September 2019 Muni Market Monthly Review – "What Coupon of Choice?"

The anticipated back up in yields finally occurred, after munis reached all-time lows during the first week of September. Muni yields increased in line with taxables roughly 20 to 17 bps. Going forward, muni technicals are turning weak*. If you add in some potential adverse political and credit news, there could be an investment opportunity between now and year-end.* It is worth holding cash at this time, as the 7-day floating rate is ranging from 1.30% to 1.50%, roughly the same as the 5-year fixed rate muni.

This month, in our credit review, we look at another round of MainLine's *"which coupon is best for you"* study. During the month of September, the muni market hit all-time low yields before selling off. MainLine feels this would be a good time to review coupon performance. It is a time-series analysis on OAS (Option Adjusted Spread) and total return results for +5%, 4%, and +3% coupon bonds over six-month and life-to-date periods. Which type of investor are you? We know the coupon that fits.

Muni Market Review

Munis finally sold off during September, after hitting all time low yields during the first week. Yields increased in line with taxables, resulting no real change in relative value between taxables and tax-exempts. Highlights as follows:

- Muni yields increased from 20 to 17 bps, roughly no change in steepness.
- Taxable yields increased from 20 to 17 bps, same as munis with no real change in steepness.
- Supply continues to increase and should continue to outpace 2018 as issuers are finding low borrowing costs.
    - 2019 year-to-date versus 2018 is up 8.9%
    - 2019 year-to-date versus the last five-year average is down 9.4%
- Year-to-date returns using the Barclays Indices shows the following:
    - Muni Bond Index 6.82% (no adjustments for tax)
    - US Treasury Index 7.94%
    - US Corporate Index 13.42%
    - US Mortgage Back Securities 5.68%

We are prepared to invest customer cash balances and start Fund VI between now and year-end, as we think there could be some opportunities as supply continues to increase, fund inflows continue to slowdown, and politics/credit news could cause some alarm.

Market News and Credit Update

The Pew Charitable Trust June 2019 report summarizing state pension funding levels highlights that "good" states are getting better, and "bad" states are getting worse. There are 10 states with funding ratios averaging 95% and improving. 20 states are getting worse, as they are now at 56% after being at 76% in 2007. Overall, the 50 states pension gap remains at roughly $1 trillion. MainLine see this problem as a long-term one for the 20 states, but it is a concern that it is worsening and could become a bigger problem sooner.

A trend we highlighted in the 2019 Outlook is picking up speed. **Investors are moving from mutual funds to professionally separately managed accounts (SMA)**. Since 2008, SMA assets have grown over $100 billion and are now sitting at $593 billion, twice the growth of mutual funds that are now at $694 billion. How long until the assets in SMA's surpass the assets in inefficient mutual funds?

New banking regulations, lower issuance volume, and lower spreads has **the municipal underwriting community shrinking.** This year there are 101 firms, down from 152 in 2010. Not only are the number of underwriters down, but the concentration among the top dealers is going up. The top 10 firms now underwrite roughly 75% of issuance, up from 70% in 2010, and costs dropped from $6.26 for every 1,000 bonds to $4.95. *This means MainLine customers are receiving more efficient institutional pricing now versus 2010 as we transact over 80% of our business in the new issue market.*

Mid-month, the repo market exhibited some hostile behavior with overnight rates spiking to 10% and finishing the day at 4%. For two consecutive days, the Federal Reserve Bank had to step in to calm things down. How did this happen? What does it mean?

- *Due to its timing, we believe this was a warning to the Fed that was exaggerated.* The corporate tax date of 9/15 was ill timed with inflated dealer balance sheets, as well as, the settling of corporate and Treasury securities.
- *The increased volatility of moves should be of concern.* It reflects that there may not be enough liquidity in the system to meet with money market fund needs. It makes one wonder if there is potential for another liquidity crisis in the future if the Fed does not figure it out. The Fed will need to slow its efforts to shrink its balance sheet and possibly undertake another quantitative easing.

What is Your Coupon of Choice?

After reaching all-time lows in muni yields in early September, MainLine thought this might be a good time to update our coupon performance analysis. ***Since the last review in August 2018, long-term municipal yields have decreased roughly 120 bps.*** We wondered if this would change how we view the almighty coupon and its performance traits.

We first published this analysis in our monthly review for October 2015. Since that time, our objectives for this study have remained the same:

- Which coupon prices cheaper using OAS (Option Adjusted Spread) analysis, and how does this affect the bond's return?
- Which coupon shows the best return in the short-run (6 months) as it gets acclimated to the market, and which coupon preforms the best over the long-term (life of bond)?

Refreshing the Background Data:
We understand investors have different investment objectives and, for some of them, this includes coupon preference. For this study, assuming the investors does not have a coupon preference, we step back to look at how the coupon affects the bond's return. From there, we identify which coupon fits which type of investor. We continue to age the same bonds from the first study, as we believe a time series analysis comparing the total returns and OAS's (see appendix for description of this analysis) on different coupon bonds from the same issuer, with roughly the same maturities, is the only way to see the performance characteristics of a coupon. Yet, we also add in new ones each year to capture different markets and see how that may influence the data.

Data Review:
Below are charts for three different analysis dates with the findings for bonds we started tracking in the spring of 2015 until September 9, 2019. There are now 76 bonds in the database with the following coupon distribution:

- 34 of them 5% coupon or greater
- 28 of them 4% coupon
- 14 of them 3% to 3.75% coupons

Chart #1 shows the change in OAS and total return for the life to date of the bond. This shows the long-term performance of the coupon. Charts from the analysis in October 2017, August 2018 and September 2019 are presented for comparison purposes:

Chart #1 – Life of Bond September 2019					
Cpn	Purch Yield	Beginning OAS	Current OAS	OAS Change	Total Return as of 9/09/19
5% or greater Cpn	3.23%	101	61	-40	6.99%
4% Cpn	3.44%	95	56	-39	8.52%
3% to 3 5/8% Coupon	3.43%	76	44	-33	9.24%

Chart #1 – Life of Bond August 2018					
Cpn	Purch Yield	Beginning OAS	Current OAS	OAS Change	Total Return as of 8/15/18
5% or greater Cpn	3.24%	107	75	-32	3.16%
4% Cpn	3.30%	99	69	-30	2.74%
3% to 3 5/8% Coupon	3.36%	79	68	-11	-.53%

Chart #1 –Life of Bond October 2017					
Cpn	Purch Yield	Beginning OAS	Current OAS	OAS Change	Total Return as of 9/29/17
5% or greater Cpn	3.29%	112	97	-15	4.53%
4% Cpn	3.51%	104	88	-16	4.40%
3% to 3 5/8% Coupon	3.61%	89	88	-1	1.10%

Chart #1 Observations – Buy, Hold and earn the Coupon over the Life of the Bond:

Over time, *OAS is cheapest for 5% coupons, and has outperformed two out of three times. 3% coupon remains the "richest" and poorest performing OAS bonds.* Hypothetically, if these bonds all mature or are called at the same time, the 5% coupon will provide the best performance over the life of the bond. (The one big "hypothetical" is that all bonds are called at the same time.)

Total return analysis in the latest data shows the 3% coupon being the best. This is due to the large decrease in yields and the longer duration and lower beginning price for the "discount" 3%. This caused price performance to be stronger than coupon or OAS performance.

Chart #2 shows the same bonds, but the change in OAS and total returns for just the first six months after issuance. Once again, I have included the October 2017, August 2018 and September 2019 analysis results.

Chart #2 - First 6 Month Horizon September 2019				
Coupon	Beginning OAS	Current OAS	OAS Change	Total Return
5% or greater Coupon	101	99	-2	6.21%
4% Cpn	95	89	-5	6.22%
3% to 3 5/8% Coupon	76	90	13	3.17%

Chart #2 - First 6 Month Horizon August 2018				
Coupon	Beginning OAS	Current OAS	OAS Change	Total Return
5% or greater Coupon	107	106	-1	5.19%
4% Cpn	99	94	-5	6.39%
3% to 3 5/8% Coupon	79	90	11	-3.18%

Chart #2 - First 6 Month Horizon October 2017				
Coupon	Beginning OAS	Current OAS	OAS Change	Total Return
5% or greater Coupon	112	97	-15	4.53%
4% Cpn	104	88	-16	4.40%
3% to 3 5/8% Coupon	89	88	-1	1.10%

Observations: 6 Month Results – Actively Managing the Coupon:

- OAS outperformance by the 4% coupon has been consistent for all three studies, while 3% coupon showing strong underperformance traits.
- Total return leans towards the 4% coupon outperforming two out of the tree time periods examined.
- The 4% coupon continues to appear to be the best vehicle for short-term trading in the muni market. The additional yield you get versus the 5%, the better OAS characteristics versus the 3%, has the market underprice these coupons at issuance and once they work their way through the muni retail food chain provide better short-term returns.

Conclusions:

5% coupons *consistently priced cheaper on an OAS basis than 4% or 3% coupons and it appears, over time, and depending on when the different coupons are called, should be the top performer over the life of the bond.* ***5% coupons remain our pick for a buy and hold strategy.***

4% coupons *show strong 6-month performance (as they are acclimated and marked-up in the market) but, as time goes by, it appears (over time) total return is not as strong as the higher coupon 5%.* Investors are rewarded at issuance with more yield on the 4% bond, but over time, this does not appear to be enough to offset the additional coupon of the 5% and its OAS/pricing performance. ***Our pick for a short-term total return trading strategy remains the 4% coupon.***

3% coupons *price the richest on an OAS basis, and appears to be the most volatile performer.* ***This coupon is our pick to trade, as it falls in and out of favor.*** It would have been a great performer over the last 12 months with the sharp drop in rates. If rates had gone up, it would have been the biggest under performer. ***These are the bonds you want to trade if you want to try to time the market.***

We understand that this study is not all-inclusive and there are many factors that can influence a bond's return. It is intended to be more of a point of discussion and not our way of telling you our investor ***"what is your best coupon".***

Appendix:

Option Adjusted Spread Analysis (OAS):

OAS is a common analysis that allows fixed income managers to price the value of a bond after adjusting for the probability it being called. It uses an option-based pricing model to calculate the value of the call risk in basis points. More specifically, it identifies the basis point spread a bond is earning beyond an AAA non-callable bond (with the same maturity) after taking out the cost of call. Another way to look at it is to view it as the credit spread of the bond versus an AAA-rated bond. The higher the OAS, the more yield being earned by the investor that can be associated with credit risk and not call risk. Therefore, in analyzing two bonds from the same issuer, the OAS (credit risk) should theoretically be the same. If the OAS is different between bonds, then an investor can assume the value of the call risk between the two bonds has been priced incorrectly. When comparing two bonds, the bond with the higher OAS is considered the cheaper bond (more basis points of income for the same credit risk).