

2022 Recap and 2023 Outlook of the Investment Market

December 2022





The municipal landscape today

Putham

Municipal market overview

We believe municipal bonds are a valuable part of a diversified portfolio and important for long-term investors in need of tax-free income, but municipal bonds are not immune to bouts of volatility.

Fundamentals

- Fundamentals continue to be favorable as unprecedented Federal support during Covid-19 & strong U.S. economic growth have aided Muni credit.
- State & local tax receipts are up +18% year-over-year (as of July 2022).
 "Rainy Day Funds" are at 11% of revenues, which is the highest point in 30 years.
- Even during recessions, state & local tax revenue performance is resilient, and the sector is better positioned for a recession than they have been in previous economic cycles due to unprecedented levels of reserves.
- Although pension funding will likely fall in 2022 due to capital market returns, most large public pensions entered 2022 in the best fiscal shape in over 10 years.
- Muni defaults continue to run below average in 2022 and remain a very small % of the market

Technicals

- YTD, Muni market technicals are negative for both HY and IG. Outflows have dominated thus far as over \$115bn has exited muni mutual funds.
- We continue to think stabilization of U.S. Treasury rates and reduced outflows will improve market returns.
- At the beginning of December, new issue supply was -18% Y/Y. Tax exempt supply was down 9% Y/Y while taxable muni supply was -53% Y/Y.
- Overall market sentiment has been negatively impacted by very weak Muni Index returns (-8% as of 12/9/22), elevated inflation, and markets pricing in an aggressive Fed in 2022.
- Seasonals are constructive as we move into winter and reinvestment flows should outpace issuance.
- Strong muni market technicals in 2020 and 2021 allowed for refinancing of higher cost debt, aiding muni borrowers.

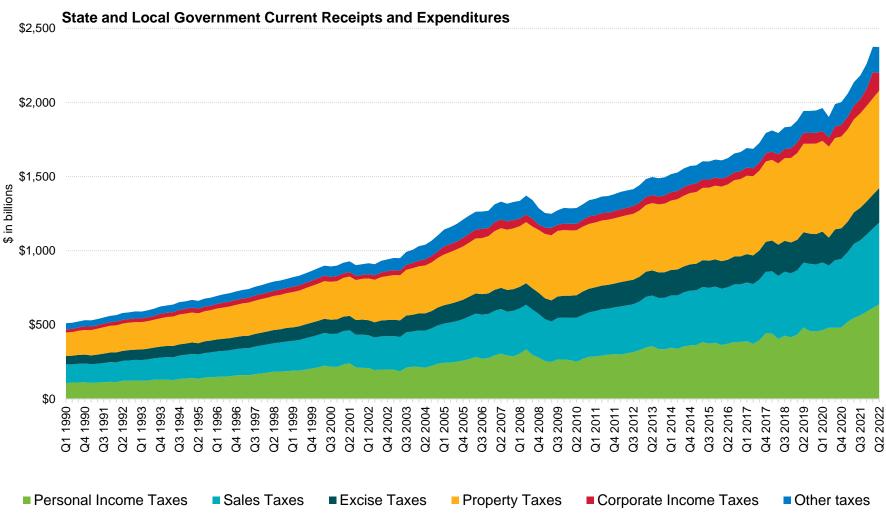
Valuation

- 10yr AAA Muni/UST ratios, a commonly used valuation metric, are neutral/slightly rich on a longer-term basis. While 30yr AAA ratios are neutral/slightly cheap at 97% as of 12/9/22.
- AAA Muni/UST ratios don't tell the entire story as credit spreads, even for highly rated AA bonds, have widened during 2022. We feel AA-BBB continue to represent the best opportunities in the Muni market.
- Muni index yield has risen 231bps YTD to 3.42% (as of 12/9/22).
- Muni index taxable equivalent yield is at 5.78% (as of 12/9/22) – it was at its highest point in 10 years in October.
- Muni credit spreads have widened 54-119bps (most in HY) YTD. We believe this spread widening is due primarily to negative market technicals and not a deterioration of muni credit fundamentals.

As of December 12, 2022.



State and local tax receipts are up 18% year-over-year, and "Rainy Day Funds" are currently at 11% of revenues, which is the highest point in the last 30 years

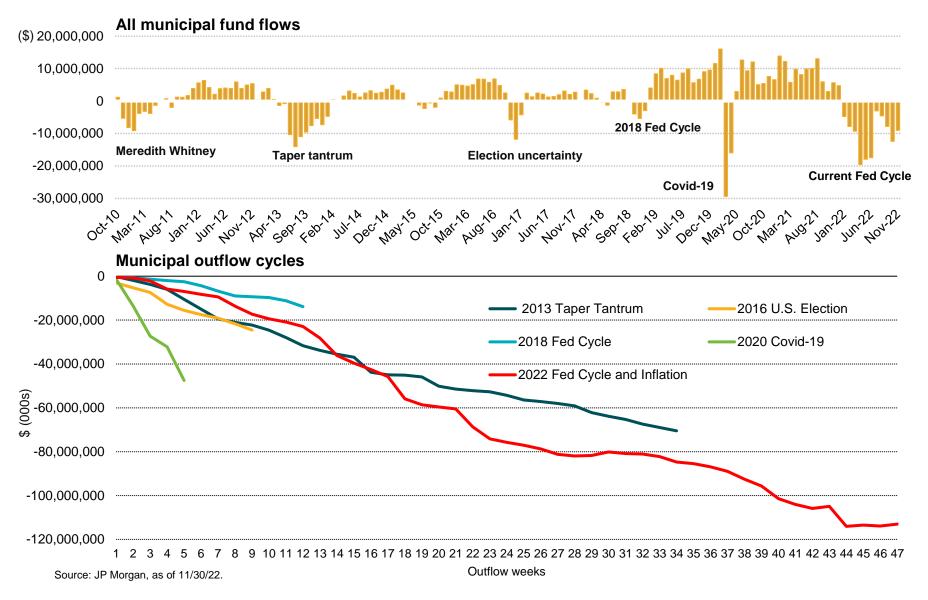


Sources: Bureau of Economic Analysis, Putnam, as of 9/1/22.



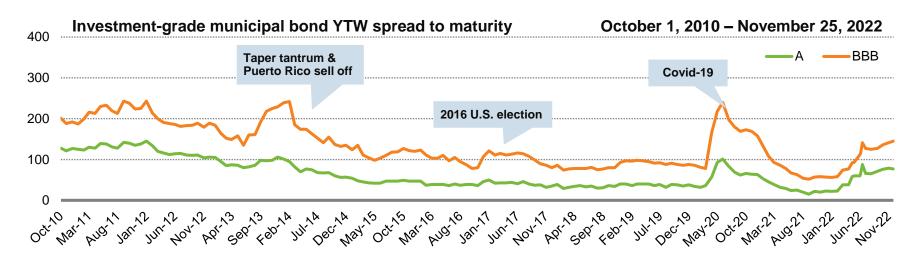
^{*}Seasonally adjusted at annual rates

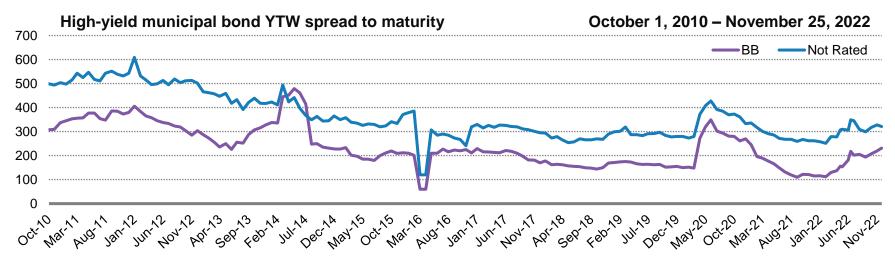
Municipal mutual fund flows are the worst year on record as outflows have dominated the market so far this year





Municipal credit spreads have widened during the sell-off as rates have risen

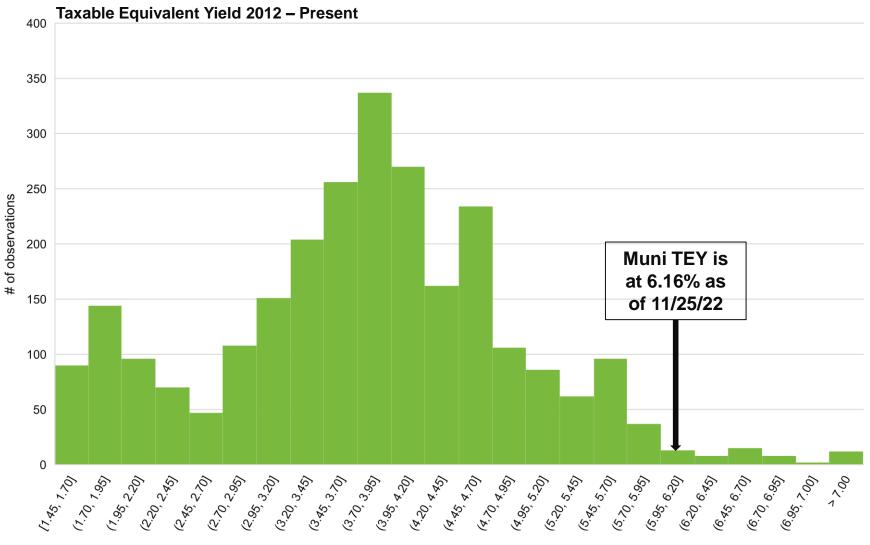




Source: Putnam, as of 11/25/22.



Muni Taxable Equivalent Yield (TEY) is currently at one of the more attractive levels compared to TEY over the last 10 years



Muni TEY % at 40.8% tax rate

Sources: Bloomberg, Putnam 11/25/22.



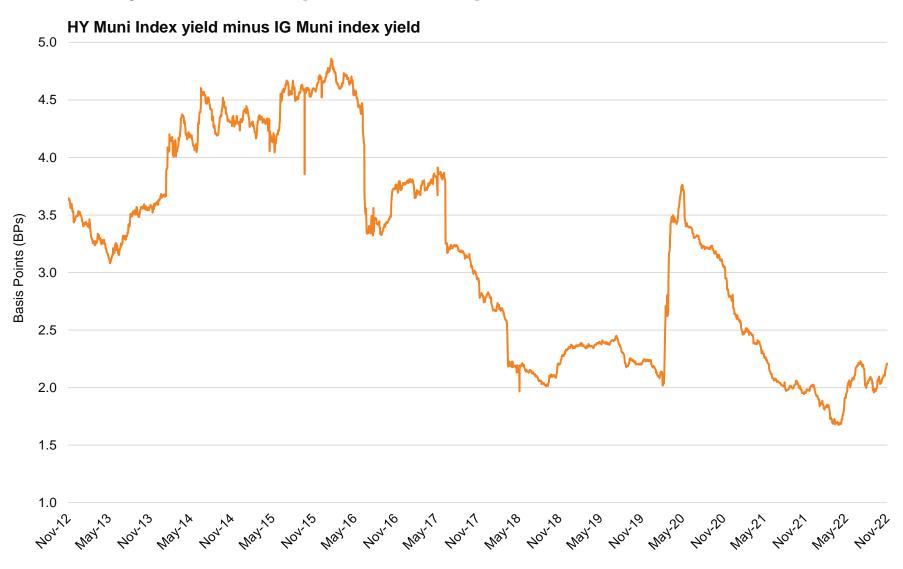
Muni Taxable Equivalent Yield (TEY) has reached its highest point in the last 10 years during this sell-off



Sources: Bloomberg, Putnam 11/25/22.



As Muni credit spreads have widened this year, IG spreads remain relatively narrow compared to HY spreads



Sources: Bloomberg, Putnam, as of 11/25/22.



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