

T-Bill valuation
Methodology document
July 2024

Valuation Methodology to determine security level valuation:

Step 1: Same security – Trade and Two-way quotes (Ex-Outliers)

- We consider traded data and two-way quotes from the reporting platform – NDS OM. The trades below 25 crores and trades reported as odd lot are not considered. VWAY/VWAP of trades in last one hour of trading is considered. For securities not traded in last one hour, VWAP/VWAY of trades during the day is considered.

Step 2: Same security – Quotes (Ex-Outliers)

- Two-way quotes are collected from market participants and considered for securities that are not traded or for trades that are considered as an outlier.

Step 3: Primary issuance (Ex-Outliers)

- In case of no information on trade and two-way quotes for any security, primary issuances cut off yields are used for valuation. The primary issuance data is collected from RBI website

Step 4: Matrix Movement

- If there is no availability of traded data, two-way quotes, primary issuance data, benchmark movement of respective benchmark is given for the purpose of movement in security over yesterday level. If a maturity-bucket does not contain any trade, then benchmark movement of the two adjacent maturity-buckets are applied to the non-traded maturity buckets.

Step 5: Quality Check

- Valuation is reviewed by secondary analyst.

Step 6: Price Computation

- After performing estimation of yield, security level clean price, accrued interest, dirty price, modified duration and mac duration are calculated using Excel based formula.

Exceptions Policy

Following may be deviations in the valuation approach:

- Giving priority to two-way quotes over trades
- Giving priority to LTY/LTP over VWAY/VWAP
- Giving priority to market feedback over the traded yield
- Considering odd lots for yield estimation
- Giving priority to one trade/quote/primary issuance over others

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 for a JAN 2025 maturity ISIN, 6.87% is the VWAY of the trades of 25 Crores & above and non-odd lots, in the last one hour of trading, reported on NDS OM. Now, if for the same ISIN, a two-way quote with mid-point of 6.9% was received, then as per the methodology, the trade will get preference over the quote, unless the trade is considered as an outlier.

Once the yield is estimated, in the above example, 6.87% being the VWAY, the security level clean price, accrued interest, dirty price, modified duration and mac duration are calculated using Excel based formula.

If in another scenario, there are no trades, two-way quotes, primary issuance data, benchmark movement for respective benchmark is given for the purpose of movement in security over yesterday level. Let's say yesterday's yield level was 6.85% and the benchmark movement is 0.02, accordingly today's yield of the ISIN will be 6.87%.

In the example, if the JAN 2025 maturity- bucket does not contain any trade, then benchmark movement of the two adjacent maturity-buckets i.e. DEC 2024 and FEB 2025, are applied to the JAN 2025 bucket.