



NSE Indices Limited

(Formerly known as India Index Services & Products Limited-IISL)

NIFTY 50 Arbitrage Index- Methodology Document

September 2019

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Introduction

NSE Indices Limited (formerly known as India Index Services & Products Limited-IISL) a NSE group company, was setup in May 1998 to provide a variety of indices and index related services for the capital markets. NSE Indices Limited is India's specialised company focused upon the index as a core product. NSE Indices Limited 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 NSE Indices Limited indices in India and abroad. The 'NIFTY 50' index is widely tracked and traded as the benchmark for Indian Capital Markets.

NSE Indices Limited'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

NSE Indices Limited has developed NIFTY 50 Arbitrage Index to measure the performance of arbitrage strategy involving investment in equity and equivalent short position equity futures, short-term debt market investments and cash.

NIFTY 50 Arbitrage Index

The methodology of NIFTY 50 Arbitrage Index is as under:

- Index is constructed representing strategy of long position in NIFTY 50 Price Returns index and equivalent short position in NIFTY 50 index futures contracts traded on NSE in equity and equity derivatives segment respectively
- The weights of the index constituents are as under:
 - 65% weight is assigned to net returns from investment in long NIFTY 50 index and equivalent NIFTY 50 index short futures.
 - A short position in near month futures contract is considered for computation. The near month futures contract expires on last Thursday of each month. Accordingly index will include mid-month contract from the next trading day after the expiry of near month contract

- Close value of NIFTY 50 index and daily settlement price of NIFTY 50 futures contract is considered
 - 30% weight is assigned to returns from 1 month MIBOR. The 1 month MIBOR is considered to represent the short term investments.
 - 5% weight is given to cash
- Dividends received on equity investment are expressed as dividend points index and are considered for index calculation on the Ex-dividend date. Index dividend points are dividends paid by index constituents expressed in terms of the level of NIFTY 50 Index. The index dividend of the NIFTY 50 Index is calculated by taking the summation of dividend pay-out (adjusted for free float) specified by index constituents divided by the index divisor on ex-dividend date.
- The index is computed at end of the day using the close value of NIFTY 50 index and daily settlement price of NIFTY 50 futures contract.
- Index has a base date of April 01, 2010 and base value of 1000.

Index Calculation

$$\text{Nifty 50 Arbitrage Index} = \text{Index Value}_{t-1} \times (1 + \text{Returns}_t)$$

$$\text{Returns} = (\text{Equity Returns} \times 65\%) + (\text{Debt Returns} \times 30\%) + (\text{Cash} \times 5\%)$$

$$\text{Equity Returns} = \text{Nifty 50 Returns} + \text{Short Nifty Futures Returns}$$

$$\text{Nifty 50 Returns} = \text{LN} \left(\frac{\text{Nifty 50 Index Value}_t + \text{Dividend Points Index}_t}{\text{Nifty 50 Index Value}_{t-1}} \right)$$

$$\text{Dividend Points Index} = \left(\frac{\text{Dividend Payout on Ex-dividend date}}{\text{Index Divisor on Ex-dividend date}} \right)$$

$$\text{Nifty 50 Short Futures Returns} = \text{LN} \left(\frac{\text{Nifty 50 Index Futures Price}_t}{\text{Nifty 50 Futures Price}_{t-1}} \right) \times -1$$

$$\text{Debt Returns}_T = \frac{1 \text{ Month MIBOR Rate}_{T-1}}{365} \times \text{Number of days}$$

Where T is the Trading Day

Index Governance:

A professional team at NSE Indices Limited manages the index. NSE Indices Limited has constituted the Index Advisory Committee (Equity), which provides guidance on macro issues pertaining to equity indices. The Index Maintenance Sub-committee makes all decisions on additions and deletions of companies in equity indices and Index Advisory Committee (Debt) provides guidance on macro issues pertaining to fixed income indices. The Committees comprises of representatives from financial market such as Asset Management Company, insurance company, rating agency etc. In order to maintain transparency, the names of the committee member are publicly displayed on the website. None of the member in the above committee except the exchange representative(s) (who co-ordinates between the Index Advisory Committee - Equity and IMSC) represent more than one committee and thereby the independence of each of the committees is maintained.

Index Policy

The NIFTY 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 NSE Indices Limited 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 NSE Indices Limited follows the official holiday schedule. A complete holiday schedule for the year is available on the NSE Indices Limited and NSE website. Please refer to the www.niftyindices.com and www.nseindia.com.

Index Precision

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

NSE Indices Limited is committed to ensure that all NIFTY indices are relevant for the market participants. In order to ensure this, NSE Indices Limited 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, NSE Indices Limited 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, NSE Indices Limited 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. NSE Indices Limited 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.

About Us

About National Stock Exchange of India Limited (NSE):

National Stock Exchange of India Ltd. (NSE) is the leading stock exchange in India and the second largest in the world by nos. of trades in equity shares from January to December 2018, according to World Federation of Exchanges (WFE) report. 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 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.

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

About NSE Indices Limited:

NSE Indices Limited (formerly known as India Index Services & Products Ltd. - IISL), a subsidiary of NSE, provides a variety of indices and index related services for the capital markets. The company focuses on the index as a core product. The company owns and manages a portfolio of indices under the NIFTY brand of NSE, including the flagship index, the NIFTY 50. NIFTY equity indices comprises of broad-based benchmark indices, sectoral indices, strategy indices, thematic indices and customised indices. NSE Indices Limited also maintains fixed income indices based on Government of India securities, corporate bonds, money market instruments and hybrid indices. Many investment products based on NIFTY indices have been developed within India and abroad. These include index based derivatives traded on NSE, NSE IFSC and Singapore Exchange Ltd. (SGX) 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

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