PMA™ SECURITIES

MUNI BONDS 101

Premium Bonds After the Call Date

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Definition

When a bond prices with a coupon that is higher than the reoffering yield (or "yield") in any maturity after the first call date, that bond has 'premium after the call'. For example, a bond that matures in 15 years and is callable in 10 years prices with a coupon of 4.00% and yield of 3.00%. Since the coupon is higher than the yield (4.00% > 3.00%), this is a premium bond. And since it matures after the first call date, this bond has premium after the call.

Relevance

Premium bonds after the call date have a different pricing convention in the market than do premium bonds that are noncallable. Bonds with premium after the call are priced using the assumption that they will be called at the earliest call date. The same bond – if sold as noncallable – would instead be priced to its maturity. This difference affects the amount of proceeds an issuer receives from the bond. Table 1 illustrates how an example $1mm premium bond with a 15 year maturity prices differently depending on the call provision:

PREMIUM BOND – 4% COUPON

Call	Maturity	Coupon	Yield	Price	Par	Proceeds
9 Year Call	15 yrs	4%	3%	107.84%	1mm	$1,078,360
10 Year Call	15 yrs	4%	3%	108.58%	1mm	$1,085,840
Noncallable	15 yrs	4%	3%	112.01%	1mm	$1,120,070

Table 1. Source: PMA Securities, LLC. 8/29/19

As shown in the Proceeds column of Table 1, an issuer will receive less in proceeds from a premium bond with an earlier call provision compared to a later call provision or to a noncallable bond. This effect is amplified by the amount of difference between the coupon and the yield. The larger the difference between the coupon and yield, the larger the difference in proceeds is between the call provisions. Table 2 increases the difference between the coupon and yield by using a 5.00% coupon instead of 4.00% while keeping the yield at 3.00%.

PREMIUM BOND – 5% COUPON

Call	Maturity	Coupon	Yield	Price	Par	Proceeds
9 Year Call	15 yrs	5%	3%	115.672%	1mm	$1,156,720
10 Year Call	15 yrs	5%	3%	117.168%	1mm	$1,171,680
Noncallable	15 yrs	5%	3%	124.015%	1mm	$1,240,150

Table 2. Source: PMA Securities, LLC. 8/29/19

Table 2 illustrates in the Proceeds column how the differences in proceeds between the call provisions are larger compared to Table 1 due to the larger difference between the coupon and yield. Conversely, as the difference between the coupon and yield shrinks, so does the difference in the amount of proceeds an issuer receives between call provision.

Considerations

Tables I and 2 illustrate that a premium bond after the call date, with all else being equal, will produce less proceeds for an issuer than a noncallable premium bond. However, that isn't the entire story. There are other considerations to factor in evaluating premium bonds after the call date.

CALL PROVISION

Determining an appropriate call provision based on an analysis of the costs, benefits, and needs of the issuer is a key consideration to the pricing of a bond. Some issuers may have reasons independent of the pricing impact to prefer an earlier call provision while other issuers may be more indifferent to the call provision.

COUPON ALTERNATIVES

The coupon alternatives are often not as simple as the examples shown in Tables I and 2. Generally, the coupon of a bond affects the yield that an investor is willing to accept. Usually, an investor is willing to accept a lower yield in exchange for a higher coupon. The call provision similarly may affect investor demand for a bond. Sometimes issuers require a minimum amount of premium to satisfy the project needs or statutory requirements. These and other factors should be analyzed to determine the appropriate coupon(s) an issuer should consider for a bond.

POTENTIAL VALUE OF FUTURE REFINANCING

An important component to the analysis for the call provision and coupon alternatives is the potential future benefit of a refinancing. Generally, an issuer pays a price today to have the ability to call a bond later. This is particularly true for a premium bond. The earlier the call date, the more an issuer pays for the call provision. This price is reflected in a higher True Interest Cost (TIC) associated with a premium callable bond relative to a par/discount bond even though a premium callable bond will likely have a lower yield. The TIC is a measure of the cost of a financing assuming the bonds are never refinanced, but instead, are held to maturity.

Therefore, it's important to consider the potential future benefit of a refinancing. The final repayment amount of a callable bond, whether premium or par/discount, is only truly known once it has either been refinanced at a new yield or paid off without exercising the call option. Consequently, a pertinent question to ask is whether a premium callable bond with a lower yield, but a higher TIC, will provide a lower overall cost of financing relative to a par/discount bond with a higher yield, but a lower TIC. This is particularly relevant given that, in a competitive sale, bonds are awarded to the winning bidder based on the lowest TIC.

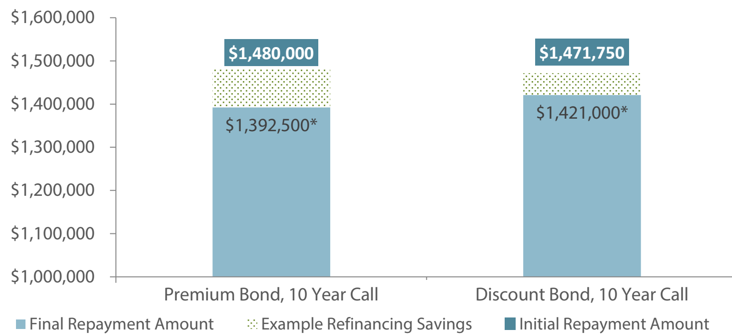
Table 3 and the accompanying chart compares the premium bond with a 10-year call option from Table 1 to a discount bond with the same 10-year call option in order to determine which bond structure provides the lowest overall cost of financing to the issuer, assuming both bonds are refinanced at 2.00% (which is a 1.00% improvement from the initial yield) on the call date. To complete the analysis, the initial and final repayment amounts for both bonds are compared to show how the issuer's preferred structure may change depending on future refinancing assumptions.

PREMIUM & DISCOUNT BOND COMPARISON

Call	Coupon	Yield	True Interest Cost (TIC)	Initial Repayment	After Refinancing at 2% Combined TIC	After Refinancing at 2% Final Repayment
PREMIUM 10 Year Call	4%	3.0%	3.27%	$1,480,000	2.75%	$1,392,500
DISCOUNT 10 Year Call	3%	3.1%	3.10%	$1,471,750	2.81%	$1,421,000

Table 3. Source: PMA Securities, LLC. 8/29/19

REPAYMENT COMPARISON – INITIAL VS. FINAL (IF REFINANCED)*



*Assumes bond is refinanced at a yield 1.00% lower than initial level for illustrative purposes only. Future savings from refinancing are not guaranteed and cannot be predicted with certainty. Source: PMA Securities, LLC. 8/29/19

While future interest rates cannot be predicted, and therefore savings from a future refinancing cannot be guaranteed, the comparison in Table 3 shows how the final repayment could be lower with a premium callable bond than with a par/discount callable bond. However, the initial repayment is higher for the premium callable bond, and if the future yield at the call date is not low enough, the premium callable bond would not be refinanced and savings would not be realized. If the future refinancing never materializes, the final repayment would be higher for the premium callable bond.

Conclusion

Whether or not an issuer should structure a debt issuance with premium bonds or par/discount bonds after the call date is a complex question. Only after analyses of the issuer's existing debt profile, current and future financial needs, and risk tolerance are considered and coupled with current market data can an informed decision be made. There are ongoing discussions in the market and scientific research about how issuers could potentially improve the evaluation of various coupon and call provision scenarios. The very fragmented nature of the municipal market – where no two issuers are the same – have made consensus for any new standard difficult. For now, the best approach is to consult with experts like your financial advisor.

Next Edition Muni Bonds 101:

Coupon, Arbitrage Yield, TIC and AIC– What's the Difference?

If you have questions or would like to discuss the impact of a premium bond structure in more detail, please contact any of PMA's Public Finance advisors below.

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