

# Treasury Bills (T-Bill) Valuation

## Methodology

## **Background:**

CRISIL Funds and Fixed Income Research provide valuation for all T-Bill securities to subscribers daily. These prices are used by various market participants such as AMCs, Custodians/ Fund accountants to value their portfolio. Treasury bills or T-bills, which are money market instruments, are short term debt instruments issued by the Government of India and are presently issued in three tenors, namely, 91 day, 182 day and 364 day. Treasury bills are zero coupon securities and pay no interest. Instead, they are issued at a discount and redeemed at face value at maturity.

## **Valuation Methodology**

### **Step 1: Same ISIN secondary trade VWAY of last 1 hour subject to outlier validation**

- VWAY of Trades reported on RBI Negotiated Dealing System – Order Matching segment (NDS – OM) & RBI Negotiated Dealing System (NDS) for last one hour are considered for valuation over full day VWAY for Same ISIN
- Trades reported on NDS OM & NDS with minimum of one trade of volume 25 crore including market lot and odd lot are considered
- If trade is outside our threshold, we will poll from market participants for fair level for valuation for that particular ISIN

### **Step 2: Same ISIN secondary market trade VWAY for the day / same ISIN two-way quote subject to outlier validation**

- In absence of same ISIN trade in the last one hour, VWAY of Trades reported on RBI Negotiated Dealing System – Order Matching segment (NDS – OM) & RBI Negotiated Dealing System (NDS) for full day are considered for valuation
- Trades reported on NDS OM & NDS with minimum of one trade of volume 25 crore including market lot and odd lot or two-way quote are considered
- If trade is outside our threshold, we will poll from market participants for fair level for valuation for that particular ISIN

### **Step 3: VWAY of Primary issuances (auction yield)**

- Newly auctioned papers of T-bills which are 91 days, 182 days, 364 days gets auctioned every Wednesday, those ISINs will be valued at weighted average auction yield in case secondary trades are not available
- If trade is outside our threshold. we will poll from market participants for fair level for valuation for that particular ISIN

### **Step 4: VWAY of same maturity secondary market trade of last one hour & full day subject to outlier validation**

- VWAY of traded levels is given to all papers in same maturity (same maturity papers are defined as set of T-bills having the same redemption date)

### **Step 5: VWAY of similar maturity secondary market trade of last one hour & full day subject to outlier validation**

- VWAY of traded level is given to all papers in similar maturity
- In case of multiple trades, VWAY of those levels to be given to the remaining papers.
- Due to high volatility in papers having residual maturity of <91 days, fortnightly/weekly buckets to be used for valuations. VWAY of traded levels in any paper in a bucket to be given to all papers in that fortnight bucket only.
- Current similar maturity buckets- fortnightly/weekly buckets up to 91 days followed by monthly buckets till 1 year

### **Step 6: Two-way quote not wider than 5 bps on NDS OM, subject to outlier validation**

- Two-way quotes (bid and ask both are available) reported on NDS – OM are taken as valuation input with minimum quantity for the quotes of 25 crore each. Mid-point of two-way quote is taken for valuation.
- If mid-point of two way is outside our threshold we will poll from market participants for fair level for valuation for that particular ISIN

### **Step 7: Carry forward of spreads over the benchmark**

- If non-benchmark securities which are not traded in the market and for which no quotes are available, movement of the respective benchmark security is given to all the securities in respective tenor

### **Step 8: Polling**

Market participants are polled in case:

- No trade or two-way quote is available for the benchmark securities
- Trade is identified as outlier
- Client identified polling/ Review polling

Polls are also taken into consideration on exceptional days including:

- Monetary Policies
- Annual Budget
- Quarter end days
- Policy announcements
- Macro-Economic data release days

### **Trades that qualify as per volume criteria**

- Trades reported on NDS OM & NDS with minimum of one trade of volume 25 crore and above including odd lot and market lot qualify for daily G-sec valuations and
- Two-way quotes not wider than 5 bps considered for valuations and satisfies the volume criteria mentioned earlier (minimum bid and ask quantity of 5 crore and above) are considered. Mid-point of two-way quote is considered for valuation.

## **Special Cases:**

### **Effective papers –**

Effective papers have effective maturity other than the actual maturity of the paper due to maturity date falling on a public holiday. Whenever these papers are traded, based on traded price, an effective yield is calculated.

Based on this effective yield a spread is maintained with the average yield of other non-effective papers from same bucket. Using this spread again an appropriate yield level is back calculated, at which the paper is valued.

### **Cash management Bills-**

Cash management bills are securities similar to T-bills issued to meet the temporary mismatches in the cash flow of the Government of India. The CMBs have the generic character of T-bills but are issued for maturities other than 91 days. While valuing CMBs, spread are added over same /similar maturity T-Bills basis trade and market feedback.

### **TREPS-**

For valuation of TREP security, a spread is maintained over T-bill level for the respective maturity. This spread is determined as per the initial traded level of the TREP over the T-bill for the same maturity. Spreads are aligned based on trades or market feedback via polling and is maintained till the next trade takes place.

## **Quality check**

- Review of valuations is done by secondary analyst. All changes over the previous day are reviewed.

## **Benchmark Identification**

- Longest maturity paper in the defined buckets qualify as benchmark paper for that bucket
- If multiple securities are available with the same maturity (i.e highest maturity), then priority is given to the latest issued paper for same maturity.
- Example: DTB 01 Dec, DTB 13 Dec, DTB 15 Dec papers available in December maturity which is monthly bucket then we will consider DTB 15 Dec 91-day paper as benchmark paper for December maturity bucket.

## **Action taken in case of outlier trades**

- Outlier definition +/- 5 bps Deviation in yield of traded security over and above the yield of the benchmark movement is classified as an outlier. Such trades shall be included in valuations post validation through polls.
- Outlier is checked on VWAY considering all transactions

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