STOCK MARKET INDEX

An Index is a comprehensive measure of market trends, intended for investors who are concerned with general stock market price movements. An Index comprises stocks that have large liquidity and market capitalisation. Each stock is given a weightage in the Index equivalent to its market capitalisation. At the NSE, the capitalisation of NIFTY (fifty selected stocks) is taken as a base capitalisation, with the value set at 1000. Similarly, BSE Sensitive Index or Sensex comprises 30 selected stocks. The Index value compares the day's market capitalisation vis-a-vis base capitalisation and indicates how prices in general have moved over a period of time.
Meet the Sensex

What is a stock index?
Probably, the first thing you ask your broker when you ring him during market trading hours is: where is the market? What does he mean when he says it is up 25 points (say)? He is referring to the Sensex being up by that much. Now one assumes you already knew that anyway. But do you know what the Sensex represents exactly?

The Sensex is a stock index that represents changes in values of share prices of a select group of companies over a base period.

The many uses of a stock index
The companies included in any stock index are generally leaders and representatives of their respective industries. Hence an index as a whole represents the wellbeing of the most important industries in an economy. And since industrial performance is a proxy for determining the state of an economy, we could say that the stock index itself also echoes the economic welfare of a country.

The index also acts as a barometer for market behaviour. So if the index value goes down, it means the market is bearish (selling, therefore not optimistic of an upward trend) and if it goes up then it is bullish (buying, in the expectation of a rise based on positive news/ performance).

An index can be used to benchmark portfolio performances. In our write-up on MSCI indices, we saw that almost 70% of the global managers benchmark their portfolio returns against MSCI indices' returns.

Now in order to benchmark a portfolio or to evaluate the economy using the stock index, we need for it to have a value. We know that, for instance, both the Sensex and the Nifty possess values that change daily.

What a Sensex value represents
As per the definition of an index, a Sensex value of 4600 and Nifty value of 1400 (say) represent the change in the collective value of the share prices of select companies over a base period.

The BSE Sensex came into existence in the year 1979 with a start value of 100, whereas the NSE Nifty was born in year 1991 again with a start value of 100. That means the value of the companies in the Sensex has increased 42 times in 21 years, while the value of the companies in Nifty has jumped 14 times in 10 years.

Criteria for choosing Sensex companies
Moving to the next question that Sharekhan senses burning in your mind: On what basis is a company elected to be in a stock index? Why does the Sensex include an Infosys and not a Wipro? Here's what companies must have to play a part in any index:

Market capitalisation: The company's scrip should figure in the top 100 companies listed by market capitalisation. Also market capitalisation of the scrip should be more than 0.5% of the total market capitalisation of the index i.e. the minimum weightage in the index should be 0.5%.

Industry representation: Scrip selection would take into account a balanced representation of the listed companies. The index companies should be leaders in their industry group with sound management.

Scrip group: The stock should preferably be from the A trading group.

Trading frequency: The stock should have been traded on every trading day for the last one year.

Number of trades: The stock should be among the top 150 companies listed by average number of trades per day for the last one year.

Number of shares: The scrip should be among the top 150 companies listed by average number of shares traded per day for the last one year.

Trading activity: The average number of shares traded per day as a percentage of the total number of outstanding shares of the scrip should be greater than 0.05 % for the last one year.

Financial track record: The company should have either a consistent dividend paying record or a good profitability record.

Wipro does qualify on some criteria, such as the market capitalisation and being industry- representative, but on account of its low free float, it stays out of the Sensex. In contrast, Infosys qualifies on market capitalisation as well as liquidity and hence it forms a part of the Sensex.

Sensex companies are continuously monitored on the above characteristics and if in any year, a company does not satisfy all conditions, it is replaced by another company that does have all defined characteristics.

The magic of 100
In 1979, BSE decided to start Sensex (BSE-30). For this, it added the market capitalisation of all the selected thirty stocks at that time and divided the sum by a unique number to make the Sensex amount to a value of 100. This unique number is known as base of the Sensex.

This base is a very dynamic number and its value keeps changing with the changes in the composition of the Sensex or with the any change in the included companies' equity. Hence for all rights issue and any other change in the equity of the composite companies, the base of the index is adjusted so that the value of the index does not get destroyed.

Our Sensex is based on the market capitalisation of stocks that form part of the index. The greater the market capitalisation of a company, the higher its stock's influence on the Sensex movement. So, in the current scenario, an 8% increase in Infosys' share price affects the Sensex more than an 8% increase in Grasim's share price.

But market capitalisation is not the only possible influential factor. There are some more possible factors that can move the index, but before getting into that, we shall leave you to absorb the above. Happy musing!

Technical Analysis of Indian stock market 1.BSE Sensex Index

The BSE SENSEX is not only scientifically designed but also based on globally accepted construction and review methodology. First compiled in 1986, SENSEX is a basket of 30 constituent stocks representing a sample of large, liquid and representative companies. The base year of SENSEX is 1978-79 and the base value is 100. The index is widely reported in both domestic and international markets through print as well as electronic media.

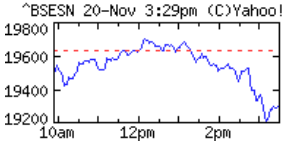
Technical Analysis of Indian stock market BSE Sensex Index

The Index was initially calculated based on the "Full Market Capitalization" methodology but was shifted to the free-float methodology with effect from September 1, 2003. The "Free-float Market Capitalization" methodology of index construction is regarded as an industry best practice globally. All major index providers like MSCI, FTSE, STOXX, S&P and Dow Jones use the Free-float methodology.

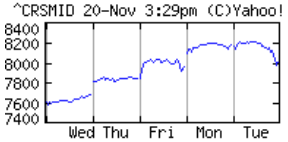
Due to is wide acceptance amongst the Indian investors; SENSEX is regarded to be the pulse of the Indian stock market. As the oldest index in the country, it provides the time series data over a fairly long period of time (From 1979 onwards). Small wonder, the SENSEX has over the years become one of the most prominent brands in the country.

Technical Analysis of Indian stock market BSE Sensex Index

1 Day Technical Analysis Chart of Indian stock market BSE Sensex Index



5 Day Technical Analysis Chart of Indian stock market BSE Sensex Index



1 Year Technical Analysis Chart of Indian stock market BSE Sensex Index

FAQ's

Q.1 What is SENSEX?
The SENSEX, short form of the BSE-Sensitive Index, is a "Market Capitalization-Weighted" index of 30 stocks representing a sample of large, well-established and financially sound companies. It is the oldest index in India and has acquired a unique place in the collective consciousness of investors. The index is widely used to measure the performance of the Indian stock markets. SENSEX is considered to be the pulse of the Indian stock markets as it represents the underlying universe of listed stocks at The Stock Exchange, Mumbai. Further, as the oldest index of the Indian Stock market, it provides time series data over a fairly long period of time (since 1978-79).

Q.2 What are the objectives of SENSEX?
The SENSEX is the benchmark index of the Indian Capital Markets with wide acceptance among individual investors, institutional investors, foreign investors and fund managers. The objectives of the index are:

To measure market movements
Given its long history and its wide acceptance, no other index matches the SENSEX in reflecting market movements and sentiments. SENSEX is widely used to describe the mood in the Indian Stock markets.

Benchmark for funds performance
The inclusion of blue chip companies and the wide and balanced industry representation in the SENSEX makes it the ideal benchmark for fund managers to compare the performance of their funds.

For index based derivative products
Institutional investors, money managers and small investors all refer to the SENSEX for their specific purposes The SENSEX is in effect the proxy for the Indian stock markets. The country's first derivative product i.e. Index-Futures was launched on SENSEX.

Q.3 What are the criteria for selection and review of scrips for the SENSEX?

A. Quantitative Criteria:

1. Market Capitalization:
The scrip should figure in the top 100 companies listed by market capitalization. Also market capitalization of each scrip should be more than 0.5 % of the total market capitalization of the Index i.e. the minimum weight should be 0.5 %. Since the SENSEX is a market capitalization weighted index, this is one of the primary criteria for scrip selection. (Market Capitalization would be averaged for last six months)

2. Liquidity:
(i) Trading Frequency: The scrip should have been traded on each and every trading day for the last one year. Exceptions can be made for extreme reasons like scrip suspension etc. (ii) Number of Trades: Number of Trades: The scrip should be among the top 150 companies listed by average number of trades per day for the last one year. (iii) Value of Shares Traded: Value of Shares Traded: The scrip should be among the top 150 companies listed by average value of shares traded per day for the last one year.

3. Continuity:
Whenever the composition of the index is changed, the continuity of historical series of index values is re-established by correlating the value of the revised index to the old index (index before revision). The back calculation over the last one-year period is carried out and correlation of the revised index to the old index should not be less than 0.98. This ensures that the historical continuity of the index is maintained.

4. Industry Representation:

Scrip selection would take into account a balanced representation of the listed companies in the universe of BSE. The index companies should be leaders in their industry group.

5. Listed History:
The scrip should have a listing history of at least one year on BSE.

B. Qualitative Criteria:

Track Record:
In the opinion of the Index Committee, the company should have an acceptable track record.

Q.4 What is the beta of SENSEX scrips?
Beta measures the sensitivity of a scrip movement relative to movement in the benchmark index i.e. SENSEX. A Beta of one means that for every change of 1% in index, the scrip moves by 1%. Statistically Beta is defined as: Covariance (SENSEX, Stock) / Variance(SENSEX)
Note: Covariance and variance are calculated from the Daily Returns data of the SENSEX and SENSEX scrips.

Q.5 How is SENSEX calculated?
SENSEX is calculated using a "Market Capitalization-Weighted" methodology. As per this methodology, the level of index at any point of time reflects the total market value of 30 component stocks relative to a base period. (The market capitalization of a company is determined by multiplying the price of its stock by the number of shares issued by the company). An index of a set of a combined variables (such as price and number of shares) is commonly referred as a 'Composite Index' by statisticians. A single indexed number is used to represent the results of this calculation in order to make the value easier to work with and track over time. It is much easier to graph a chart based on indexed values than one based on actual values.

The base period of SENSEX is 1978-79. The actual total market value of the stocks in the Index during the base period has been set equal to an indexed value of 100. This is often indicated by the notation 1978-79=100. The formula used to calculate the Index is fairly straightforward. However, the calculation of the adjustments to the Index (commonly called Index maintenance) is more complex.

The calculation of SENSEX involves dividing the total market capitalization of 30 companies in the Index by a number called the Index Divisor. The Divisor is the only link to the original base period value of the SENSEX. It keeps the Index comparable over time and is the adjustment point for all Index maintenance adjustments. During market hours, prices of the index scrips, at which latest trades are executed, are used by the trading system to calculate SENSEX every 15 seconds and disseminated in real time.

Q.6 How is the closing Index calculated?
The closing SENSEX is computed taking the weighted average of all the trades on SENSEX constituents in the last 15 minutes of trading session. If a SENSEX constituent has not traded in the last 15 minutes, the last traded price is taken for computation of the Index closure. If a SENSEX constituent has not traded at all in a day, then its last day's closing price is taken for computation of Index closure. The use of Index Closure Algorithm prevents any intentional manipulation of the closing index value.

Q.7 How is the routine maintenance of SENSEX carried out?
One of the important aspects of maintaining continuity with the past is to update the base year average. The base year value adjustment ensures that additional issue of capital and other corporate announcements like bonus etc. do not destroy the value of the index. The beauty of maintenance lies in the fact that adjustments for

corporate actions in the Index should not per se affect the index values.

The Index Cell of the Exchange does the day-to-day maintenance of the index within the broad index policy framework set by the Index Committee. The Index Cell takes special care to ensure that SENSEX and all the other BSE indices maintain their benchmark properties by striking a delicate balance between high turnover in Index scrips and its representative character. The Index Committee of the Exchange has experts from different field of finance related to the capital markets. They include Academicians, Fund-managers from leading Mutual Funds, Finance - Journalists, Market Participants, Independent Governing Board members, and Exchange administration.

Q.8 How are adjustments for Bonus, Rights and newly issued Capital carried out in SENSEX?
The arithmetic calculation involved in calculating SENSEX is simple, but problem arises when one of the component stocks pays a bonus or issues rights shares. If no adjustments were made, a discontinuity would arise between the current value of the index and its previous value. The Index Cell of the Exchange periodically adjusts the base value to take care of such corporate announcements.
Adjustments for Rights Issues:
When a company, included in the compilation of the index, issues right shares, the market capitalisation of that company is increased by the number of additional shares issued based on the theoretical (ex-right) price. An offsetting or proportionate adjustment is then made to the Base Market Capitalisation (see ' Base Market Capitalisation Adjustment' below).
Adjustments for Bonus Issue:
When a company, included in the compilation of the index, issues bonus shares, the market capitalisation of that company does not undergo any change. Therefore, there is no change in the Base Market Capitalisation, only the 'number of shares' in the formula is updated.
Other Issues: Base Market Capitalisation Adjustment is required when new shares are issued by way of conversion of debentures, mergers, spin-offs etc. or when equity is reduced by way of buy-back of shares, corporate restructuring etc.
Base Market Capitalisation Adjustment: **The formula for adjusting the Base Market Capitalisation is as follows:**

New Base Market Capitalisation = Old Base Market Capitalisation X (New Market Capitalisation/Old Market Capitalisation)

To illustrate, suppose a company issues right shares which increases the market capitalisation of the shares of that company by say, Rs.100 crores. The existing Base Market Capitalisation (Old Base Market Capitalisation), say, is Rs.2450 crores and the aggregate market capitalisation of all the shares included in the index before the right issue is made is, say Rs.4781 crores. The "New Base Market Capitalisation " will then be: Rs.2501.24 crores = 2450 X (4781+100)/4781

This figure of 2501.24 will be used as the Base Market Capitalisation for calculating the index number from then onwards till the next base change becomes necessary.

Q.9 With what frequency is SENSEX calculation done?
During market hours, prices of the index scrips, at which trades are executed, are automatically used by the trading computer to calculate the SENSEX every 15 seconds and continuously updated on all trading workstations connected to the BSE trading computer in real time.

SENSEX Calculation Methodology

Introduction

For the premier Stock Exchange that pioneered the stock broking activity in India, 128 years of experience seems to be a proud milestone. A lot has changed since 1875 when 318 persons became members of what today is called "The Stock Exchange, Mumbai" by paying

a princely amount of Re1.

Since then, the country's capital markets have passed through both good and bad periods. The journey in the 20th century has not been an easy one. Till the decade of eighties, there was no scale to measure the ups and downs in the Indian stock market. The Stock Exchange, Mumbai (BSE) in 1986 came out with a stock index that subsequently became the barometer of the Indian stock market.

SENSEX is not only scientifically designed but also based on globally accepted construction and review methodology. First compiled in 1986, SENSEX is a basket of 30 constituent stocks representing a sample of large, liquid and representative companies. The base year of SENSEX is 1978-79 and the base value is 100. The index is widely reported in both domestic and international markets through print as well as electronic media.

The Index was initially calculated based on the "Full Market Capitalization" methodology but was shifted to the free-float methodology with effect from September 1, 2003. The "Free-float Market Capitalization" methodology of index construction is regarded as an industry best practice globally. All major index providers like MSCI, FTSE, STOXX, S&P and Dow Jones use the Free-float methodology.

Due to is wide acceptance amongst the Indian investors; SENSEX is regarded to be the pulse of the Indian stock market. As the oldest index in the country, it provides the time series data over a fairly long period of time (From 1979 onwards). Small wonder, the SENSEX has over the years become one of the most prominent brands in the country.

The growth of equity markets in India has been phenomenal in the decade gone by. Right from early nineties the stock market witnessed heightened activity in terms of various bull and bear runs. The SENSEX captured all these events in the most judicial manner. One can identify the booms and busts of the Indian stock market through SENSEX.

SENSEX Calculation Methodology

SENSEX is calculated using the "Free-float Market Capitalization" methodology. As per this methodology, the level of index at any point of time reflects the Free-float market value of 30 component stocks relative to a base period. The market capitalization of a company is determined by multiplying the price of its stock by the number of shares issued by the company. This market capitalization is further multiplied by the free-float factor to determine the free-float market capitalization.

The base period of SENSEX is 1978-79 and the base value is 100 index points. This is often indicated by the notation 1978-79=100. The calculation of SENSEX involves dividing the Free-float market capitalization of 30 companies in the Index by a number called the Index Divisor. The Divisor is the only link to the original base period value of the SENSEX. It keeps the Index comparable over time and is the adjustment point for all Index adjustments arising out of corporate actions, replacement of scrips etc. During market hours, prices of the index scrips, at which latest trades are executed, are used by the trading system to calculate SENSEX every 15 seconds and disseminated in real time.

Dollex-30

BSE also calculates a dollar-linked version of SENSEX and historical values of this index are available since its inception. (For more details click ‘Dollex series of BSE indices’)

Understanding Free-float Methodology

Concept:

Free-float Methodology refers to an index construction methodology that takes into consideration only the free-float market capitalization of a company for the purpose of

index calculation and assigning weight to stocks in Index. Free-float market capitalization is defined as that proportion of total shares issued by the company that are readily available for trading in the market. It generally excludes promoters' holding, government holding, strategic holding and other locked-in shares that will not come to the market for trading in the normal course. In other words, the market capitalization of each company in a Free-float index is reduced to the extent of its readily available shares in the market.

In India, BSE pioneered the concept of Free-float by launching BSE TECk in July 2001 and BANKEX in June 2003. While BSE TECk Index is a TMT benchmark, BANKEX is positioned as a benchmark for the banking sector stocks. SENSEX becomes the third index in India to be based on the globally accepted Free-float Methodology.

Major advantages of Free-float Methodology:

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A Free-float index reflects the market trends more rationally as it takes into consideration only those shares that are available for trading in the market.

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Free-float Methodology makes the index more broad-based by reducing the concentration of top few companies in Index. For example, the concentration of top five companies in SENSEX has fallen under the free-float scenario thereby making the SENSEX more diversified and broad-based.

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A Free-float index aids both active and passive investing styles. It aids active managers by enabling them to benchmark their fund returns vis-à-vis an investable index. This enables an apple-to-apple comparison thereby facilitating better evaluation of performance of active managers. Being a perfectly replicable portfolio of stocks, a Free-float adjusted index is best suited for the passive managers as it enables them to track the index with the least tracking error.

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Free-float Methodology improves index flexibility in terms of including any stock from the universe of listed stocks. This improves market coverage and sector coverage of the index. For example, under a Full-market capitalization methodology, companies with large market capitalization and low free-float cannot generally be included in the Index because they tend to distort the index by having an undue influence on the index movement. However, under the Free-float Methodology, since only the free-float market capitalization of each company is considered for index calculation, it becomes possible to include such closely held companies in the index while at the same time preventing their undue influence on the index movement.

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Globally, the Free-float Methodology of index construction is considered to be an industry best practice and all major index providers like MSCI, FTSE, S&P and STOXX have adopted the same. MSCI, a leading global index provider, shifted all its indices to the Free-float Methodology in 2002. The MSCI India Standard Index, which is followed by Foreign Institutional Investors (FIIs) to track Indian equities, is also based on the Free-float Methodology. NASDAQ-100, the underlying index to the famous Exchange Traded Fund (ETF) - QQQ is based on the Free-float Methodology.

Definition of Free-float:

Share holdings held by investors that would not, in the normal course come into the open market for trading are treated as 'Controlling/ Strategic Holdings' and hence not included in free-float. In specific, the following categories of holding are generally excluded from the definition of Free-float:

* Holdings by founders/directors/ acquirers which has control element
* Holdings by persons/ bodies with "Controlling Interest"

* Government holding as promoter/acquirer
* Holdings through the FDI Route
* Strategic stakes by private corporate bodies/ individuals
* Equity held by associate/group companies (cross-holdings)
* Equity held by Employee Welfare Trusts
* Locked-in shares and shares which would not be sold in the open market in normal course.

The remaining shareholders would fall under the Free-float category.

Determining Free-float factors of companies:

BSE has designed a Free-float format, which is filled and submitted by all index companies on a quarterly basis with the Exchange. (Format available on www.bseindia.com) The Exchange determines the Free-float factor for each company based on the detailed information submitted by the companies in the prescribed format. Free-float factor is a multiple with which the total market capitalization of a company is adjusted to arrive at the Free-float market capitalization. Once the Free-float of a company is determined, it is rounded-off to the higher multiple of 5 and each company is categorized into one of the 20 bands given below. A Free-float factor of say 0.55 means that only 55% of the market capitalization of the company will be considered for index calculation.

Free-float Bands:

% Free-Float	Free-Float Factor
>0 – 5%	0.05
>50 – 55%	0.55
>5 – 10%	0.10
>55 – 60%	0.60
>10 – 15%	0.15
>60 – 65%	0.65
>15 – 20%	0.20
>65 – 70%	0.70
>20 – 25%	0.25
>70 – 75%	0.75
>25 – 30%	0.30
>75 – 80%	0.80
>30 – 35%	0.35
>80 – 85%	0.85
>35 – 40%	0.40
>85 – 90%	0.90
>40 – 45%	0.45

>90 – 95%	0.95
>45 – 50%	0.50
>95 – 100%	1.00

Index Closure Algorithm

The closing SENSEX on any trading day is computed taking the weighted average of all the trades on SENSEX constituents in the last 30 minutes of trading session. If a SENSEX constituent has not traded in the last 30 minutes, the last traded price is taken for computation of the Index closure. If a SENSEX constituent has not traded at all in a day, then its last day's closing price is taken for computation of Index closure. The use of Index Closure Algorithm prevents any intentional manipulation of the closing index value.

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Click here to view the Free Float methodology of calculation of index by NSE

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Maintenance of SENSEX

One of the important aspects of maintaining continuity with the past is to update the base year average. The base year value adjustment ensures that replacement of stocks in Index, additional issue of capital and other corporate announcements like 'rights issue' etc. do not destroy the historical value of the index. The beauty of maintenance lies in the fact that adjustments for corporate actions in the Index should not per se affect the index values.

The Index Cell of the exchange does the day-to-day maintenance of the index within the broad index policy framework set by the Index Committee. The Index Cell ensures that SENSEX and all the other BSE indices maintain their benchmark properties by striking a delicate balance between frequent replacements in index and maintaining its historical continuity. The Index Committee of the Exchange comprises of experts on capital markets from all major market segments. They include Academicians, Fund-managers from leading Mutual Funds, Finance-Journalists, Market Participants, Independent Governing Board members, and Exchange administration.

On-Line Computation of the Index:

During market hours, prices of the index scrips, at which trades are executed, are automatically used by the trading computer to calculate the SENSEX every 15 seconds and continuously updated on all trading workstations connected to the BSE trading computer in real time.

Adjustment for Bonus, Rights and Newly issued Capital:

The arithmetic calculation involved in calculating SENSEX is simple, but problem arises when one of the component stocks pays a bonus or issues rights shares. If no adjustments were made, a discontinuity would arise between the current value of the index and its previous value despite the non-occurrence of any economic activity of substance. At the Index Cell of the Exchange, the base value is adjusted, which is used to alter market capitalization of the component stocks to arrive at the SENSEX value.

The Index Cell of the Exchange keeps a close watch on the events that might affect the index on a regular basis and carries out daily maintenance of all the 14 Indices.

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Adjustments for Rights Issues:

When a company, included in the compilation of the index, issues right shares, the free-float market capitalisation of that company is increased by the number of additional shares issued based on the theoretical (ex-right) price. An offsetting or proportionate adjustment is then made to the Base Market Capitalisation (see 'Base Market Capitalisation Adjustment' below).

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Adjustments for Bonus Issue:
When a company, included in the compilation of the index, issues bonus shares, the market capitalisation of that company does not undergo any change. Therefore, there is no change in the Base Market Capitalisation, only the 'number of shares' in the formula is updated.

*

Other Issues:
Base Market Capitalisation Adjustment is required when new shares are issued by way of conversion of debentures, mergers, spin-offs etc. or when equity is reduced by way of buy-back of shares, corporate restructuring etc.

* Base Market Capitalisation Adjustment:

The formula for adjusting the Base Market Capitalisation is as follows:

$$\text{New Base Market Capitalisation} = \text{Old Base Market Capitalisation} \times \frac{\text{New Market Capitalisation}}{\text{Old Market Capitalisation}}$$

To illustrate, suppose a company issues right shares which increases the market capitalisation of the shares of that company by say, Rs.100 crores. The existing Base Market Capitalisation (Old Base Market Capitalisation), say, is Rs.2450 crores and the aggregate market capitalisation of all the shares included in the index before the right issue is made is, say Rs.4781 crores. The "New Base Market Capitalisation " will then be:

$$\frac{2450 \times (4781+100)}{4781} = \text{Rs.2501.24 crores}$$

This figure of 2501.24 will be used as the Base Market Capitalisation for calculating the index number from then onwards till the next base change becomes necessary.

Back

SENSEX - Scrip selection criteria:

The general guidelines for selection of constituents in SENSEX are as follows:

* Listed History:
The scrip should have a listing history of at least 3 months at BSE. Exception may be considered if full market capitalisation of a newly listed company ranks among top 10 in the list of BSE universe. In case, a company is listed on account of merger/ demerger/ amalgamation, minimum listing history would not be required.

* Trading Frequency:
The scrip should have been traded on each and every trading day in the last three months. Exceptions can be made for extreme reasons like scrip suspension etc.

* Final Rank:
The scrip should figure in the top 100 companies listed by final rank. The final rank is arrived at by assigning 75% weightage to the rank on the basis of three-month average full market capitalisation and 25% weightage to the liquidity rank based on three-month average daily turnover & three-month average impact cost.

* Market Capitalization Weightage:
The weightage of each scrip in SENSEX based on three-month average free-float market capitalisation should be at least 0.5% of the Index.

* Industry Representation:

Scrip selection would generally take into account a balanced representation of the listed companies in the universe of BSE.

* Track Record:
In the opinion of the Committee, the company should have an acceptable track record.

Index Review Frequency:

The Index Committee meets every quarter to discuss index related issues. In case of a revision in the Index constituents, the announcement of the incoming and outgoing scrips is made six weeks in advance of the actual implementation of the revision of the Index.

Technical Analysis of Indian stock market NSE S&P CNX Nifty 50 Index

The NSE S&P CNX Nifty 50 index is a well diversified 50 stock index accounting for 24 sectors of the economy. It is used for a variety of purposes such as benchmarking fund portfolios, index based derivatives and index funds.

Technical Analysis of Indian stock market NSE S&P CNX Nifty 50 Index

NSE S&P CNX Nifty 50 is owned and managed by India Index Services and Products Ltd. (IISL), which is a joint venture between NSE and CRISIL. IISL is India's first specialised company focussed upon the index as a core product. IISL have a consulting and licensing agreement with Standard & Poor's (S&P), who are world leaders in index services.

The main features of the NSE S&P CNX Nifty 50 index are:

· The average total traded value for the last six months of all Nifty stocks is approximately 77% of the traded value of all stocks on the NSE

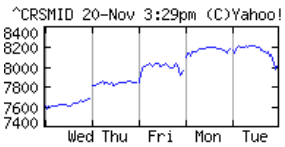
· Nifty stocks represent about 61% of the total market capitalisation as on August 31, 2004.

· Impact cost of the S&P CNX Nifty for a portfolio size of Rs.5 million is 0.10%

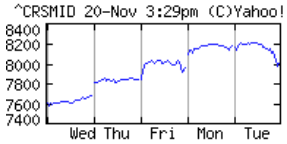
· S&P CNX Nifty is professionally maintained and is ideal for derivatives trading.

Technical Analysis of Indian stock market NSE S&P CNX Nifty 50 Index

1 Day Technical Analysis Chart of Indian stock market NSE S&P CNX Nifty 50 Index



5 Day Technical Analysis Chart of Indian stock market NSE S&P CNX Nifty 50 Index



1 Year Technical Analysis Chart of Indian stock market NSE S&P CNX Nifty 50 Index

NSE Nifty Junior Index

The next rung of liquid securities after S&P CNX Nifty is the CNX Nifty Junior index. It may be useful to think of the S&P CNX Nifty and the CNX Nifty Junior as making up the 100 most liquid stocks in India.

As with the S&P CNX Nifty, stocks in the CNX Nifty Junior are filtered for liquidity, so they are the most liquid of the stocks excluded from the S&P CNX Nifty.

The maintenance of the S&P CNX Nifty and the CNX Nifty Junior are synchronised so that the two indexes will always be disjoint sets; i.e. a stock will never appear in both indexes at the same time. Hence it is always meaningful to pool the S&P CNX Nifty and the CNX Nifty Junior into a composite 100 stock index or portfolio.

The main features of the CNX Nifty Junior Index are:

· CNX Nifty Junior represents about 10% of the total market capitalisation as on August 31, 2004

· The average traded value for the last six months of all Junior Nifty stocks is approximately 8% of the traded value of all stocks on the NSE

· Impact cost for CNX Nifty Junior for a portfolio size of Rs.2.50 million is 0.30%

NSE CNX Midcap Index

The medium capitalised segment of the stock market is being increasingly perceived as an attractive investment segment with high growth potential. The primary objective of the NSE CNX MidCap Index is to capture the movement and be a benchmark of the midcap segment of the market.

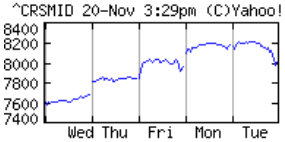
The main features of the NSE CNX Midcap Index are:

· NSE CNX Midcap Index represents about 77% of the total market capitalization of the Mid-Cap Universe and about 75% of the total traded value of the Mid-Cap Universe (Mid-Cap Universe is defined as stocks having average six months market capitalization between Rs.75 crores and Rs.750 crores).

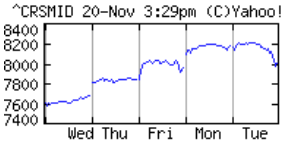
· Industry weightages in the index dynamically reflect industry weightages in the market.

. Provide investors a broad based benchmark for comparing portfolio returns vis-à-vis market returns in the midcap segment.

1 Day Technical Analysis Chart of Indian stock market NSE CNX Midcap Index



5 Day Technical Analysis Chart of Indian stock market NSE CNX Midcap Index



1 Year Technical Analysis Chart of Indian stock market NSE CNX Midcap Index

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NSE CNX IT Sector Index

Information Technology (IT) industry has played a major role in the Indian economy during the last few years. A number of large, profitable Indian companies today belong to the IT sector and a great deal of investment interest is now focused on the IT sector. In order to have a good benchmark of the Indian IT sector, IISL developed the CNX IT sector index.

Companies in this index are those that have more than 50% of their turnover from IT related activities like software development, hardware manufacture, vending, support and maintenance. The index is a market capitalisation weighted index with its base period being December 1995 and the base date and base value being January 1, 1996 and 1,000 respectively.

NSE CNX IT Sector Index

CNX IT Index is an index comprised of the most liquid and large capitalization IT stocks, traded on the NSE, engaged in the business of software or hardware. CNX IT provides investors and market intermediaries with an appropriate benchmark that captures the performance of the IT segment of the market. The index is a market capitalization weighted index with base date being 1st January 1996 and base index value being 1000. Companies selected in the index have to be IT stocks which should rank high in terms of market value represented by their market capitalization and liquidity.

The Base Value of the index is being revised from 1000 to 100 w.e.f. 28 May 2004.

Method of Computation

The CNX IT Index is calculated using the market capitalisation weighted aggregate method.

Selection Criteria

a. **Market Capitalisation**

The influence of each company on the index is directly proportional to its market value. Therefore, a company's rank based on the average market capitalisation over a 6 month period is an important consideration for its selection in the CNX IT Index.

b. **Trading Interest**
The companies considered for inclusion must rank among the highest in the IT sector in terms of annual trading turnover and must have demonstrated a high level of trading frequency in the previous 6 month period.

c. **Others**
A company which comes out with a IPO will be eligible for inclusion in the index, if it fulfills the normal eligiblity criteria for the index

d. for a 3 month period instead of a 6 month period.

History of replacement of scrips in SENSEX

Date	Outgoing Scrips	Replaced by
01.01.1986	Bombay Burmah	Voltas*
	Asian Cables	**Peico**
	Crompton Greaves	Premier Auto*
	Scinda	G.E.Shipping*
03.08.1992	Zenith Ltd.	Bharat Forge*
19.08.1996	Ballarpur Inds.	Arvind Mills*
	Bharat Forge	**Bajaj Auto***
	Bombay Dyeing	**BHEL**
	Ceat Tyres	BSES
	Century Text.	Colgate*

GSFC	**Guj. Amb. Cement**
Hind. Motors	HPCL*
Indian Organic	ICICI*
Indian Rayon	IDBI*
Kirloskar Cummins	IPCL*
Mukand Iron	MTNL*
Phlips	**Ranbaxy Lab.**
Premier Auto	**State Bank of India**
Siemens	**Steel Authority of India***
Voltas	Tata Chem*

16.11.1998	Arvind Mills	Castrol*
	G. E. Shipping	**Infosys Technologies**
	IPCL	NIIT Ltd*
	Steel Authority of India	Novartis*
10.04.2000	I.D.B.I	Dr. Reddy's Laboratories*
	Indian Hotels	Reliance Petroleum*
	Tata Chem	**Satyam Computers**
	Tata Power	Zee Telefilms*
08.01.2001	Novartis	**Cipla Ltd.**
07.01.2002	NIIT Ltd.	HCL Technologies*
	Mahindra & Mahindra	Hero Honda Motors Ltd.*

31.05.2002	ICICI Ltd.	**ICICI Bank Ltd.**
10.10.2002	Reliance Petroleum Ltd.	**HDFC Ltd.**
10.11.2003	Castrol India Ltd.	**Bharti-Tele-Ventures Ltd.**
	Colgate Palomive (India) Ltd.	**HDFC Bank Ltd.**
	Glaxo Smithkline Pharma. Ltd.	**ONGC Ltd.**
	HCL Technologies Ltd.	Tata Power Company Ltd.*
	Nestle (India) Ltd.	**Wipro Ltd.**
19.05.2004	Larsen & Toubro Ltd.	**Maruti Udyog Ltd.**
27.09.2004	Mahanagar Telephone Nigam Ltd.	**Larsen & Toubro Ltd**.
06.06.2005	Hindustan Petroleum Corp Ltd.	**National Thermal Power Corpn. Ltd.**
	Zee Telefilms Ltd.	**Tata Consultancy Services Ltd.**

12.06.2006	Tata Power Ltd.	**Reliance Communiation Ventures Ltd.**
09.07.2007	Hero Honda Motors Ltd.	**Mahindra & Mahindra Ltd.**
19.11.2007	Dr. Reddy's Laboratories Ltd.	**DLF Ltd.**
14.03.2008	Bajaj Auto Ltd.	**Jaiprakash Associates Ltd.**