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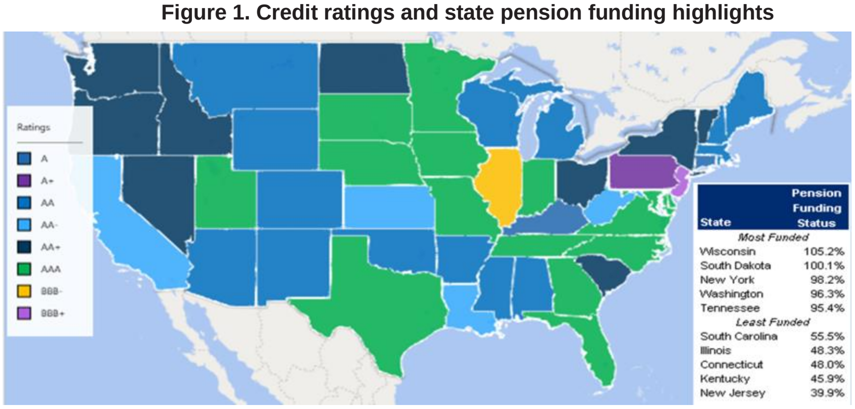
North America Investment Strategy: Muni Watch

- Year-to-date, Municipal bonds have returned 2.1%, with strong flows and improving state budget estimates (Figures 17-19). Leadership has come from airports, transportation, and hospital bonds, A-rated or lower issues, and longer-duration 12+ year maturities (Figure 14).
- Muni yields and ratios versus Treasuries are historically low (Figures 2-5). This is where patience is advised. Even if yields rise and ratios mean revert, on a rolling 60-month basis, Municipal bonds have an admirable record of positive performance (Figure 7).
- Short-term, cash coming to investors from bond maturities and redemptions should exceed new issuance and returns have been robust in the summer months (Figures 10).
- Municipal issues finance hospitals, education, clean water, low-income housing, public transit, renewable energy and more. ESG investors should also note that a study of $23 billion in new issuance found that green and non-green bonds priced to identical yields.

Figure 1. Credit ratings and state pension funding highlights



Source: Equable Institute and S&P as of Dec 31, 2020

Figure 2: Muni yield ratios, by tenor

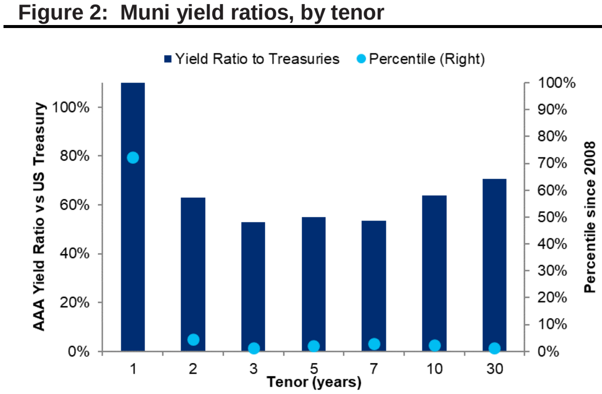
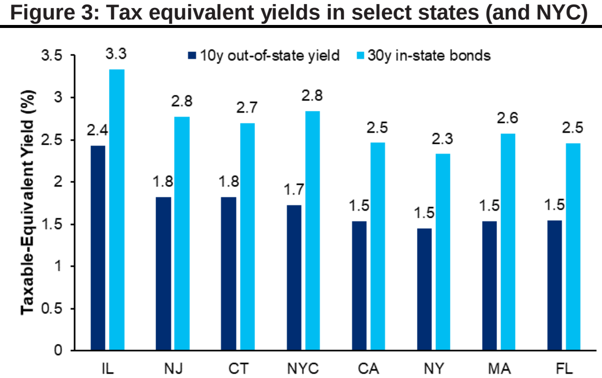


Figure 3: Tax equivalent yields in select states (and NYC)



Source: Bloomberg as of July 12, 2021. Note: Tax equivalent yields adjust for top Federal and Affordable Care Act tax rate (40.8%), as well as state income tax rates for each state yield. Past performance is no guarantee of future returns. Real results may vary.

Performance and Opportunities

Municipals have returned 2.0% year-to-date with strong flows and improving state budget estimates (Figures 17-19). Leadership has come from longer-duration 12+ year maturities, A-rated or lower bonds, and airport, transportation, and hospital bonds. Still, we believe the rest of 2021 will be a more challenging return environment than 2020, when Municipal bonds returned 5.3%. Municipals have a nominal index yield just under 1% and historically low yield ratios versus Treasury issues (Figures 2-5).

This is where a long-term perspective and patience can prove helpful. In the event Treasury yields drift higher and Muni yield ratios eventually mean revert, bonds will eventually mature and be replaced with new ones carrying higher yields. On a rolling 60-month basis, Municipals have an admirable record of posting positive returns while generating income (Figure 7). Past performance is not a guarantee of future results.

Short-term, Municipal bonds are more sensitive to swings in supply and demand than other areas of the bond market and this should provide some support. According to Bloomberg LLC on July 13, redemptions and maturities are estimated to total $24.5 billion in the next 30-days while municipalities plan to sell $10.2 billion in new bonds (Figure 6). In addition, summertime returns have historically been positive (Figures 10).

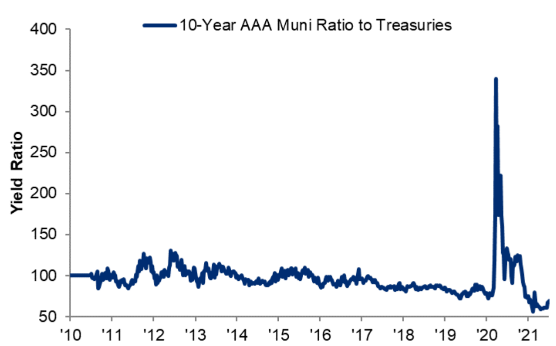
Following the $1.9 trillion COVID relief package that allocated $350 billion to states and localities earlier this year, the Biden administration is still negotiating with Congress to pass an infrastructure plan that provides further funding for the maintenance and improvement of the nation's bridges, highways, roads, public transit, airports, broadband and much more.

The Senate is currently drafting two bills. The first is a near $1 trillion bipartisan core infrastructure bill which Senate Majority Leader Chuck Schumer hopes to bring it to the floor the week of July 19 assuming the language can be completed, and the bill scored by the Congressional Budget Office (CBO) in time. This bill will require 10 Republicans to join 50 Democrats. How it is paid for remains to be determined and agreed upon.

The second bill is being written by the Senate Budget Committee, totals $3.5 trillion, and covers human infrastructure. It will call for higher taxes, is unlikely to garner any Republican support and would need to pass via a majority vote reconciliation process. The betting site, PredictIt, currently assigns a 54% probability that the 21% corporate tax rate will be unchanged in 2022. The next most likely scenario, at a 32% probability, has the corporate tax rate rising to a rate between 24.6% and 27.9%.

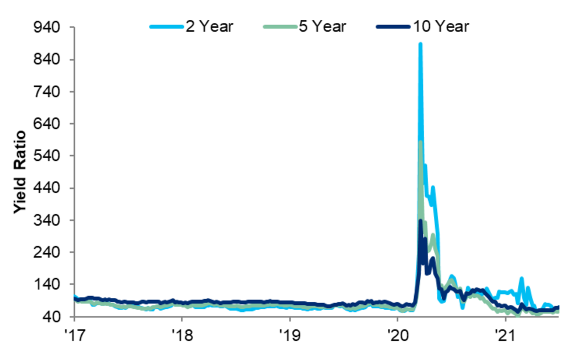
In terms of opportunities and risks, we currently see little value in holding cash or short-dated maturities. Better opportunities reside in credit, on the prospect of a sustainable economic recovery. That said, spreads have tightened of late and reduced the potential gains from simply moving down a notch or two in credit quality to pick up yield (Figure 13). We're now moving deeper into an environment that provides opportunities for those with a disciplined research process to identify the more compelling issues and issuers, in our view.

Figure 4: 10-Yr. AAA Muni yield ratios



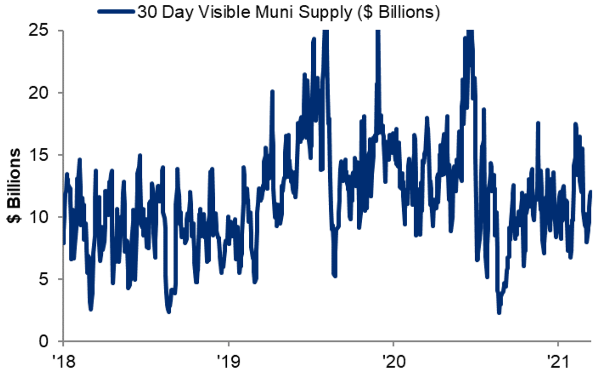
Source: Bloomberg as of July 12, 2021
Past performance is no guarantee of future returns. Real results may vary.

Figure 5: Muni yield ratios across tenors



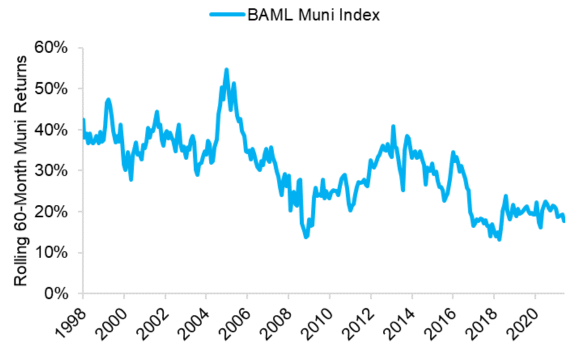
Source: Bloomberg as of July 12, 2021

Figure 6: Muni 30-day visible supply



Source: Bloomberg as of July 12, 2021.

Figure 7: Rolling 60-month Muni Returns



Source: Bloomberg as of July 12, 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary.

Outlook and Risks

We expect the US economy to grow by 6.0% in 2021 and 3.5% in 2022 as the recovery transitions from a reflationary reopening phase to something more sustainable. Globally, the economy should grow by 5.0% and 4.5% in 2021-2022. We expect the Fed to move towards tapering its $120 billion a month in bond purchases in the months ahead and note the Fed's FOMC forecast now indicates two policy rate hikes in 2023 (Figure 19).

Elsewhere, the People's Bank of China (PBoC) is easing its reserve requirements and the European Central Bank (ECB) now appears more tolerant of inflation slightly over 2%, although it is not actually aiming to achieve above 2% inflation after being below it previously, in order to average that level over time like the Fed.

As the economy improves, 10-year Treasury yields could range between 1.5% and 2.0% later this year and even trend slowly higher during the rest of the expansion. In such a scenario, we would expect yield curves to steepen and Municipal bonds to outperform Treasury securities.

The pace of new COVID cases and vaccine dosing, cyber security events, foreign affairs, and policy initiatives by the administration all require monitoring, in our view. Should surprises develop that lead to higher-than-expected interest rates or a change in the economic outlook, some bond market volatility would likely occur.

Is There a Greenium in the Municipal Bond Market?

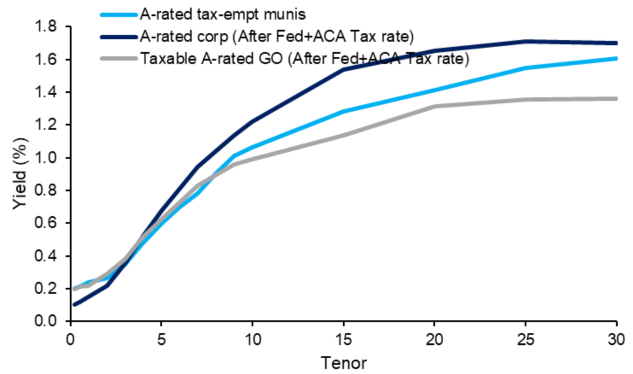
ESG investors should consider Municipal bonds. The funds from these issues finance hospitals, education, clean water, low-income housing, public transit, renewable energy and much more.

In addition, green investing in the Municipal bond market offers competitive yields. A 2019 study at the Stanford University Graduate School of Business examined $23 billion in issuance starting in 2013. When comparing green securities to nearly identical securities issued for non-green purposes by the same issuers on the same day, the authors observed economically identical pricing.

Cross-Asset Class Comparisons

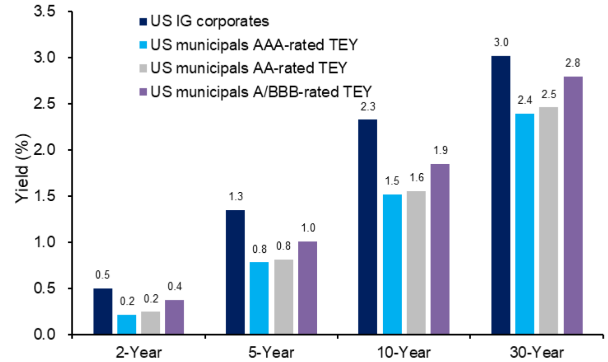
High quality Muni tax equivalent yields are now generally below those of corporate bonds with equivalent ratings, as investors combat low Treasury yields and the prospect of higher income tax rates (Figures 8-9).

Figure 8: Muni tax-exempt yield curve vs taxable



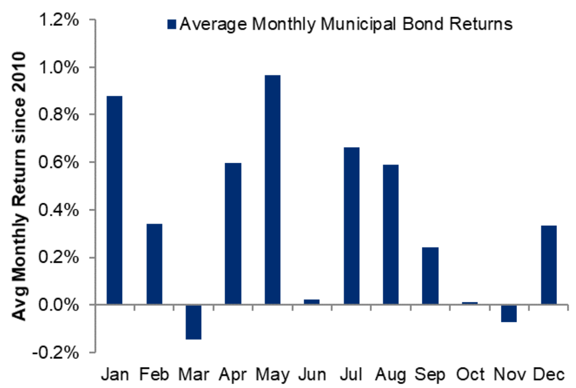
Source: Bloomberg as of July 12, 2021. Note: Tax equivalent yields adjust for top Federal and Affordable Care Act tax rate (40.8%). Past performance is no guarantee of future returns. Real results may vary.

Figure 9: Some high quality Munis don't beat US IG corporates



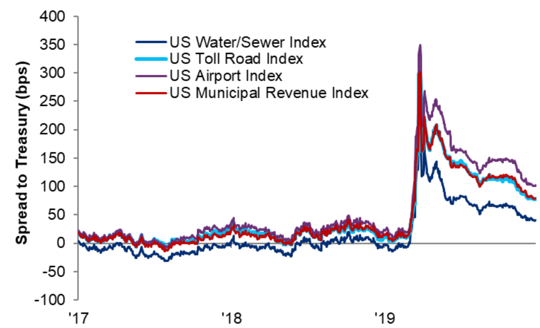
Source: Bloomberg as of July 12, 2021. Note: Tax equivalent yields adjust for top Federal and Affordable Care Act tax rate (40.8%). Past performance is no guarantee of future returns. Real results may vary

Figure 10: Municipal bond seasonality



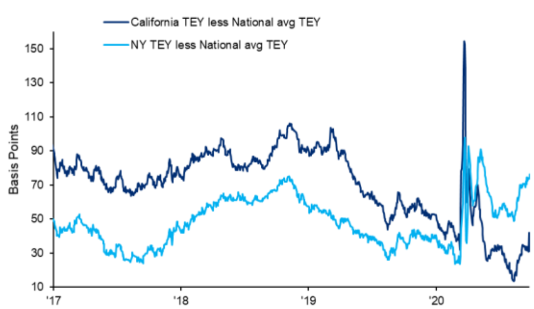
Source: Factset as of July 12, 2021. Past performance is no guarantee of future results. Real results may vary.

Figure 11: Airport, water and tolls revenue bond spreads



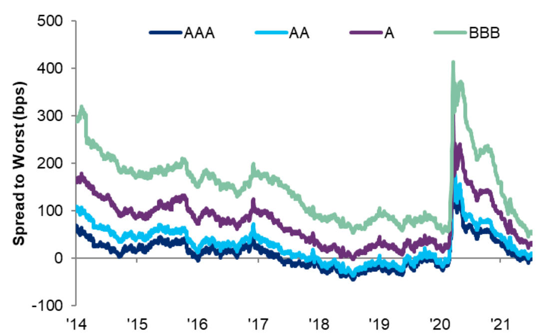
Source: Factset as of July 12, 2021. Past performance is no guarantee of future results. Real results may vary. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only.

Figure 12: NY and CA vs national



Source: Factset as of July 12, 2021. Past performance is no guarantee of future results. Real results may vary. Note: Tax Equivalent Yield = Yield adjusted for state and local tax rates to ensure a more apples to apples comparison with taxable bonds

Figure 13: Spreads by credit rating



Source: Factset as of July 12, 2021. Past performance is no guarantee of future results. Real results may vary.

Munis for the Long Run

Historically, Municipal bond defaults have been rare. In *US Municipal Bond Defaults and Recoveries, 1970-2017,* the cumulative default rate for all rated Municipal bonds was just 0.09%.

In addition, Municipal bonds have low or moderate correlations to other asset classes, like equities, providing potential portfolio diversification benefits (Figure 20).

Finally, the asset class has an enviable record of producing positive total investment returns on a rolling 5-year basis (Figure 7). In our view, this is a positive attribute for longer-term investors.

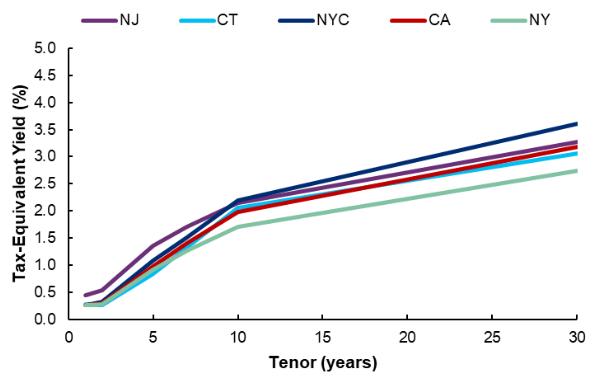
Appendix: Charts to Watch

Figure 14: Municipal bonds: returns and risk by sector, maturity, and credit rating

Sector	Yield	Duration	Composite Rating	YTD Return	2020 Return	Return Since 2010
BAML Muni Index	94.0%	4.84	AA3	2.1%	5.3%	66.7%
GO	73.5%	4.48	AA2	1.3%	5.3%	57.2%
Revenue	101.4%	4.97	AA3	2.3%	5.3%	70.2%
Airport	104.1%	4.79	A1	3.2%	4.5%	78.3%
Education	99.1%	5.68	AA2	1.9%	5.4%	68.0%
Hospital	131.5%	5.50	A2	3.2%	6.3%	89.7%
Leasing & Rental	84.4%	4.05	AA3	1.8%	4.6%	63.5%
Multi-Family	171.6%	6.65	AA3	2.7%	4.3%	63.9%
Pollution Control	93.7%	4.97	AA3	0.9%	5.5%	62.2%
Power	74.1%	3.91	AA3	1.2%	4.8%	52.6%
Single-Family Housing	209.5%	6.48	AA1	1.4%	5.6%	69.1%
Transportation	111.6%	5.14	A2	3.5%	4.7%	66.5%
Water	73.8%	4.27	AA2	1.0%	5.5%	65.7%
1-3 Y	20.9%	1.67	AA3	0.4%	2.2%	16.9%
3-7 Y	45.2%	3.73	AA2	0.7%	4.1%	39.6%
7-12 Y	79.7%	5.06	AA3	1.4%	5.3%	66.6%
12-22 Y	110.8%	5.38	AA3	2.5%	6.0%	81.6%
22+	146.7%	6.22	AA3	3.6%	6.5%	94.8%
AAA	77.3%	4.93	AAA	0.9%	5.5%	50.6%
AA	83.5%	4.70	AA2	1.3%	5.2%	59.5%
A	108.1%	4.90	A2	2.9%	5.4%	78.5%
BBB	135.9%	5.30	BBB2	5.2%	4.9%	94.2%
High Yield	205.5%	3.88	BB3	5.9%	5.1%	122.5%

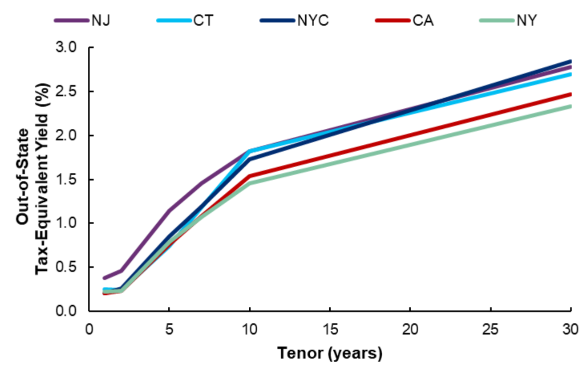
Source: Factset as of July 14, 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future returns. Real results may vary.

Figure 15: Select in-state (city) tax equivalent yield curves



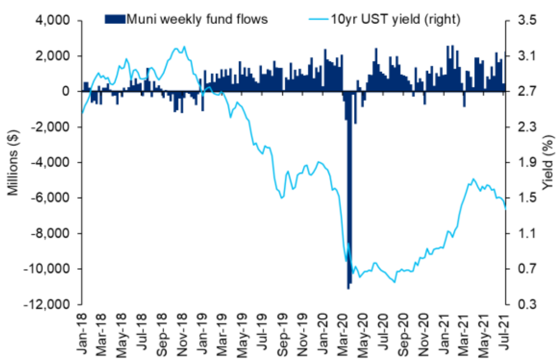
Source: Bloomberg as of July 12, 2021. Note: Tax equivalent yields adjust for top Federal and Affordable Care Act tax rate (40.8%), as well as state income tax rates for each state yield. Past performance is no guarantee of future returns. Real results may vary.

Figure 16: Select out-of-state tax-equivalent yield curves



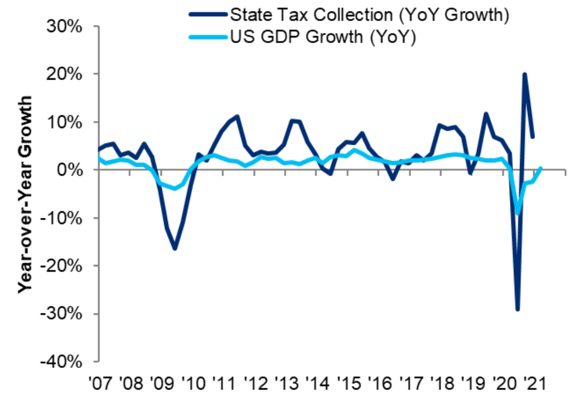
Source: Bloomberg as of July 12, 2021. Note: Tax equivalent yields adjust for top Federal and Affordable Care Act tax rate (40.8%). Past performance is no guarantee of future returns. Real results may vary.

Figure 17: Muni fund flows vs 10yr US Treasury yield



Source: EPFR, FactSet as of July 12, 2021

Figure 18: State tax collections



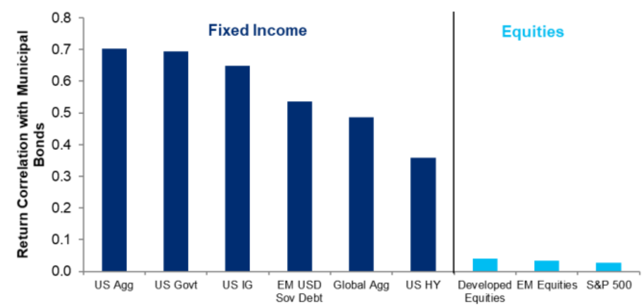
Source: Haver as of July 12, 2021.

Figure 19: Muni issuance

Municipal Issuance ($billions)	2021 YTD	2020 YTD	Y/Y chg.	2020 Final
Tax-exempt issuance	**$ 167.44**	**$ 152.07**	**10%**	**$ 319.46**
Taxable issuance	**$ 68.57**	**$ 80.18**	**-14%**	**$ 185.17**
Taxable issuance (municipal CUSIPs)	$ 56.53	$ 58.72	-4%	$ 145.21
Taxable issuance (corporate CUSIPs)	$ 12.04	$ 21.45	-44%	$ 39.95
AMT issuance	**$ 5.83**	**$ 2.21**	164%	**$ 9.32**
Total	**$ 241.84**	**$ 234.46**	**3%**	**$ 513.94**

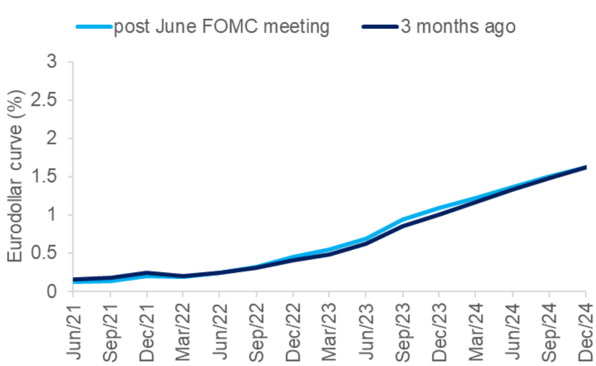
Source: Citi Municipal Bond Research as of July 12, 2021.

Figure 20: Municipal bond correlations with other asset classes



Source: Factset as of July 12, 2021. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. See asset class definition on page 8.

Figure 21. Fed rate projection



Source: Haver as of July 14, 2021.

Figure 22: State credit ratings actions

State	From	To	Date	Action
Alaska	AA	AA-	Apr-20	Downgrade
Wyoming	AA+	AA-	Jun-21	Downgrade
New Jersey	A-	BBB+	Nov-21	Downgrade
Connecticut	A	A+	May-21	Upgrade
Illinois	BBB-	BBB	Jul-21	Upgrade

Source: S&P as of July 14, 2021.

Asset Allocation Definitions

Asset classes	Benchmarked against
Global equities	MSCI All Country World Index, which represents 48 developed and emerging equity markets. Index components are weighted by market capitalization.
Global bonds	Barclays Capital Multiverse (Hedged) Index, which contains the government -related portion of the Multiverse Index, and accounts for approximately 14% of the larger index.
Hedge funds	HFRX Global Hedge Fund Index, which is designed to be representative of the overall composition of the hedge fund universe. It comprises all eligible hedge fund strategies; including but not limited to convertible arbitrage, distressed securities, equity hedge, equity market neutral, event driven, macro, merger arbitrage and relative value arbitrage. The strategies are asset-weighted based on the distribution of assets in the hedge fund industry.
Commodities	Dow Jones-UBS Commodity Index, which is composed of futures contracts on physical commodities traded on US exchanges, with the exception of aluminum, nickel and zinc, which trade on the London Metal Exchange (LME). The major commodity sectors are represented including energy, petroleum, precious metals, industrial metals, grains, livestock, softs, agriculture and ex-energy. The Thomson Reuters / Core Commodity Index is designed to provide timely and accurate representation of a long-only, broadly diversified investment in commodities through a transparent and disciplined calculation methodology.
Cash	Three-month LIBOR, which is the interest rates that banks charge each other in the international inter-bank market for three-month loans (usually denominated in Eurodollars).

Equities	
Developed market large cap	MSCI World Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure the equity market performance of the large cap stocks in 23 developed markets. Large cap is defined as stocks representing roughly 70% of each market's capitalization.
US	Standard & Poor's 500 Index, which is a capitalization-weighted index that includes a representative sample of 500 leading companies in leading industries of the US economy. Although the S&P 500 focuses on the large cap segment of the market, with over 80% coverage of US equities, it is also an ideal proxy for the total market.
Europe ex UK	MSCI Europe ex UK Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure large cap stock performance in each of Europe's developed markets, except for the UK.
UK	MSCI UK Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure large cap stock performance in the UK.
Japan	MSCI Japan Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure large cap stock performance in Japan.
Asia Pacific ex Japan	MSCI Asia Pacific ex Japan Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure the performance of large cap stocks in Australia, Hong Kong, New Zealand and Singapore.
Developed market small and mid-cap (SMID)	MSCI World Small Cap Index, which is a capitalization-weighted index that measures small cap stock performance in 23 developed equity markets.
Emerging market	MSCI Emerging Markets Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure equity market performance of 24 emerging markets.

Bonds	
Developed sovereign	Citi World Government Bond Index (WGBI), which consists of the major global investment grade government bond markets and is composed of sovereign debt, denominated in the domestic currency. To join the WGBI, the market must satisfy size, credit and barriers-to-entry requirements. In order to ensure that the WGBI remains an investment grade benchmark, a minimum credit quality of BBB–/Baa3 by either S&P or Moody's is imposed. The index is rebalanced monthly.
Emerging sovereign	Citi Emerging Market Sovereign Bond Index (ESBI), which includes Brady bonds and US dollar -denominated emerging market sovereign debt issued in the global, Yankee and Eurodollar markets, excluding loans. It is composed of debt in Africa, Asia, Europe and Latin America. We classify an emerging market as a sovereign with a maximum foreign debt rating of BBB+/Baa1 by S&P or Moody's. Defaulted issues are excluded.
Supranationals	Citi World Broad Investment Grade Index (WBIG)—Government Related, which is a subsector of the WBIG. The index includes fixed rate investment grade agency, supranational and regional government debt, denominated in the domestic currency. The index is rebalanced monthly.
Corporate investment grade	Citi World Broad Investment Grade Index (WBIG)—Corporate, which is a subsector of the WBIG. The index includes fixed rate global investment grade corporate debt within the finance, industrial and utility sectors, denominated in the domestic currency. The index is rebalanced monthly.
Corporate high yield	Bloomberg Barclays Global High Yield Corporate Index. Provides a broad-based measure of the global high yield fixed income markets. It is also a component of the Multiverse Index and the Global Aggregate Index.
Securitized	Citi World Broad Investment Grade Index (WBIG)—Securitized, which is a subsector of the WBIG. The index includes global investment grade collateralized debt denominated in the domestic currency, including mortgage -backed securities, covered bonds (Pfandbriefe) and asset-backed securities. The index is rebalanced monthly.
Municipal	Bloomberg Barclays Municipal Bond Index is a broad-based benchmark that measures the investment grade, US dollar-denominated, fixed tax-exempt bond market. The index includes state and local general obligation, revenue, insured, and pre-refunded bonds

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Bond rating equivalence

Alpha and/or numeric symbols used to give indications of relative credit quality. In the municipal market, these designations are published by the rating services. Internal ratings are also used by other market participants to indicate credit quality.

Bond credit quality ratings	Rating agencies		
Credit risk	**Moody's[1]**	**Standard and Poor's[2]**	**Fitch Ratings[2]**
Investment Grade			
Highest quality	Aaa	AAA	AAA
High quality (very strong)	Aa	AA	AA
Upper medium grade (Strong)	A	A	A
Medium grade	Baa	BBB	BBB
Not Investment Grade			
Lower medium grade (somewhat speculative)	Ba	BB	BB
Low grade (speculative)	B	B	B
Poor quality (may default)	Caa	CCC	CCC
Most speculative	Ca	CC	CC
No interest being paid or bankruptcy petition filed	C	D	C
In default	C	D	D

1 The ratings from Aa to Ca by Moody's may be modified by the addition of a 1, 2, or 3 to show relative standing within the category.
2 The ratings from AA to CC by Standard and Poor's and Fitch Ratings may be modified by the addition of a plus or a minus to show relative standing within the category.

(MLP's) - Energy Related MLPs May Exhibit High Volatility. While not historically very volatile, in certain market environments Energy Related MLPS may exhibit high volatility.

Changes in Regulatory or Tax Treatment of Energy Related MLPs. If the IRS changes the current tax treatment of the master limited partnerships included in the Basket of Energy Related MLPs thereby subjecting them to higher rates of taxation, or if other regulatory authorities enact regulations which negatively affect the ability of the master limited partnerships to generate income or distribute dividends to holders of common units, the return on the Notes, if any, could be dramatically reduced. Investment in a basket of Energy Related MLPs may expose the investor to concentration risk due to industry, geographical, political, and regulatory concentration.

Mortgage-backed securities ("MBS"), which include collateralized mortgage obligations ("CMOs"), also referred to as real estate mortgage investment conduits ("REMICs"), may not be suitable for all investors. There is the possibility of early return of principal due to mortgage prepayments, which can reduce expected yield and result in reinvestment risk. Conversely, return of principal may be slower than initial prepayment speed assumptions, extending the average life of the security up to its listed maturity date (also referred to as extension risk).

Additionally, the underlying collateral supporting non-Agency MBS may default on principal and interest payments. In certain cases, this could cause the income stream of the security to decline and result in loss of principal. Further, an insufficient level of credit support may result in a downgrade of a mortgage bond's credit rating and lead to a higher probability of principal loss and increased price volatility. Investments in subordinated MBS involve greater credit risk of default than the senior classes of the same issue. Default risk may be pronounced in cases where the MBS security is secured by, or evidencing an interest in, a relatively small or less diverse pool of underlying mortgage loans.

MBS are also sensitive to interest rate changes which can negatively impact the market value of the security. During times of heightened volatility, MBS can experience greater levels of illiquidity and larger price movements. Price volatility may also occur from other factors including, but not limited to, prepayments, future prepayment expectations, credit concerns, underlying collateral performance and technical changes in the market.

Alternative investments referenced in this report are speculative and entail significant risks that can include losses due to leveraging or other speculative investment practices, lack of liquidity, volatility of returns, restrictions on transferring interests in the fund, potential lack of diversification, absence of information regarding valuations and pricing, complex tax structures and delays in tax reporting, less regulation and higher fees than mutual funds and advisor risk.

Asset allocation does not assure a profit or protect against a loss in declining financial markets.

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Past performance is no guarantee of future results.

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Factors affecting commodities generally, index components composed of futures contracts on nickel or copper, which are industrial metals, may be subject to a number of additional factors specific to industrial metals that might cause price volatility. These include changes in the level of industrial activity using industrial metals (including the availability of substitutes such as manmade or synthetic substitutes); disruptions in the supply chain, from mining to storage to smelting or refining; adjustments to inventory; variations in production costs, including storage, labor and energy costs; costs associated with regulatory compliance, including environmental regulations; and changes in industrial, government and consumer demand, both in individual consuming nations and internationally. Index components concentrated in futures contracts on agricultural products, including grains, may be subject to a number of additional factors specific to agricultural products that might cause price volatility. These include weather conditions, including floods, drought and freezing conditions; changes in government policies; planting decisions; and changes in demand for agricultural products, both with end users and as inputs into various industries.

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