



India Index Services & Products Ltd.

NIFTY Broad Market Indices - Methodology Document

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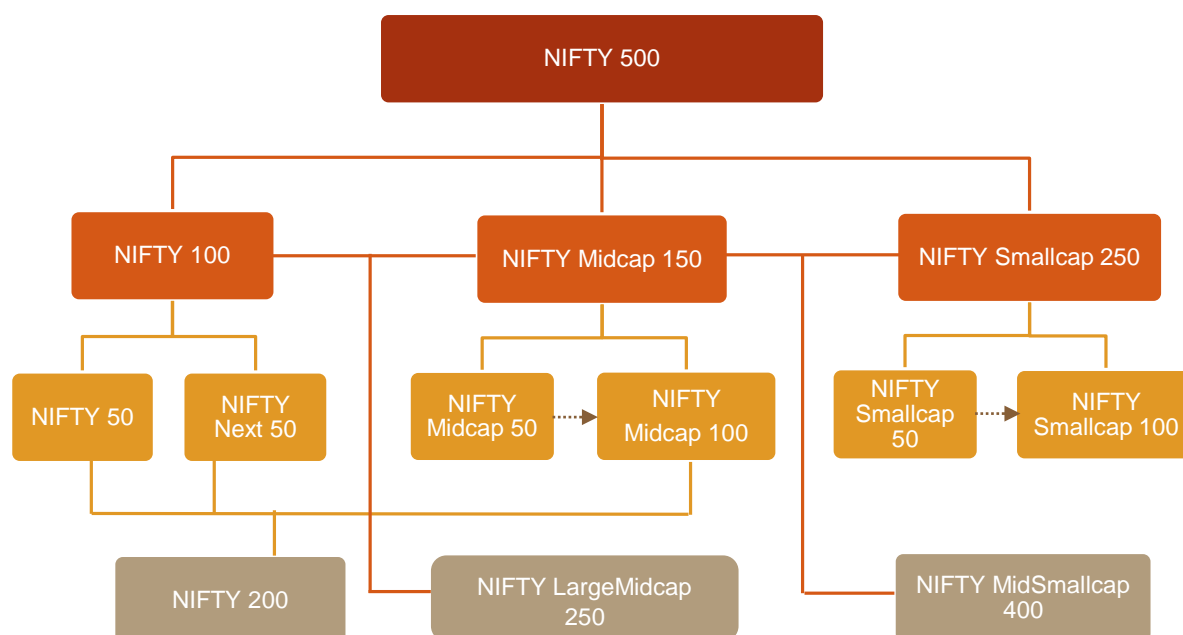
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Introduction

India Index Services & Products Ltd. (IISL), a NSE group company, was setup in May 1998 to provide a variety of indices and index related services for the capital markets. IISL is India's specialised company focused upon the index as a core product. IISL maintains equity indices comprising broad-based benchmark indices, sectoral indices, strategy indices, thematic indices, fixed income and customised indices. Many investment and risk management products are developed on IISL indices in India and abroad. The 'NIFTY 50' index is widely tracked and traded as the benchmark for Indian Capital Markets.

IISL's objective is to develop, construct and maintain indices on Indian equities that serve as useful market performance benchmarks and can be useful underlying indices for investment products. In order to meet these objectives, IISL has enhanced the index methodology of broad equity indices. The index structure efficiently represents large, mid and small market capitalisation segments of the Indian capital market.

Under this structure, there are 13 broad market indices as shown below:



Index Criteria

1. NIFTY 500:

NIFTY 500 represents the top 500 companies based on full market capitalisation from the eligible universe.

2. NIFTY 100:

NIFTY 100 represents top 100 companies based on full market capitalisation from NIFTY 500. This index intends to measure the performance of large market capitalisation companies.

3. NIFTY Midcap 150:

NIFTY Midcap 150 represents the next 150 companies (companies ranked 101-250) based on full market capitalisation from NIFTY 500. This index intends to measure the performance of mid market capitalisation companies.

4. NIFTY Smallcap 250:

NIFTY Smallcap 250 represents the balance 250 companies (companies ranked 251-500) from NIFTY 500. This index intends to measure the performance of small market capitalisation companies.

5. NIFTY 50:

The index represents 50 companies selected from the universe of NIFTY 100 based on free-float market capitalisation and liquid companies having average impact cost of 0.50% or less for 90% of the observations for a basket size of Rs. 10 Crores. The constituents should have derivative contracts available on NSE.

6. NIFTY Next 50:

It represents the balance 50 companies from NIFTY 100 after excluding the NIFTY 50 companies.

7. NIFTY Midcap 50:

It includes top 50 companies based on full market capitalisation from NIFTY Midcap 150 index and on which derivative contracts are available on NSE. In case 50 midcap stocks do not have derivatives contract available on them then it could have less than 50 stocks in the index.

8. NIFTY Midcap 100 (formerly NIFTY Free float Midcap 100):

It includes all companies from NIFTY Midcap 50. Remaining companies are selected based on average daily turnover from NIFTY Midcap 150 index.

9. NIFTY Smallcap 50:

It represents top 50 companies selected based on average daily turnover from top 100 companies selected based on full market capitalisation in NIFTY Smallcap 250 index.

10. NIFTY Smallcap 100 (formerly NIFTY Free float Smallcap 100):

It includes all companies from NIFTY Smallcap 50. Remaining companies are selected based on average daily turnover from top 150 companies selected based on full market capitalisation from NIFTY Smallcap 250 index.

11. NIFTY 200:

NIFTY 200 includes all companies forming part of NIFTY 100 and NIFTY Midcap 100 index.

12. NIFTY LargeMidcap 250:

It includes all companies from NIFTY 100 and NIFTY Midcap 150. It intends to measure performance of the large and mid-market capitalisation companies.

13. NIFTY MidSmallcap 400:

It includes all companies from NIFTY Midcap 150 and NIFTY Smallcap 250. It intends to measure performance of the mid and small market capitalisation companies.

Eligibility Criteria for Securities

Eligible Universe:

To be considered for inclusion in NIFTY 500 index, companies must form part of eligible universe. The eligible universe includes:

- Companies ranked within top 800 based on both average daily turnover and average daily full market capitalisation based on previous six months period data
- Companies traded for at least 90% of days during the previous six months period

NIFTY broad based indices are reviewed twice every year based on six month data ending January 31 and July 31. Eligibility criteria for newly listed security is checked based on the data for a three-month period instead of a six-month period.

At the time of index reconstitution, a company which has undergone a scheme of arrangement for corporate event such as spin-off, capital restructuring etc. would be considered eligible for inclusion in the index if as on the cut-off date for sourcing data of preceding six months for index reconstitution, a company has completed three calendar months of trading period after the stock has traded on ex. basis subject to fulfilment of all eligibility criteria for inclusion in the index..

Eligible Securities:

All equity shares listed on the NSE are eligible for inclusion in the NIFTY indices. Convertible stock, bonds, warrants, rights, and preferred stock that provide a guaranteed fixed return are not eligible for inclusion in the NIFTY indices.

Differential Voting Rights:

Equity securities with Differential Voting Rights (DVR) are eligible for inclusion in the index subject to fulfilment of criteria given below:

- Market capitalisation criteria is measured at a company level by aggregating the market capitalisation of individual class of security meeting the liquidity criteria for the respective index
- Free float of DVR equity class share should be at least 10% of free-float market capitalization of the company (voting equity class share and DVR equity class share) and 100% free-float market capitalization of last security in respective index

- It should meet liquidity criteria applicable for the respective index
- Upon inclusion of DVRs in index, the index may not have fixed number of securities. For example, if DVR of an existing NIFTY 50 constituent is included in NIFTY 50, the NIFTY index will have 51 securities but continue to have 50 companies
- It is possible that the DVR is eligible for inclusion in the index whereas the full voting rights security class is ineligible. In such scenario, the DVRs shall be included in the index irrespective of whether full voting rights share class is part of index

Index Construction

Approaches:

The NIFTY indices are computed using a float-adjusted market capitalization weighted methodology. 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.

Base Date:

The base date and base value for the NIFTY indices is as under:

Index	Base Date	Base Value
NIFTY 500	January 01, 1995	1000
NIFTY 100	January 01, 2003	1000
NIFTY Midcap 150	April 01, 2005	1000
NIFTY Smallcap 250	April 01, 2005	1000
NIFTY 50	November 03, 1995	1000
NIFTY Next 50	January 01, 1997	1000
NIFTY Midcap 50	January 01, 2004	1000
NIFTY Midcap 100	January 01, 2003	1000
NIFTY Smallcap 50	April 01, 2005	1000
NIFTY Smallcap 100	January 01, 2004	1000
NIFTY 200	January 01, 2004	1000
NIFTY LargeMidcap 250	April 01, 2005	1000
NIFTY MidSmallcap 400	April 01, 2005	1000

Data Source:

Prices of index constituents are sourced from NSE. The stock prices are in Indian Rupees.

Calculation and dissemination:

The broad indices such as NIFTY 50, NIFTY Next 50, NIFTY 100, NIFTY 200, NIFTY 500, NIFTY Midcap 50, NIFTY Midcap 100 and NIFTY Smallcap 100 are calculated online on all days that the National Stock Exchange of India is open for trading in equity shares and disseminated through trading terminals and website and other indices such as NIFTY Midcap 150, NIFTY Smallcap 250, NIFTY Smallcap 50, NIFTY LargeMidcap 250 and NIFTY MidSmallCap 400 are computed at end of the day.

Index Precision:

The level of precision for index calculation is as follows:

- Index values are published rounded to two decimal places
- Shares outstanding are expressed in units
- Float-adjusted market capitalization is stated to two decimal places
- Investible Weight Factor (IWF) is rounded to two decimal places

Index Maintenance

Index Reconstitution:

Index maintenance plays a crucial role in ensuring the stability of the index. The indices are reconstituted semi-annually considering 6 months data ending January and July respectively. The replacement of stocks in broad market indices (if any) are generally implemented from the first working day after F&O expiry of March and September. In case of any replacement in the index, a four weeks' prior notice is given to the market participants.

Additional index reconstitution may be undertaken in case any of the index constituent undergoes a scheme of arrangement for corporate events such as merger, spin-off, compulsory delisting or suspension etc. The equity shareholders' approval to a scheme of arrangement is considered as a trigger to initiate the exclusion of such stock from the index through additional index reconstitution.

	<i>Securities will be included if</i>	<i>Securities will be excluded if</i>	Maximum Replacements per review
NIFTY 500	<ul style="list-style-type: none"> Rank based on full market capitalisation is among top 350 Full market capitalisation is 1.5 times the full market capitalization of the smallest index constituent (based on full market capitalization) in NIFTY 500 	<ul style="list-style-type: none"> Rank based on full market capitalisation or average turnover falls below 800 	25
NIFTY 100	<ul style="list-style-type: none"> Rank based on full market capitalisation is among top 90 Full market capitalisation is 1.5 times the full market capitalization of the smallest index constituent (based on full market capitalization) in NIFTY 100 	<ul style="list-style-type: none"> Rank based on full market capitalisation falls below 110 Constituents excluded from NIFTY 500* 	5
NIFTY Midcap 150	<ul style="list-style-type: none"> Rank based on full market capitalisation is among top 225 Full market capitalisation is 1.5 times the full market capitalization of the smallest index constituent (based on full market capitalization) in NIFTY 150 	<ul style="list-style-type: none"> Rank based on full market capitalisation is falls below 275 Constituents excluded from NIFTY 500* 	15
NIFTY Smallcap 250	<ul style="list-style-type: none"> Constituents in NIFTY 500 not forming part of NIFTY 100 and NIFTY 150 		-

NIFTY 50	<ul style="list-style-type: none"> • Its meets the impact cost criteria and free-float market capitalisation is 1.5 times the free-float market capitalization of the smallest constituent in NIFTY 50 	<ul style="list-style-type: none"> • When a better security is available in the replacement pool, which meets inclusion criteria 	5 Annually
NIFTY Next 50	<ul style="list-style-type: none"> • Constituents in NIFTY 100 not forming part of NIFTY 50 		-
NIFTY Midcap 50	<ul style="list-style-type: none"> • Rank of any F&O constituent in NIFTY Midcap 150 based on full market capitalisation is among top 30 • Full market capitalisation of any F&O constituent in NIFTY Midcap 150 is 1.5 times of the smallest index constituent (based on full market capitalization) in NIFTY Midcap 50 	<ul style="list-style-type: none"> • Rank based on full market capitalisation falls below 70 among F&O constituents in NIFTY Midcap 150 • Constituents excluded from NIFTY Midcap150 or Excluded from F&O segment of NSE* 	5
NIFTY Midcap 100	<ul style="list-style-type: none"> • Constituents added in NIFTY Midcap 50 which are not in NIFTY Midcap 100* • Rank based on average daily turnover is among top 70 from constituents in NIFTY Midcap 150 	<ul style="list-style-type: none"> • Rank based on average daily turnover of existing constituent is below 130 among constituents in NIFTY Midcap 150 • Constituents excluded from NIFTY Midcap 150* 	10
NIFTY Smallcap 50	<ul style="list-style-type: none"> • Rank based on average daily turnover is among top 30 from top 100 constituents selected based on full market capitalisation in NIFTY Smallcap 250 	<ul style="list-style-type: none"> • Rank based on full market capitalisation falls below 130 from NIFTY Smallcap 250 constituents • Rank based on full market capitalisation is among top 130 from NIFTY Smallcap 250 constituents but rank based on average daily turnover falls below 80 (from top 130 constituents) • Constituents excluded from NIFTY Smallcap 250* 	10
NIFTY Smallcap 100	<ul style="list-style-type: none"> • Rank based on average daily turnover is among top 70 from top 150 constituents selected based on full market capitalisation in NIFTY Smallcap 250 • All constituents of NIFTY Smallcap 50 not forming part of NIFTY Smallcap 100* 	<ul style="list-style-type: none"> • Rank based on full market capitalisation falls below 180 from NIFTY Smallcap 250 constituents • Rank based on full market capitalisation is among top 180 from NIFTY Smallcap 250 constituents but rank based on average daily turnover falls below 130 (from top 180 constituents) • Constituents excluded from NIFTY Smallcap 250* 	15

NIFTY 200	Constituents forming part of NIFTY 100 and NIFTY Midcap 100	-
NIFTY LargeMidcap 250	Constituents forming part of NIFTY 100 and NIFTY Midcap 150	-
NIFTY MidSmallcap 400	Constituents forming part of NIFTY Midcap 150 and NIFTY Smallcap 250	-

* Limits on replacement are not applicable for inclusion/exclusion on account of this rule and exclusions due to corporate actions such as merger, spin-offs, delisting, trading suspension etc.

When a security is replaced by another security in the index, the index divisor is adjusted so that the addition and deletion of security does not change the index level.

Corporate Actions and Share Updates:

Maintenance of NIFTY indices includes carrying out adjustments for corporate actions like stock splits, stock dividends, share changes and scheme of arrangements. Some corporate actions, such as stock splits and stock dividends, require simple changes in the equity 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.

This helps in keeping the value of the index accurate and ensures that the movement of the index does not get impacted due to 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. 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 working days' prior notice. Share repurchase (buyback) also have the same rules as applicable to share changes.

Changes entailing less than 5% impact on the issued share capital or a free-float are accumulated and implemented from the first working day after F&O expiry of March, June, September and December after providing five working days' prior notice.

Investible Weight Factors (IWFs):

IWF as the term suggests is a unit of floating stock expressed in terms of a number available for trading and which is not held by the entities having strategic interest in a company. Higher IWF suggest greater number of shares held by the investors as reported under public category within a shareholding pattern reported by each company.

The IWFs for each company in the index are determined based on the public shareholding of the companies as disclosed in the shareholding pattern submitted to the stock exchanges on quarterly basis from March, June, September and December effective after the expiry of the F&O contracts. The following categories are excluded from the free float factor computation:

- Shareholding of promoter and promoter group
- Government holding in the capacity of strategic investor
- Shares held by promoters through ADR/GDRs.
- Strategic stakes by corporate bodies
- Investments under FDI category
- Equity held by associate/group companies (cross-holdings)
- Employee Welfare Trusts
- Shares under lock-in category

Example: For XYZ Ltd.

	Shares	%
Total Shares	1,00,00,000	100.00

	Shares	%
Shareholding of promoter and promoter group	19,75,000	19.75
Government holding in the capacity of strategic investor	50,000	0.50
Shares held by promoters through ADR/GDRs.	2,50,000	2.50
Equity held by associate/group companies (cross-holdings)	12,575	0.13
Employee Welfare Trusts	1,45,987	1.46
Shares under lock-in category	14,78,500	14.79

$$\text{IWF} = [1,00,00,000 - (19,75,000 + 50,000 + 2,50,000 + 12,575 + 1,45,987 + 14,78,500)] / 1,00,00,000. = \mathbf{0.61}$$

Index Calculation Formula

Price Index Calculations:

The NIFTY indices are computed using the free-float market capitalisation weighted method as under:

Free Float Market Capitalization = Shares outstanding * Price * IWF

Index Value = Current Free Float Market Capitalisation of index / Base Free Float Market Capitalisation of index * Base Index Value

Free float market capitalisation of index is the aggregate of free float market capitalisation of each scrip in the Index.

Total Return Index Calculation:

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 series of index i.e. Total Returns Index (TR) is calculated which shows the returns on Index portfolio, inclusive of dividends.

Calculation of the TR Index:

$$TR\ Index = Previous\ TR * \left[1 + \left(\frac{(Today's\ PR\ Index + Indexed\ Dividend)}{Previous\ PR\ Index} - 1 \right) \right]$$

where,

$$Indexed\ Dividend = \frac{Dividend\ Payout}{Base\ Market\ Capitalisation\ of\ Index}$$

$$Price\ Index\ Returns = \frac{Current\ Price\ Index\ Value}{Previous\ Price\ Index\ Value} - 1$$

Index Governance

Index Committee:

A professional team at IISL manages the NIFTY indices. There is a three-tier governance structure comprising the board of directors of IISL, the Index Policy Committee, and the Index Maintenance Sub-committee. IISL has constituted the Index Policy Committee, which is involved in devising policy and guidelines for managing the NIFTY indices. The Index Maintenance Sub-committee decides on index rebalancing based on the index methodology. The NIFTY indices have fully articulated rules governing index revisions, corporate actions, etc.

Index Policy

The NIFTY family of indices 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 fulfils eligibility criteria.

Announcements:

All index-related announcements are posted on the websites of IISL and NSE. Changes impacting the constituent list are also posted on the Web site. Please refer to the www.niftyindices.com and 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 IISL and NSE website. Please refer to the www.niftyindices.com and www.nseindia.com.

Data Source

Prices of index constituents are sourced from NSE

Index Precision

The level of precision for index calculation is as follows:

- Shares outstanding are expressed in units
- Investible weight factors (IWFs) are expressed in two decimals
- Float-adjusted market capitalization is stated to two decimal places
- Index values are disseminated up to two decimal places

Index Recalculations

All NIFTY family of indices are recalculated whenever errors occur. Users of the NIFTY indices are notified through appropriate channel of communication.

Market Feedback & Index Methodology Review

IISL is committed to ensure that all NIFTY indices are relevant for the market participants. In order to ensure this, IISL on an on-going basis interacts with the stakeholders inviting the feedback through various channels of communication. The feedback received from the market participants forms a key input for all index related aspects.

Review of methodology of NIFTY indices is carried out on an annual basis. Additionally, IISL also considers any feedback that it may receive with regards to index methodology as part of on-going market interactions. Any changes to the index methodology is approved by the Committee and the same is announced through a press release.

Other

In case of a market stress or disruption, IISL will review and deal with the situation on consultative basis with the National Stock Exchange of India Ltd. (NSE) as NSE is source for price data for computation of equity indices.

All indices are expected to reflect the performance of a basket of stocks selected based on the defined guidelines and theme. Every index user is advised to evaluate the benefits of index and take an informed decision before using the index for self or creation of index-linked products. IISL does not accept any liability for any losses, claims, expenses etc. that may be incurred by any person as a result of usage of NIFTY family of indices as a result of reliance of the ground rules, any errors or inaccuracies.

Index Dissemination

Tickers:

Index	Bloomberg	Reuters
NIFTY 500	NSE500 Index	.NIFTY500
NIFTY 100	NSE100 Index	.NIFTY100
NIFTY 50	NIFTY Index	.NSEI
NIFTY Next 50	NIFTYJR Index	.NN50
NIFTY Midcap 50	NIFTYM50 Index	.NIMDCP50
NIFTY 200	NSE200 Index	.NIFTY200

Web site:

Daily index values, index constituents, methodology, and press releases are available on www.niftyindices.com and www.nseindia.com.

About Us

About National Stock Exchange of India Limited (NSE):

The National Stock Exchange (NSE) is the leading stock exchange in India and the fifth largest in the world by equity trading volume Year to Date (YTD), according to World Federation of Exchanges (WFE) data as on August 2017. NSE was the first exchange in India to implement electronic or screen-based trading. It began operations in 1994 and is ranked as the largest stock exchange in India in terms of total and average daily turnover for equity shares every year since 1995, based on SEBI data.

NSE has a fully-integrated business model comprising our exchange listings, trading services, clearing and settlement services, indices, market data feeds, technology solutions and financial education offerings. NSE also oversees compliance by trading and clearing members with the rules and regulations of the exchange.

NSE is a pioneer in technology and ensures the reliability and performance of its systems through a culture of innovation and investment in technology. NSE believes that the scale and breadth of its products and services, sustained leadership positions across multiple asset classes in India and globally enable it to be highly reactive to market demands and changes and deliver innovation in both trading and non-trading businesses to provide high-quality data and services to market participants and clients.

About India Index Services & Products Ltd. (IISL):

India Index Services & Products Ltd. (IISL), a subsidiary of NSE, provides a variety of indices and index related services for the capital markets. IISL focuses upon the index as a core product. IISL owns and manages a portfolio of indices under the NIFTY brand of NSE, including the flagship index, the NIFTY 50. IISL equity Indices comprises of broad-based benchmark indices, sectoral indices, strategy indices, thematic indices and customised indices. IISL also maintains fixed income indices based on Government of India securities, corporate bonds and money market instruments. Many investment products based on IISL indices have been developed within India and abroad. These include index based derivatives traded on NSE, Singapore Exchange Ltd. (SGX), Chicago Mercantile Exchange Inc. (CME), Osaka Exchange Inc. (OSE), Taiwan Futures Exchange (TAIFEX) and a number of index funds and exchange traded funds. The flagship 'NIFTY 50' index is widely tracked and traded as the benchmark for Indian Capital Markets.

For more information, please visit: www.niftyindices.com.