MSRB
Municipal Securities Rulemaking Board

Regulatory Notice

2016-08

Publication Date
February 23, 2016

Stakeholders
Municipal Securities Dealers

Notice Type
Regulatory Announcement

Category
Uniform Practice

Affected Rules
Rule G-33

MSRB Amends its Rule Regarding Calculations for Bonds that Do Not Pay Interest Semi-Annually

Overview

The Municipal Securities Rulemaking Board (MSRB) today filed with the Securities and Exchange Commission (SEC) an amendment to MSRB Rule G-33, on calculations, to modernize the mathematical formula in Rule G-33(b)(i)(B)(2) governing how brokers, dealers, and municipal securities dealers (dealers) calculate the dollar price of interest-bearing municipal securities with periodic interest payments (*e.g.*, daily, monthly, quarterly or annually) that have more than six months to redemption (amended pricing formula).[1] The amended pricing formula, which was effective upon filing, accounts for the actual interest payment frequency of such securities eliminating the presumption in the calculation that interest is paid on a semi-annual basis, which better reflects the technologies currently available to efficiently conduct this more precise calculation. The compliance date for the amended pricing formula is July 18, 2016.

The MSRB filed interpretive guidance with the SEC, which was also effective upon filing, that provides that, prior to July 18, 2016, dealers would be in compliance with Rule G-33(b)(i)(B)(2) if calculating price and yield on interest-bearing securities with periodic interest payments and more than one coupon period to redemption factoring in the actual interest frequency rather than assuming a semi-annual interest payment.

Description of the Rule Change

The amended pricing formula replaces a formula that was originally designed to accommodate the technologies available at the time of its

[1] *See* File No. SR-MSRB-2016-03. By reference, Rule G-33(b)(ii)(B)(2) requires the use of the formula in Rule G-33(b)(i)(B)(2) when calculating the yield on such municipal securities with periodic interest payments and more than one coupon period to redemption.

Receive emails about MSRB regulatory notices.

adoption several decades ago and reflected the limited capabilities of those technologies to efficiently conduct the more complex and advanced calculation of the amended pricing formula.[2] Modernizing the pricing formula reflects the improved access to, and use of, technologically advanced calculators by many market participants and will produce more accurate price and yield data reported to the MSRB's Real-Time Transaction Reporting System (RTRS), which the MSRB subsequently disseminates to the market and displays on its Electronic Municipal Market Access (EMMA®) system.[3]

As amended, Rule G-33(b)(i)(B)(2) requires dealers, when computing the dollar price or yield of interest-bearing municipal securities with periodic interest payments and more than one coupon period to redemption, to compute the dollar price of such securities using a formula that accounts for the present value of all future coupon payments in accordance with the pricing formula below:

$$P = \left[\frac{RV}{\left(1+\frac{Y}{M}\right)_{exp}^{\;N-1+\frac{E-A}{E}}}\right] + \left[\sum_{K=1}^{N}\frac{100\cdot\frac{R}{M}}{\left(1+\frac{Y}{M}\right)_{exp}^{\;K-1+\frac{E-A}{E}}}\right] - \left[100\cdot\frac{A}{B}\cdot R\right]$$

The amended pricing formula modifies the pricing formula by eliminating the presumption in the calculation that interest-bearing municipal securities with periodic interest payments, and more than one coupon period to redemption, pay interest on a semi-annual basis. Rather than calculate for a variable of yield divided by 2 (presumed semi-annual interest payment), the amended pricing formula requires dividing yield by "M" where "M" is the number of interest payment periods per year standard for the security involved in the transaction.[4]

The amended pricing formula will enhance the accuracy of the reporting of the dollar prices and yields on transactions in interest-bearing municipal

---

[2] *See e.g.*, Use of formulas: annual interest securities, June 6, 1983. ("1983 interpretive letter"). As a result of the amended pricing formula, the MSRB will delete the 1983 interpretive letter from its Rule Book.

[3] EMMA is a registered trademark of the MSRB.

[4] All other variables remain the same and the symbols for the formula are as defined in Rule G-33(b)(i)(B)(2).

securities that pay interest on a periodic basis. Permitting dealers to utilize the more precise formula prior to July 18, 2016. Additionally, the proposed interpretive notice will afford dealers the flexibility to utilize the more precise formula prior to the compliance date without creating any material discrepancies in pricing information.[5]

Questions about this notice may be directed to Gail Marshall, Associate General Counsel – Enforcement Coordination, at 202-838-1500.

February 23, 2016

* * * * *

Text of Rule Change[*]

Rule G-33: Calculations

(a) No change.

(b) *Interest-Bearing Securities*

(i) *Dollar Price*. For transactions in interest-bearing securities effected on the basis of yield the resulting dollar price shall be computed in accordance with the following provisions:

(A) No change.

(B) *Securities with Periodic Interest Payments*. Except as otherwise provided in this section (b), the dollar price for a transaction in a security with periodic interest payments shall be computed as follows:

(1) for securities with ~~six months or less to redemption~~ <u>one coupon period or less to redemption</u>, the following formula should be used:

No further changes

[5] As the MSRB recognized in its 1983 interpretive letter, calculations for securities with periodic interest payments that presume a semi-annual interest payment rather than the actual interest payment frequency produce slightly less accurate results. Additionally, transactions in such securities have typically accounted for less than .05 percent of all transactions reported to the MSRB annually.

[*] Underlining indicates new language; strikethrough denotes deletions.

(2) for securities with ~~more than six months to redemption~~ <u>more than one coupon period to redemption</u>, the following formula should be used:

$$P = \left[\frac{RV}{\left(1+\frac{Y}{M}\right)_{exp} N-1+\frac{E-A}{E}}\right] + \left[\sum_{K=1}^{N} \frac{100 \cdot \frac{R}{M}}{\left(1+\frac{Y}{M}\right)_{exp} K-1+\frac{E-A}{E}}\right] - \left[100 \cdot \frac{A}{B} \cdot R\right]$$

For purposes of this formula the symbols shall be defined as follows:

"A" is the number of accrued days from beginning of the interest payment period to the settlement date (computed in accordance with the provisions of section (e) below);

"B" is the number of days in the year (computed in accordance with the provisions of section (e) below);

"E" is the number of days in the interest payment period in which the settlement date falls (computed in accordance with the provisions of section (e) below);

<u>“M” is the number of interest payment periods per year standard for the security involved in the transaction;</u>

"N" is the number of interest payments (expressed as a whole number) occurring between the settlement date and the redemption date, including the payment on the redemption date;

"P" is the dollar price of the security for each $100 par value;

"R" is the annual interest rate (expressed as a decimal);

"RV" is the redemption value of the security per $100 par value; and

"Y" is the yield price of the transaction (expressed as a decimal).

For purposes of this formula the symbol "exp" shall signify that the preceding value shall be raised to the power indicated by the succeeding value; for purposes of this formula the symbol "K" shall signify successively each whole number from "1" to "N" inclusive; for purposes of this formula the symbol "sigma" shall signify that the succeeding term shall be computed for each value "K" and that the results of such computations shall be summed.

(ii) *Yield*. Yields on interest-bearing securities shall be computed in accordance with the following provisions:

(A) No change.

(B) *Securities with Periodic Interest Payments*. The yield of a transaction in a security with periodic interest payments shall be computed as follows:

(1) for securities with ~~six months or less to redemption~~ one coupon period or less to redemption, the following formula should be used:

No further changes

(2) for securities with ~~more than six months to redemption~~ more than one coupon period to redemption, the formula set forth in item (2) of subparagraph (b)(i)(B) shall be used.

(c) – (e) No changes.

* * * * *

INTERPRETIVE NOTICE ON RULE G-33 ON CALCULATIONS FOR SECURITIES WITH PERIODIC INTEREST PAYMENTS

Rule G-33 generally requires that brokers, dealers, and municipal securities dealers (“dealers”) effecting transactions in municipal securities compute yields and dollar prices in accordance with the formulas prescribed.

Prior to an amendment effective February 23, 2016, Rule G-33(b)(i)(B)(2) and, by reference, (b)(ii)(B)(2), provided that, for interest-bearing municipal securities with periodic interest payments and more than six months to redemption, dealers compute the dollar price or yield using a formula that accounted for the present value of all future coupon payments and a semi-annual payment of interest. The formula in Rule G-33(b)(i)(B)(2) now provides a more precise pricing calculation when computing yields and dollar prices on securities with periodic interest payments and more than one coupon payment to redemption. Under the amended pricing formula, rather than presuming a semi-annual interest payment, the formula requires factoring in the actual interest payment frequency of the security (*e.g.*, monthly, quarterly or annually).

The compliance date for Rule G-33, as amended, is July 18, 2016.

Prior to July 18, 2016, a dealer will be deemed to be in compliance with Rules G-33(b)(i)(B)(2) and G-33(b)(ii)(B)(2) if calculating dollar price or yield for interest-bearing municipal securities with periodic interest payments and more than six months to redemption using the actual interest payment frequency rather than assuming a semi-annual payment. Beginning July 18, 2016, the compliance date for Rule G-33, as amended, all dealers will be required to factor in the actual interest payment frequency in calculating dollar price and yield for such securities.