$$

where:

D_t = divisor at time (t)

D_{t+1} = divisor at time (t+1)

p_{it} = stock price of company i at time (t)

q_{it} = number of shares of company i at time (t)

ΔMC_{t+1} = add new components' market capitalization and adjusted market capitalization (calculated with adjusted closing prices and shares effective at time t+1 and/or minus market capitalization of companies to be deleted (calculated with closing prices and shares at time t)

Note: If the current trading price of an issue is unavailable, the previous trading session's closing price is used. However, if the issue is affected by any corporate action that requires an adjustment, then the adjusted price is used.

4.2. Adjustments for Corporate Actions

An index divisor may decrease (▼) or increase (▲) or keep constant (■) when corporate actions occur for a component stock. Assuming shareholders receive "B" new shares for every "A" share held for the following corporate actions:

a) Cash dividend (applied for return index only)　　　　　　　　　　　Divisor ▼

adjusted price = closing price - dividend announced by the company

b) Special cash dividend (applied for price and return index)　　　　　Divisor ▼

adjusted price = closing price - dividend announced by the company

c) Split and reverse split　　　　　　　　　　　　　　　　　　　　Divisor ■

adjusted price = closing price * A / B

new number of shares = old number of shares * B / A

d) Rights offering   Divisor ▲

adjusted price = (closing price * A + subscription price * B) / (A + B)

new number of shares = old number of shares * (A + B) / A

e) Stock dividend   Divisor ■

adjusted price = closing price * A / (A + B)

new number of shares = old number of shares * (A + B) / A

f) Stock dividend of a different company security   Divisor ▼

adjusted price = (closing price * A - price of the different company security * B) / A

g) Return of capital and share consolidation   Divisor ▼

adjusted price = (closing price - dividend announced by company) * A / B

new number of shares = old number of shares * B / A

h) Repurchase shares-self tender   Divisor ▼

adjusted price = [(price before tender * old number of shares) - (tender price * number of
     tendered shares)] / (old number of shares - number of tendered shares)

new number of shares = old number of shares - number of tendered shares

i) Spinoff   Divisor ▼

adjusted price = (closing price * A - price of spun-off shares * B) / A

j) Combination stock distribution (dividend or split) and rights offering

Shareholders receive B new shares from the distribution and C new shares from the rights
offering for every A shares held:

• If rights are applicable after stock distribution (one action applicable to other)   Divisor ▲
  adjusted price = [closing price * A + subscription price * C * (1 + B / A)] /
  [(A + B) * (1 + C / A)]

  new number of shares = old number of shares * [(A + B) * (1 + C / A)] / A

• If stock distribution is applicable after rights (one action applicable to other)   Divisor ▲
  adjusted price = [closing price * A + subscription price * C] / [(A + C) * (1 + B / A)]

  new number of shares = old number of shares * [(A + C) * (1 + B / A)]

k) Stock distribution and rights (neither action is applicable to the other)   Divisor ▲

adjusted price = [closing price * A + subscription price * C] / [A + B + C]

new number of shares = old number of shares * [A + B + C]

5. Index Calculation Methodology

5.1. Input Data

- Real-time stock prices are provided by NYSE. The latest trading price is used for index calculation.
- The number of shares is determined separately for each class of stock. This information is obtained from Interactive Data Corporation (IDC) and from the company itself.
- Corporate actions are self-sourced by Dow Jones Indexes. The company itself may be used as an additional source.
- Data filters, audits and quality assurance tools are used to monitor and maintain the accuracy of the input data. Static data are verified against secondary sources and active data are monitored in real time.
- When adjusting closing prices of index components to reflect the effects of completed corporate actions, prices of securities involved in the transaction trading for regular-way settlement will be used whenever available. If a company being spun or split off from a surviving company is trading only on a "when-issued" basis, then the "when-issued" price of the new company will be used to determine the adjusted closing price of the surviving or parent company.

5.2. Index Formula

The NYSE Sector Indexes are calculated using a Laspeyres formula. This formula is used for the calculation of the return index and the price index. The only difference is that the divisor D_t is different for the two indexes. The index is computed as follows:

$$\text{Index}_t = \frac{\sum_{i=1}^{n}\left(p_{it} \times q_{it}\right)}{C_t \times \sum_{i=1}^{n}\left(p_{i0} \times q_{i0}\right)} \times \text{Base Index Value} = \frac{M_t}{B_t} \times \text{Base Index Value}$$

The above mentioned formula can be simplified as: $\text{Index}_t = \dfrac{M_t}{D_t}$

where:

D_t = $\dfrac{B_t}{\text{base index value}}$ = divisor at time (t)

n = the number of stocks in the index

p_{i0} = the closing price of stock i at the base date (December 31, 2002)

q_{i0} = the number of shares of company i at the base date (December 31, 2002)

p_{it} = the price of stock i at time (t)

q_{it} = the number of shares of company i at time (t)

C_t = the adjustment factor for the base date market capitalization

t = the time the index is computed

M_t = market capitalization of the index at time (t)

B_t = adjusted base date market capitalization of the index at time (t)

Dividend payments are not taken into account in the price index, whereas dividend payments are reinvested in the index sample of the total return index. Any dividend larger than 10% of the equity price is considered a special cash-dividend, which requires a divisor adjustment. The adjustment protects the index from the effects of changes in index composition and the impact of corporate actions.

5.3 Computational Precision

Index values are rounded to two decimal places and divisors are stored in a double precision floating point binary field. Any values derived by the index calculation engine from a corporate action used for the divisor adjustments and index computations are rounded to seven decimal places.

5.4 Data Correction Policy

To maintain a high standard of data integrity, a series of procedures have been implemented to ensure accuracy, timeliness and consistency. Input prices are monitored using a variety of computerized range-check warning systems for both ticker-plant and real-time index systems. Redundant sources of market data and corporate action information are also used. Various verification and audit tasks are performed to ensure the quality of the real-time data feeds and related market data.

While every effort is taken to ensure the accuracy of the information used for the index calculation, there is no guarantee that the index will be error-proof. An index error may occur due to incorrect or missing data, including trading prices, exchange rates, shares outstanding and corporate actions, due to operational errors or other reasons.

- Intraday Corrections

  Reasonable efforts are employed to prevent erroneous data from affecting the index. Corrections will be made for bad prices and incorrect or missing corporate actions as soon as possible after detection.

  Since the index is calculated on a real-time basis, an incorrect index value tick will not be fixed retroactively. Incorrect daily high/low index values will be corrected as soon as practicable.

- Index-Related Data and Divisor Corrections

  Incorrect pricing and corporate action data for individual issues in the database will be corrected upon detection. In addition, an incorrect divisor of the index, if discovered within five days of its occurrence, will always be fixed on the day it is discovered to prevent an error from being carried forward.

  If a divisor error is discovered more than five days after occurrence, the adjustment will depend upon how significant the error is, how far back the error occurred and the feasibility of performing the adjustment.

6. Float Adjustment

The NYSE Sector Indexes are constructed and weighted using free-float market capitalization. Float-adjusted rather than full market capitalization is used to reflect the number of shares actually available to investors.

6.1. Qualifications

A company's outstanding shares are adjusted by block ownership to reflect only truly tradable and investable shares. The following four types of block ownership are considered during float adjustment:

- Cross ownership – shares that are owned by other companies (including banks and life insurance companies);
- Government ownership – shares that are owned by governments (central or municipal) or their agencies;
- Private ownership – shares that are owned by individuals, families or charitable trusts and foundations;
- Restricted shares – shares that are not allowed to be traded during a certain time period.

However, a company's outstanding shares are not adjusted by institutional investors' holdings, which include, but are not limited to, the following categories:

- Custodian nominees;
- Trustee companies;
- Mutual funds (open-end and closed-end funds);
- Investment companies.

6.2. Threshold

A company's outstanding shares are adjusted if, and only if an entity in any of the four qualified categories listed above owns 5% or more of the company. Its shares will not be adjusted if the block ownership is less than 5%.

6.3. Foreign Restriction

The float adjustment rules also apply to foreign companies that have cross ownership of 5% or more. If a government has a foreign ownership restriction of 5% or more, the lesser of free-float shares or the portion that is available for foreign investment will be used for index calculation.