CNX NIFTY

Index Methodology

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Introduction

The CNX Nifty is the flagship index on the National Stock Exchange of India Ltd. (NSE). The Index tracks the behavior of a portfolio of blue chip companies, the largest and most liquid Indian securities. It includes 50 of the approximately 1600 companies listed on the NSE, captures approximately 65% of its float-adjusted market capitalization and is a true reflection of the Indian stock market.

The CNX Nifty covers 21 sectors of the Indian economy and offers investment managers exposure to the Indian market in one efficient portfolio. The Index has been trading since April 1996 and is well suited for benchmarking, index funds and index-based derivatives.

The CNX Nifty is owned and managed by India Index Services and Products Ltd. (IISL). IISL is India's first specialized company focused on an index as a core product.

Highlights

The CNX Nifty is a 50 stock, float-adjusted market-capitalization weighted index for India.It is used for a variety of purposes, such as benchmarking fund portfolios, index based derivatives and index funds.

The CNX Nifty is derived from economic research and is created for those interested in investing and trading in Indian equities.

Market Representation. The CNX Nifty stocks represent about 65% of the total float-adjusted market capitalization of the National Stock Exchange (NSE).

Diversification. The CNX Nifty is a diversified index, accurately reflecting the overall market. The reward-to-risk ratio of CNX Nifty is higher than other leading indices, offering similar returns but at lesser risk.

Liquidity. Market impact cost is the best measure of the liquidity of a stock. It accurately reflects the costs faced when actually trading an index. For a stock to qualify for inclusion in the CNX Nifty, it has to reliably have market impact cost below 0.50 %, when doing CNX Nifty trades of Rupees (Rs) 2 crores.

Hedging Effectiveness. The basic risk of the CNX Nifty futures is lower than other index portfolios, due to the liquidity of the CNX Nifty constituent stocks and of the NSE. In addition, the CNX Nifty has higher correlations with typical investment portfolios in India, compared to other indices. These two factors allow for effective hedging of the Index.

Eligibility Criteria

Selection of the index set is based on the following criteria:

- Liquidity (Impact Cost)
- Float-Adjusted Market Capitalization
- Float
- Domicile
- Eligible Securities
- Other Variables

Liquidity. For inclusion in the index, the security should have traded at an average impact cost of 0.50 % or less during the last six months, for 90% of the observations.

Impact cost is the cost of executing a transaction in a security in proportion to its index weight, measured by market capitalization at any point in time. This is the percentage mark up suffered while buying/selling the desired quantity of a security compared to its ideal price -- (best buy + best sell)/2.

Float -Adjusted Market Capitalization. Companies eligible for inclusion in the CNX Nifty must have at least twice the float-adjusted market capitalization of the current smallest index constituent.

Float. Companies eligible for inclusion in the CNX Nifty should have at least 10% of its stock available to investors (float). For this purpose, float is stocks which are not held by the promoters and associated entities (where identifiable) of such companies.

Domicile. The company must be domiciled in India and trade on the NSE.

Eligible Securities. All common shares listed on the NSE (which are of equity and not of a fixed income nature) are eligible for inclusion in the CNX Nifty index. Convertible stock, bonds, warrants, rights, and preferred stock that provide a guaranteed fixed return are not eligible.

Other Variables .A company which comes out with an IPO is eligible for inclusion in the index if it fulfills the normal eligibility criteria for the index -- impact cost, float-adjusted market capitalization and float -- for a three-month period instead of a six-month period.

Timing of Changes. The index is reviewed semi-annually, and a four-week notice is given to the market before making any changes to the index constituents.

Additions. The complete list of eligible securities is compiled based on the float - adjusted market capitalization criteria. After that, the liquidity (impact cost) and float - adjustment filters are applied to them, respectively. The top ranking companies form the replacement pool. The top stocks, in terms of size (float-adjusted market capitalization) are, then, identified for inclusion in the index from the replacement pool.

Deletions. Stocks may be deleted due to mergers, acquisitions or spin-offs. Otherwise, as noted above, twice a year a new eligible stock list is drawn up to review against the current constituents. If this new list warrants changes in the existing constituent list, then the smallest existing constituents are dropped in favor of the new additions.

Index Construction

Approaches

The CNX Nifty is computed using a float-adjusted, market capitalization weighted methodology*, wherein the level of the index reflects the total market value of all the stocks in the index relative to a particular base period. The methodology also takes into account constituent changes in the index and corporate actions such as stock splits, rights issuance, etc., without affecting the index value.

* Beginning June 26, 2009, the CNX Nifty is being computed using float-adjusted market capitalization weighted method, wherein the level of index reflects the float-adjusted market capitalization of all stocks in the Index.

Index Maintenance

Rebalancing

Index maintenance plays a crucial role in ensuring the stability of the index, as well as in meeting its objective of being a consistent benchmark of the Indian equity markets.

IISL has constituted an Index Policy Committee, which is involved in the policy and guidelines for managing the CNX Nifty. The Index Maintenance Subcommittee makes all decisions on additions and deletions of companies in the index.

Changes in the index level reflect changes in the market capitalization of the index which are caused by stock price movements in the market. They do not reflect changes in the market capitalization of the index, or of the individual stocks, that are caused by corporate actions such as dividend payments, stock splits, distributions to shareholders, mergers, or acquisitions.

When a stock is replaced by another stock in the index, the index divisor is adjusted so the change in index market value that results from the addition and deletion does not change the index level.

Calculation Frequency. The index is calculated real-time on all days that the National Stock Exchange of India is open.

Corporate Actions and Share Updates

Maintaining the CNX Nifty index includes monitoring and completing the adjustments for company additions and deletions, share changes, stock splits, stock dividends, and stock price adjustments due to restructurings or spin-offs. Some corporate actions, such as stock splits and stock dividends, require simple changes in the common shares outstanding and the stock prices of the companies in the index. Other corporate actions, such as share issuances, change the market value of an index and require a divisor adjustment to prevent the value of the index from changing.

Adjusting the divisor for a change in market value leaves the value of the index unaffected by the corporate action. This helps keep the value of the index accurate as a barometer of stock market performance, and ensures that the movement of the index does not reflect the corporate actions of the companies in it. Divisor adjustments are made after the close of trading and after the calculation of the closing value of the index. Any change in the index divisor also affects corresponding sub-indices and divisors. Each sub-index is maintained in the same manner as the headline index.

Corporate actions such as splits, stock dividends, spin-offs, rights offerings, and share changes are applied on the ex-date.

All singular instances of share changes arising out of additional issue of capital, such as ESOPs, QIPs, ADR/GDR issues, private placements, warrant conversions, and FCCB conversions, which have an impact of 5% or more on the issued share capital of the security, are implemented after providing a five days' notice period. Share repurchase (buyback) also have the same rules as applicable to share changes.

Changes entailing less than 5% impact on the issued share capital are accumulated and implemented on a monthly basis.

Where cumulative share changes exceed 5% of the issued share capital within a month, such changes are implemented after providing five days notice period, from the date when such cumulative changes exceeded 5%.

Currency of Calculation
For the CNX Nifty, all prices are in Indian rupees.

Base Date

The base period for the CNX Nifty index is November 3, 1995, which marked the completion of one year of operations of NSE's Capital Market Segment. The base value of the index has been set at 1000, and a base capital of Rs 2.06 trillion

Index Data

Total Return

The CNX Nifty reflects the return one would get if an investment is made in the index portfolio. As the CNX Nifty is computed in real- time, it takes into account only the stock price movements. However, the price indices do not consider the return from dividend payments of index constituent stocks. Only the capital gains and losses due to price movement are measured by the price index. In order to get a true picture of returns, the dividends received from the index constituent stocks also need to be included in the index movement. Such an index, which includes the dividends received, is called the total return index.

The total return index reflects the returns on the index from stock prices fluctuation plus dividend payments by constituent index stocks.

Hedging Effectiveness

The CNX Nifty has been tested against numerous randomly chosen, equally-weighted portfolios of different sizes, varying from 1-to- 100 small, mid and large cap companies, as well as many industry indices/sub-indices provided by CMIE, for hedging effectiveness.

Using monthly returns data, it was observed that the correlation (R^2) for various portfolios and indices on the CNX Nifty was significantly higher than other benchmark indices, indicating that the CNX Nifty had higher hedging effectiveness.

Trading in derivative contracts based on CNX Nifty

The National Stock Exchange of India Limited (NSE) commenced trading in derivatives with index futures on June 12, 2000. The futures contracts on the NSE are based on the CNX Nifty. The exchange introduced trading on index options based on the CNX Nifty on June 4, 2001.

Index Governance

Index Committee

A professional team at IISL manages the CNX Nifty. There is a three-tier governance structure comprising the board of directors of IISL, the Index Policy Committee, and the Index Maintenance Subcommittee. IISL has constituted the Index Policy Committee, which is involved in the policy and guidelines for managing the CNX Nifty. The Index Maintenance Sub-committee makes all decisions on additions and deletions of companies in the Index. The CNX Nifty has fully articulated and professionally implemented rules governing index revisions, corporate actions, etc. These rules are carefully considered, using Indian market conditions, to dovetail with operational problems of index funds and index arbitrageurs.

Index Policy

The CNX Nifty uses transparent, researched and publicly documented rules for index maintenance. These rules are applied regularly to manage changes to the index. Index reviews are carried out semi-annually to ensure that each security in the index fulfills eligibility criteria.

Announcements

All index-related announcements are posted on the NSE Web site. Changes impacting the constituent list are also posted on the Web site.

Please refer to the NSE Web site at www.nseindia.com

Holiday Schedule

For the calculation of indices, the IISL follows the official holiday schedule.

A complete holiday schedule for the year is available on the NSE Website. Please refer to the NSE Web site at www.nseindia.com

Real-Time Calculation

The indices are calculated real-time whenever there is a change in price.

- A security is traded in full accordance with the present methodology.
- The best bid price of a security exceeds the last calculated price of the security. The
- best ask price of a security is less than the last calculated price of the security.

Index Precision

The level of precision for index calculation is as follows:

- Index values are published rounded to two decimal places.
- Share prices are rounded to two decimal places.
- Shares outstanding are expressed in units.
- Float-adjusted market capitalization is stated to two decimal places.
- Index values are calculated to two decimal places.
- Final settlement prices are published rounded to two decimal places.

Index Dissemination

Tickers

Index	Bloomberg	Reuters
CNX Nifty	NIFTY	.NSEI

Web site

Daily index values, index constituents, methodology, and special announcements are available on the NSE Web site at www.nseindia.com.

Appendix

Price Index Calculations Formula

The CNX Nifty is computed using market capitalisation weighted method wherein the level of the Index reflects the total market value of all the stocks in the Index relative to the base period November 3,1995. The total market cap of a company or the market capitalisation is the product of market price and the total number of outstanding shares of the company.

Market Capitalization = Equity Capital * Price
Free Float Market Capitalization = Equity Capital * Price * IWF

Index Value = Current Market Value / Base Market Capital * Base Index Value (1000)

Base market capital of the Index is the aggregate market capitalisation of each scrip in the Index during the base period. The market cap during the base period is equated to an Index value of 1000 known as the base Index value.

Total Return Index Calculation Formula

The total return version of the index is also available, which assumes dividends are reinvested in the index after the close on the ex-date.Corporate actions like Dividend announcement do not require any adjustment in the normal price index (other than special dividend).

A separate Total Returns Index (TR) is calculated which shows the returns on Index portfolio, inclusive of dividends.

Calculation of the TR Index:

TR Index = [Prev. TR Index + (Prev. TR Index * Index returns)] +
[Indexed dividends + (Indexed dividends * Index returns)]

$$\text{Index dividend for the day `t'} = \frac{\text{Total Dividends of the scrips in the Index}}{\text{Index divisor for the day}}$$

Total dividends of scrips in the Index = Σ (Dividend per share * Modified index shares)