

# BVAL municipal AAA curves

Objective, transparent & data-driven

## Better AAA Municipal Curves

BVAL's AAA Municipal Curves use real-time trades and contributed sources to reflect movement in the Municipal market as it is happening. The curves are produced hourly (9:00 am – 4:00 pm ET) and are available on the Terminal shortly after each hour. The AAA curves are monitored on an hourly basis by BVAL's team of municipal evaluators. The production of these curves rely on sophisticated modeling techniques that normalizes credit differences of eligible AAA-rated credits, removes outlier trades and contributed levels, intelligently seeks corroboration within the data sources, and leverages BVAL's proprietary curve building technique.

The BVAL AAA Municipal Curves are transparent, timely and easy to use.

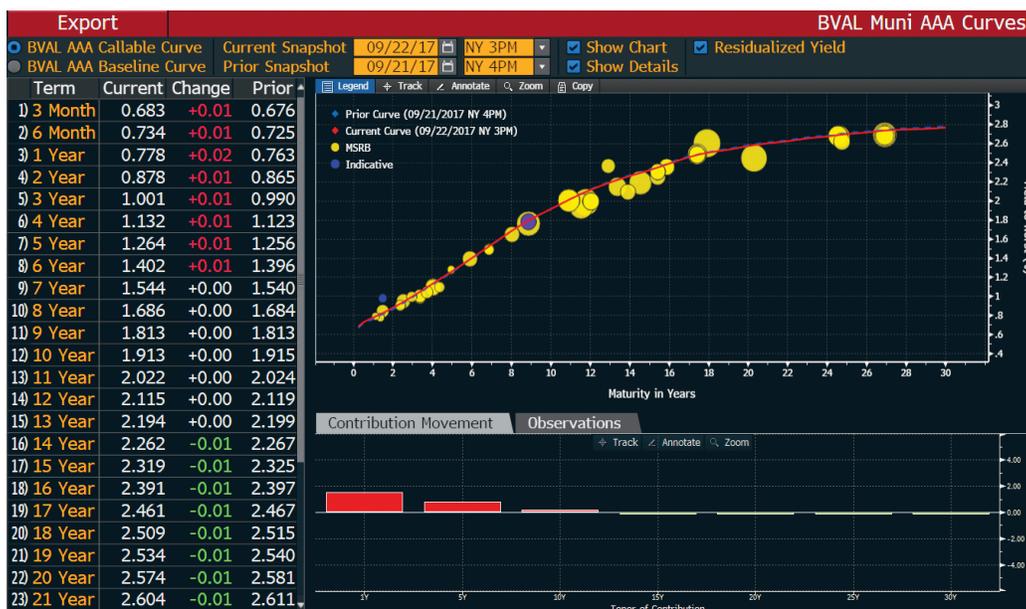
## AAA callable curve

BVAL's AAA callable curve is a standard market scale with non-call yields up to year 10 and callable yields thereafter. This curve assumes a normalized 5% coupon and is plotted as an offer side yield to worst.

## AAA baseline curve

The AAA baseline curve normalizes callable bonds using BVAL's expected redemption date (BERD) and is used for BVAL pricing. This curve assumes a normalized 5% coupon and is plotted as a bid side yield to worst.

When accounting for the value of the embedded options, we determine the implied level of interest rate volatility in the municipals market by modeling the relationships between callables with various structures and non-calls. BVAL does not use a static assumption of interest rate volatility. Ultimately, the level of the AAA baseline curve is dependent on the market implied level of interest rate volatility for municipals. With all else equal, a lower level of market implied volatility will generate higher non-call yields than a higher level of market implied volatility.



BVAL's AAA Municipal Curves offer hour by hour updates right on the Bloomberg Terminal® with transparency.

## Transparent

BVAL's AAA Municipal Curves offer hour-by-hour updates right on the Bloomberg Terminal®. AAA <GO> shows eligible trades since the previous day's closing levels along with normalizing adjustments. Further, AAA <GO> shows the movement implied by our contributed sources in the form of a bar chart. Contributed sources are particularly important in the early hours of the trading day when the number of observable trades is limited.

## Timely

The curves are produced hourly (9:00 am – 4:00 pm ET) and are available on the Terminal shortly after each hour. AAA <GO> shows all the relevant trading activity leading right up to the hour.

## Easy to use

AAA <GO> offers Terminal users an immediate indication into the day's market movement. The change column on the left hand side is color coded to show a market rally in green and a market selloff

in red. Current and prior day yields are shown in table format as well, and the data can be easily exported in Microsoft® Excel. AAA <GO> is back datable so you can see longer term movements. Lastly, all 32 tenor points are tickerized so you can load an individual tenor using functions like Line Chart (GP <GO>) and Historical Price Table (HP <GO>). By way of example, BVMB10Y INDEX <GO> loads the 10 year point of the BVAL AAA baseline curve.

## Methodology

The BVAL AAA Municipal Curves are constructed using trades from the Municipal Securities Rulemaking Board (MSRB) and contributed data. Constituents eligible for the curve must have a rating of AAA, minimum maturity and issuance sizes of \$2mm and \$30mm respectively, minimum trade size of \$500K for MSRB Dealer trades and \$1mm for all other MSRB trades and contributed quotes. All observations are normalized for differences in credit, optionality and coupon size.

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## Take the next step.

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