Memo : The Importance of 5% Coupon Bonds in Rising Rate Environments

By Brent Sheehan, Summer 2021

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BACKGROUND

Bond selection is essential to portfolio construction in municipals. Unlike equities, where the decision is often binary, "I like APPLE stock or I don't," the choice of which bond to purchase (or sell) is more complicated. A typical municipal bond may have thirty distinct CUSIPS of varying maturity, price, yield, coupon and/or call schedule. The collection of these "structural" differences between and among different municipal bonds impacts liquidity and value.

In the Research section of our website (https://www.16thadvisors.com/research), we have White Papers on municipal bonds and many of their nuances. For example, we discuss the many different types of municipal Bond Sectors, as well as discussing the difference between Par, Discount and Premium bonds, to name two examples. With the recent attention in the market regarding the potential for inflation and rising rates, discussing coupon structure is timely.

Investors familiar with 16th Amendment will undoubtedly have heard us mention the benefits of 5% coupon bonds over other structures in the market (i.e., 3% or 4%). Among the reasons we often cite are the i) liquidity and ii) how 5% coupon bonds react in periods of rising rates. That is, they tend to be defensive.

With this White Paper, we profile three municipal bonds with similar maturities (roughly 2041) and ratings (AA/AAA) but have different coupons, 3%, 4% and 5%.

For purposes of the analysis, we provide two impact or shock scenarios. The first is an overnight shock where interest rates rise by 25, 50 and 100 basis points. The second uses the same shock levels but allow for a one-year time horizon which incorporates the reinvestment of coupons and bond amortization.

BOND	AZLE TEX INDPT SCH DIST	KING CNTY WASH	MASSACHUSETTS (COMMONWEALTH OF)
CUSIP	054789YC0	49474FYT1	57582RWU6
Coupon	**3%**	**4%**	**5%**
Stated Maturity	2/15/41	12/1/41	5/1/42
Effective Maturity	2/15/30	12/1/31	5/1/29
Yrs to Stated Maturity	19.52	20.31	20.73
Moody's Rating	Aaa	Aaa	Aa1
S&P Rating	NA	AAA	AA
Price	$110.24	$124.25	$127.94
Yield	1.70	1.46	1.21

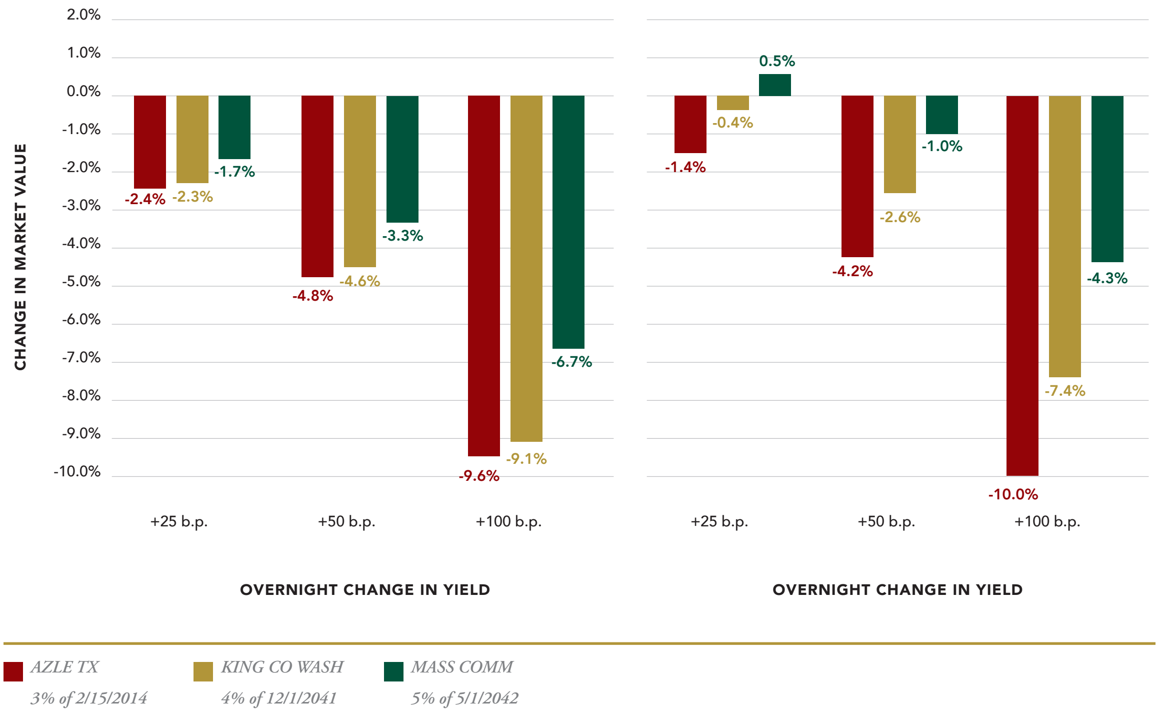
Source - Overnight shock is Clearwater Analytics. One Year Shock is Trade Web and includes reinvestment of coupon

SHOCK ANALYSIS - OVERNIGHT

Market to Market Loss on Bond for Given Rise in Rates

SHOCK ANALYSIS - ONE YEAR

Change in Market Value for Given Rise in Rates



SHOCK ANALYSIS – OVERNIGHT

The impact of the overnight interest rate shock is pretty evident. The price/market value change on the 5% coupon bond is significantly less than the 3% and 4%. Hence a portfolio of 5% coupon bonds is more defensive when rates rise.

SHOCK ANALYSIS – ONE YEAR TIME HORIZON

This analysis is useful in that it incorporates the coupon reinvestment and price amortization. The impact of the coupon certainly has a dampening effect on the market value of the bond at the end of year one, while the amortization reduces the bonds value slightly. The actual percentage differences are more meaningful in this scenario. For example, with a 50 b.p. change, the 5% coupon bond loses roughly 1%, while the 3% loses more than 4% in value.

ADDITIONAL CONSIDERATIONS – DE MINIMIS

The above analysis does not include any provision or impact from spread widening that will likely occur due to market discount and de minimis under certain conditions. We discussed this arcane topic in our White Paper ("Understanding Market Discount and De Minimis" which can be found on our website (https://www.16thadvisors.com/research/).

With respect to the three bonds considered here, the 3% coupon bond is will reach this threshold first, at about a 150 b.p. rise in rates. When the bond price passes through par and trades at a discount, any difference between the accreted value on the bond and the purchase price is treated as ordinary income, not capital gains. To compensate for this incremental future tax consequence, traders widen their bids. This tends to have a downward spiral effect on such bonds. Hence, it is best to avoid such bonds in a portfolio.

CONCLUSION

The municipal bond market is complex. Bond selection matters a lot. To this end, understanding what bonds to buy and not to buy can have a meaningful impact on one's portfolio. As outlined above, coupon selection is an important consideration that needs attention. In our view, bonds with 5% coupon structures are superior to 4% and 3%.

As part of our White Glove service, we can provide a shock analysis for your third-party managed portfolio. Please reach out to us should you have any questions.