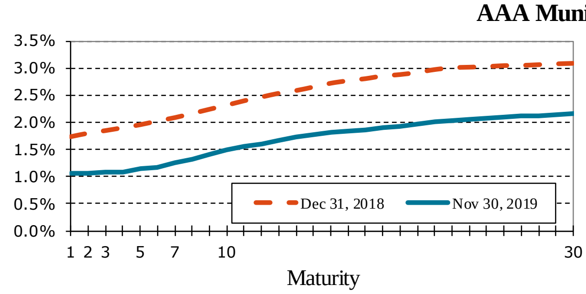
Baird Advisors
Municipal Fixed Income Market Commentary
2019 – Year in Review

Strong Finish to a Strong Year for Municipals

By all measures, 2019 was a good year for the municipal market and a rewarding year for investors, particularly those who sought a higher level of interest rate and/or credit risk. Credit spreads narrowed as investors searched for yield in lower-quality bonds. Most noteworthy this year, however, was the impressive decline in yields led by the long end of the curve. For the year, AAA tax-free yields fell 74, 84, and 94 bps, respectively, in the 2yr, 10yr and 30yr maturities. As a result, the tax-free curve flattened by 20 bps between 2–30 years, although it steepened modestly in Q4 as short rates fell and long rates rose. Even more impressive this year was that tax-free yields fell more than Treasury yields at all points along the curve even with the downward pressure on global sovereign yields from powerful macro forces, including: slowing global growth, US/China trade tensions and the pivot by the Fed to an easing mode. Broadly speaking, fixed income assets benefited this year from strong demand, driven to a large extent by the supportive demographics of an aging society in need of income. Beyond this, the municipal market continued to benefit from the passage of the Tax Cuts and Jobs Act (TCJA) in December 2017. The capping of state and local deductions at $10,000 for individuals, particularly those in high-tax states, continued to drive demand for tax-exempt securities. Municipal funds/ETFs had consistently positive flows this year, with $94B of inflows, easily surpassing the previous record of $79B in 2009. Complementing the strong demand was impressive growth in municipal issuance, which rose 22% YoY. Tax-free borrowings rose 12% YoY, nearly all of which was for new money projects, but the real surprise was the significant increase in taxable municipal debt. For the full year, taxable issuance rose $38B, a 115% YoY increase. The taxable supply was both the highest nominal amount ($70B) and the highest percentage of total municipal issuance (17%) in any year since the Build America Bond (BAB) program ended in 2010. The rise in taxable issuance can also be tied back to the TCJA, which eliminated tax-exempt advance refundings. Low nominal rates allowed municipalities to refund tax-free debt with taxable debt, while still realizing interest savings. The rise in taxable supply brought welcomed renewed interest from banks and insurers, many of which had pulled back from the market when corporate tax rates fell to 21%.

AAA Municipal Yields

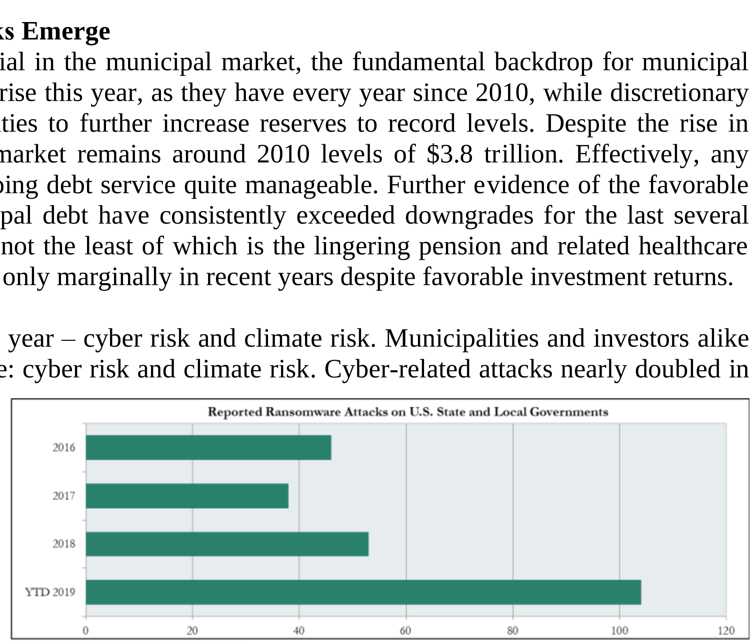


Maturity	12/31/18	9/30/19	11/30/19	12/31/19	1Mo Chg	Q4	YTD
1	1.74%	1.27%	1.10%	1.06%	-0.04%	-0.21%	-0.68%
2	1.80%	1.27%	1.10%	1.06%	-0.04%	-0.21%	-0.74%
3	1.85%	1.27%	1.11%	1.07%	-0.04%	-0.20%	-0.78%
5	1.96%	1.28%	1.17%	1.14%	-0.03%	-0.14%	-0.82%
7	2.09%	1.32%	1.28%	1.25%	-0.03%	-0.07%	-0.84%
10	2.32%	1.47%	1.50%	1.48%	-0.02%	0.01%	-0.84%
30	3.09%	2.11%	2.13%	2.15%	0.02%	0.04%	-0.94%

Strong Municipal Credit Backdrop Even as "New" Risks Emerge

Taking nothing from the bottom-up analysis that is essential in the municipal market, the fundamental backdrop for municipal credit currently is quite strong. Tax revenues continued to rise this year, as they have every year since 2010, while discretionary spending increases remained modest, allowing municipalities to further increase reserves to record levels. Despite the rise in supply in 2019, total outstanding debt in the municipal market remains around 2010 levels of $3.8 trillion. Effectively, any newly-issued supply replaced debt that was maturing, keeping debt service quite manageable. Further evidence of the favorable credit backdrop is that rating agency upgrades for municipal debt have consistently exceeded downgrades for the last several years. Yet, long-term municipal credit challenges remain, not the least of which is the lingering pension and related healthcare liabilities. Unfortunately, plan funding status has improved only marginally in recent years despite favorable investment returns.

That said, two relatively new risks rose in prominence this year – cyber risk and climate risk. Municipalities and investors alike should consider how each may impact valuations over time: cyber risk and climate risk. Cyber-related attacks nearly doubled in 2019; according to Recorded Future, 104 attacks were reported through mid-December, up from 53 in the prior year. School districts were the most frequent target (37) and Texas recorded the highest number of attacks (9) among all states, including one involving 22 local municipalities. Although federal authorities recommend that municipalities do not negotiate with cyber terrorists, some municipalities have determined that paying the ransom was their best, least costly option. Examples of



Source: Recorded Future as of December 18, 2019

ransoms paid this year were: Lake City, FL ($460,000), Riviera Beach, FL ($600,000), Jackson County, Georgia ($400,000). Baltimore opted not to pay the $80,000 demanded in cryptocurrency, which ultimately cost the city an estimated $18.2 million (out of a $3.5B budget) to restore systems and regain lost revenue. Municipalities should be monitored as to their regular implementation of software updates as well as the resources set aside for IT and the training of their workforce.

While certainly less frequent than cyber-attacks, the costs and potentially longer-lasting credit impact of a climate-related event can be much larger. According to The Bond Buyer, flood-related disasters alone have cost the U.S. more than $845B since 2000 and the recent devastation from wildfires in California illustrate the potential risk from drought-related events. The financial support that a community/region has received after a natural disaster in the past, from federal, state and private insurance sources, has often fully covered the costs incurred. Although bond prices of municipalities impacted may have suffered price volatility during and after an event, bondholders have rarely suffered a financial loss. However, investors shouldn't assume that will always be the case. At some point, federal resources may be harder to secure and private insurance less available, leaving state and local governments to shoulder a greater share of the financial burden.

Because a climate-related event can occur at any time in virtually any location, an appropriate starting point for a climate risk evaluation is simply the relative strength of an individual credit. Financially strong municipalities, particularly those with broad and diverse tax/revenue support and, importantly, that have taken steps to prepare for an event, should be better able to handle a shock than issuers with a weaker, more narrowly focused revenue stream. Beyond this, it's important to simply acknowledge that certain municipalities have a higher probability of a climate-related event than others. According to the National Oceanic and Atmospheric Administration, of the 292 hurricanes that struck the U.S. between 1851 and 2018, 40% (120) hit Florida, followed by Texas with 22% (64). In contrast, a handful of other coastal Atlantic states, including Maryland, Delaware, New Jersey and Pennsylvania combined, had only 9 direct hurricanes over the 167 year period. When considering "major" hurricanes only, those that caused the most damage, 88% struck Florida and/or Texas, warranting a higher level of climate-related analysis of the coastal communities in those two states. Yet, currently there is very little difference in how credits in coastal Florida or Texas trade relative to other inland issuers. We expect the market awareness of climate-related risks to grow over time, bringing greater disparity to trading levels, but at the same time more efficiency given the perceived risks.

Modest Quarterly Returns but Strong Annual Returns in 2019

The fourth quarter saw a modest rise in intermediate and long-term yields, but returns were still positive in Q4, adding to the strong full year results. 2019 was a year in which risk-seeking strategies were well rewarded. For the year, long maturities (10.26%) handily outperformed the short (3.66%) and intermediate (6.44%) curve segments as rates fell and the tax-free yield curve flattened. Lower-quality credits also outperformed higher-quality issues for the quarter and full year. For example, returns on BBBs (9.94%) and High Yield municipals (10.68%) provided 321 bps and 395 bps of outperformance, respectively, over AAAs (6.73%) over the year. There was little difference in performance between the Revenue and General Obligation sectors, while the Prerefunded sector lagged these two by a wide margin, due primarily to its shorter average duration.

Total Returns of Selected Barclays Municipal Indices and Subsectors

Bloomberg Barclays Index/Sector	December	Q4	YTD	Bloomberg Barclays Quality	December	Q4	YTD
Municipal Bond Index	0.31%	0.74%	7.54%	AAA	0.26%	0.72%	6.73%
General Obligation bonds	0.33%	0.81%	7.30%	AA	0.28%	0.71%	7.12%
Revenue bonds	0.31%	0.71%	7.93%	A	0.31%	0.71%	8.10%
Prerefunded bonds	0.15%	0.73%	3.55%	BBB	0.49%	1.02%	9.94%
Long maturities (22+ yrs.)	0.26%	0.54%	10.26%	High Yield	0.30%	0.90%	10.68%
Intermediate maturities (1 - 17 yrs.)	0.32%	0.81%	6.44%	HY, ex-Puerto Rico	0.23%	0.84%	9.68%
Short maturities (1 - 5 yrs.)	0.21%	0.84%	3.66%				

2020 Outlook

In 2020 we expect a continuation of many of the favorable themes that supported the municipal market in 2019. Although rates are unlikely to continue on the same downward path, the outlook for the Fed is a stable, if not accommodative, policy stance in the new year. In addition, the technical backdrop for the municipal market remains favorable with supply expected to rise modestly (although this is dependent upon rates remaining low) and strong demand. Between the cash available from bonds rolling off due to maturities or calls, plus new money flows, there should be little trouble absorbing anticipated supply in 2020. It's possible that as much as 25% of total municipal issuance comes in the taxable sector, where demand is nearly unlimited given the size and breadth of the taxable fixed income markets. If so, the YoY growth in tax-exempt debt should be very modest. The economic backdrop also remains favorable as the record-long expansion is expected to continue for what will be its twelfth year by mid-2020, with recession concerns fading. The economic outlook, therefore, remains supportive for municipal credits for the foreseeable future, although credit spreads largely reflect this favorable view, leaving little room for error or further tightening. We continue to believe that an up-in-quality focus is the most appropriate posture, even as we look for select bottom-up opportunities. Beyond select credit opportunities, we anticipate structural opportunities will continue to provide yield enhancement strategies. The Housing sector, in particular, will remain a common overweight allocation. While it has higher average quality benefit, it offers additional yield beyond a traditional structure due to cash flow variability. 2020 is also an election year, which may provide heightened volatility for municipals as tax policies come into greater focus, as could the Healthcare sector, if meaningful changes are anticipated.

Disclosures

Fixed income is generally considered to be a more conservative investment than stocks, but bonds and other fixed income investments still carry a variety of risks such as interest rate risk, credit risk, inflation risk, and liquidity risk. In a rising interest rate environment, the value of fixed-income securities generally decline and conversely, in a falling interest rate environment, the value of fixed-income securities generally increase. High yield securities may be subject to heightened market, interest rate or credit risk and should not be purchased solely because of the stated yield.

The Bloomberg Barclays Municipal Bond Index is a broad-based, total-return index. The bonds are all investment-grade, tax-exempt, and fixed-rate securities with long-term maturities (greater than 2 years). They are selected from issues larger than $50 million. The components listed below the Municipal Bond Index (long maturities, intermediate maturities, short maturities, prefunded bonds, general obligation bonds and revenue bonds) are subsectors of the Bloomberg Barclays Municipal Bond Index and do not represent separate indices.

The Bloomberg Barclays High Yield Municipal Index includes bonds with a par value of at least $3 million and must be issued as part of a transaction of at least $20 million. The maximum rating for inclusion is Ba1/BB+/BB+ using the middle rating.

For more information about the Bloomberg Barclays Municipal Bond Index or Bloomberg Barclays High Yield Municipal Index, please visit https://index.barcap.com/Home/Guides_and_Factsheets.

Municipal securities investments are not appropriate for all investors, especially those taxed at lower rates. The alternative minimum tax (AMT) may be applicable, even for securities identified as tax exempt. Past performance is not a guarantee of future results.

Ratings are measured on a scale that ranges from AAA or Aaa (highest) to D or C (lowest). Investment grade investments are those rated from highest down to BBB- or Baa3.