



NSE Indices Limited

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

Methodology Document of NIFTY 4-8 yr G-Sec Index May 2019

Contact

Email: indices@nse.co.in

Tel: +91-22-26598386

Address: Exchange Plaza, Bandra Kurla Complex,
Bandra (East), Mumbai - 400 051(India)

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Introduction:

NIFTY 4-8 yr G-Sec Index represents Government of India bonds having residual maturity between 4-8 years. Top 3 liquid securities based on turnover during previous month shall be eligible to be part of the index

Index Methodology:

- Index represents Government of India Bonds having residual maturity between 4-8 years
- Top 3 liquid bonds based on turnover during the month shall be eligible to be part of the index
- The outstanding amount of the bond should be more than Rs. 5,000 crores
- Each bond is assigned weight based on turnover (in previous month period) and outstanding amount (latest). Turnover of the bond contributes 40% and outstanding amount contributes 60% in weight calculation of each bond
- Weights of the bonds are determined at beginning of the month
- The index is computed using the total returns methodology
- The index is calculated & disseminated on real time basis
- Accrued interest is calculated using 30/360 day count convention
- Index is reviewed on monthly basis
- Index has a base date value of 1000 and base date of Jan 03, 2011

Index Review:

The index is reviewed on a monthly basis. Bonds not forming part of top 3 based on turnover shall be eligible for replacement. A new bond shall be included if it meets the replacement criteria.

- Residual Maturity should be more than 4.5 yrs
- Should have traded for more than 10 days during the month
- Average daily turnover in month should be 2 times of the existing bond in the index
- Number of trades in the month should be 2 times of the existing bond in the index
- If no bond is available for replacement then existing bond shall continue
- If the residual maturity of a bond forming part of the index falls below 4 yrs., then it shall be excluded from the index

Transparent, investable and replicable index construction:

The index is reviewed every month and a notice of five working days is given to the market before making changes to the index. The prices are sourced from the CCIL and NSE G-sec valuations.

The index methodology considers liquidity and issue size to ensure that the NIFTY 4-8 yr G-Sec Index remains investable and replicable. Daily Index value is published on NSE website.

Index Calculation:

Formula for index computation is as under:

$$\text{Index Value}_T = \text{Index Value}_{T-1} \times (1 + \text{IndexTR}_T)$$

where

Index Return for a day T is calculated as

$$\text{IndexTR}_T = \frac{\sum_0^i \text{MV}_{i,\text{Beg}} \times \text{TR}_{i,t}}{\sum_0^i \text{MV}_{i,\text{Beg},T}}$$

where

1. Beginning market value (MV) of each bond is calculated based on the units and beginning of day clean price and accrued interest (i.e. previous day close price & accrued interest):

$$\text{MV}_{\text{Beg},T} = (\text{Units}_{\text{Bond},i} \times (\text{AI} + \text{Price})_{T-1,\text{Bond},i})$$

2. Units for computation of market value (MV) for each bond is derived at every rebalancing on the basis of previous day dirty price of the bond (T-1) i.e. beginning of the rebalancing day price. The units will remain constant between two rebalancing periods.

$$\text{Units}_{\text{Bond},i} = \frac{\text{Portfolio Value}_T \times \text{Weight}_{\text{Bond},i,T}}{\text{Dirty Price}_{T-1,\text{Bond},i}}$$

3. Total return (TR) for every bond is calculated as:

$$\text{TR}_{\text{Bond},i,T} = \text{IR}_{\text{Bond},i,T} + \text{PR}_{\text{Bond},i,T}$$

where

Interest return (IR) of each bond is calculated as:

$$\text{IR}_{\text{Bond},i,T} = \frac{\text{Unit} \times (\text{AI}_T - \text{AI}_{T-1}) + \text{Unit} \times \text{Coupon}_T}{\text{MV}_{\text{Beg},T}}$$

and

Price return (PR) of each bond is calculated as:

$$\text{PR}_{\text{Bond},i,T} = \frac{\text{Unit} \times (\text{Price}_T - \text{Price}_{T-1})}{\text{MV}_{\text{Beg},T}}$$

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 respective source of price data for computation of these 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.