

STRIPS Valuation
Methodology document
July 2024

STRIPS Overview:

STRIPS stands for Separate Trading of Registered Interest and Principal of Securities. STRIPS are created by separating a standard coupon-bearing government bond into its individual coupon and principal components, which can be sold/purchased/traded separately. STRIPS are essentially zero-coupon government securities.

Valuation requires estimating the zero-rate corresponding to the respective maturity of the STRIP. Zero rate curve is constructed based on government securities valuations as done by NSE Data & Analytics. Please refer the below mentioned link for detailed methodology of government securities valuation.

<https://www.nseindia.com/nse-data-and-analytics/nse-fixed-income-valuations>

Valuation Methodology to determine price and yield of STRIPS:

Step 1: Plotting government securities yields

Based on the government securities yield from available maturities, par yield curve is determined by linear regression for all standard maturities.

Step 2: Bootstrapping standard par yield curve

- Zero yield curve is established by bootstrapping par yield curve.

Step 3: Determination of yields for G-Sec STRIPS

- Yield for each STRIP is calculated by linear interpolation of zero yield curve as per their residual maturity.

Step 4: Price Computation for STRIPS

- After determining yields, price is computed by discounting the face value.

Step 5: Quality Check

- Valuation is reviewed by secondary analyst.

Exceptions Policy

Following may be deviations in the valuation approach:

- Change in approach to incorporate market specific changes or information

These deviations are typical, but not restricted to below days:

- Quarter/year ends
- Macro-economic data release dates
- Budgetary announcement dates
- Days with high volatility in the market
- Policy announcement dates like monetary policy by RBI

Committee Policy

NSE Data & Analytics has constituted two committees as mentioned below:

- Bond Valuation Advisory Committee: To provide guidance on macro issues pertaining to fixed income valuations.
- Bond Valuation Oversight Committee: To oversee the operational guidelines for bond valuation, approve changes to the valuation criteria and approve any exceptions.
- Details of the committee members of these two committees are available on the NSE website on the following link. <https://www.nseindia.com/nse-data-and-analytics/committees>

Disclosure of Changes to the Methodology

NSE Data & Analytics Limited shall endeavor to give a notice of at least 15 days, prior to any amendment to the above methodology. Where giving such notice is not practical, the same shall be done on shorter notice with the committee's approval.

Error Handling

In principle the valuations are recalculated whenever errors occur. However, where the correction of a historical error would lead to difficulties for users or investors, the committee retains the right to override the correction. Users of the valuations are notified through appropriate channel of communication of both corrections and decisions to protect investors by not correcting an error.

Illustrative Example

Consider an ISIN with 10th October 2024 as maturity and settlement date 7th November 2022.

Based on the government securities yield from available maturities, par yield curve is determined by linear regression for all standard maturities. Zero yield curve is established by bootstrapping par yield curve. Consider the dummy zero yields mentioned below for illustrative purposes.

| Residual Maturity (in years) | Dummy Zero Yield (As on 7th November 2022) |
|---|--|
| 1.5 | 5% |
| 2 | 5.50% |

From the zero yields mentioned above, we estimate the yield of 5.40 % for the ISIN by interpolating the yield to the specific residual maturity of the ISIN. Post which, the price is computed by discounting the face value.