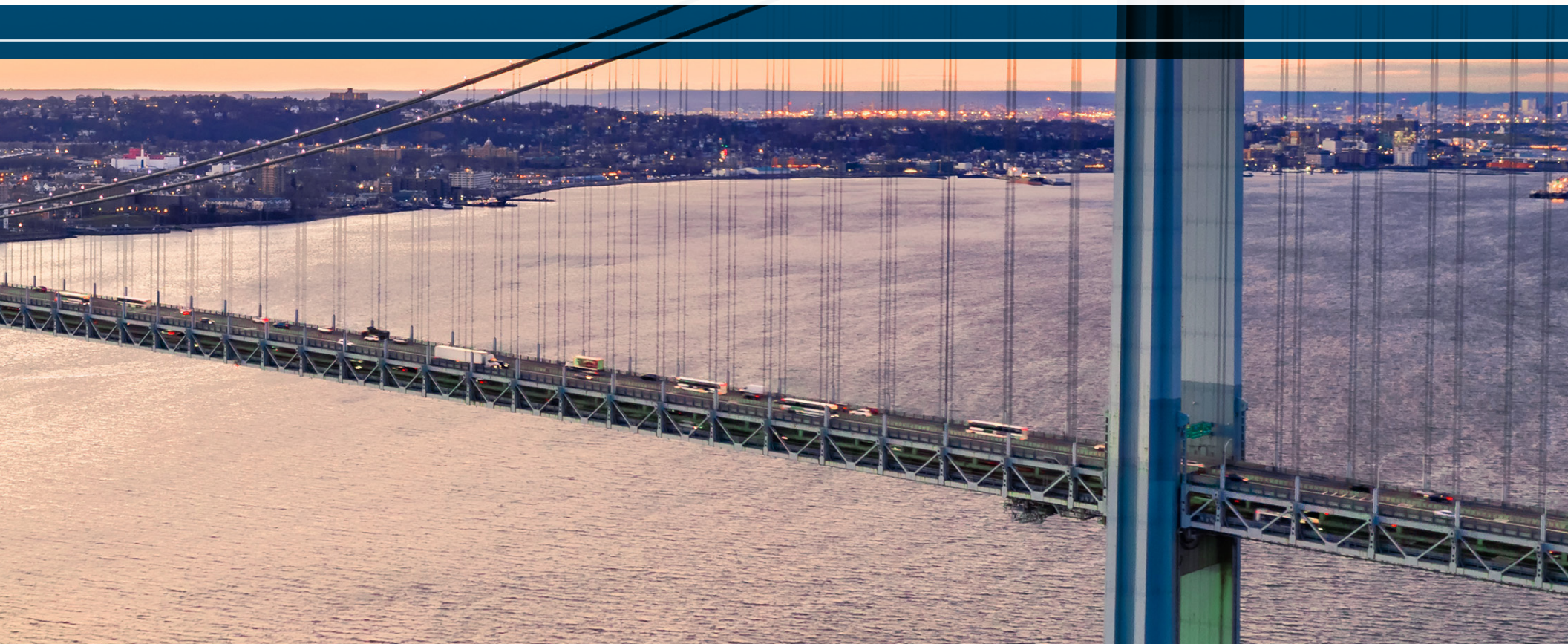


Muni 360

The comprehensive view of the municipal bond market.

MacKay Municipal Managers.™ The minds behind **munis**.



Report updated: October 2021. To subscribe and receive monthly, [click here](#).



INVESTMENTS

Not FDIC/NCUA Insured	Not a Deposit	May Lose Value
No Bank Guarantee	Not Insured by Any Government Agency	



2021 Municipal Bond Market Insights: Mid-year Update

“Resilience”

From **MacKay Municipal Managers™** The Minds Behind Munis

Consistent with **MacKay Municipal Managers’** forecast in our 2021 Insights, the municipal market demonstrated significant resilience in the first half of 2021 reinforcing its historic adaptability. Through the first six months of the year, the Biden Administration’s policy agenda began to materialize resulting in a large stimulus package. This coupled with domestic improvements related to the COVID-19 pandemic, vaccine developments and efficacy improved the nation’s economic outlook. Better than expected tax revenues boosted further by the economic stimulus has strengthened credit fundamentals within the municipal market. The 2021 **MacKay Municipal Managers™** theme of “resiliency” speaks to the essentiality of the municipal market, the reliability of sustained revenue streams, and the market’s ability to withstand and adjust to the unexpected.

Top Five Municipal Market Insights for 2021 – “Resilience”

Theme	Rationale	Portfolio in Action	Mid-Year Status
1 Policy: The Biden Administration makes an impact	The Biden Administration’s policies are expected to positively impact the municipal market in multiple ways. Anticipated initiatives include infrastructure spending, increasing employment opportunities and addressing climate change. These objectives likely coalesce in a higher volume of infrastructure-related municipal issuance that will become more recognized by impact-oriented investors for its strong ESG aspects. We expect a broad array of municipal projects will be climate friendly, supportive of increased employment development and will carry the dual oversight of both federal and state governments. In addition, investor anticipation of the Biden Administration pushing taxes higher (more likely a 2022 event) increases the value of tax exemption and municipal demand.	<p>Based on the expectation that Biden Administration’s policies would be a positive for municipal fundamentals, we continue to favor credit. Thus far, fiscal stimulus has been beneficial to state and local governments, and other municipal credits.</p> <p>Looking ahead, we expect a broader array of municipal investment opportunities focused on climate and employment as an outcome of these policies. There is positive momentum within the bipartisan infrastructure framework towards Electric Vehicle infrastructure, resilience infrastructure (which focuses on climate-related upgrades) and environmental remediation.</p>	<p>On Target</p> <p>Federal stimulus measures have put additional dollars in the economy, which has helped with state revenue losses, as well as already strong personal income tax collections. In aggregate, across the March 2020 CARES Act, the December 2020 stimulus and the \$1.9TR American Rescue Plan, there has been an estimate of \$1.2TR of municipal related provisions and aid across the various sub-sectors. The American Rescue Plan alone has an approximate of \$650B in municipal related support. (source: JPM, June 2021)</p> <p>The additional aid has led to improvement in credit especially some of the distressed segments. For example, credit spreads have tightened in states like IL and NJ which were in crisis prior to the pandemic. YTD Index returns as of 6/30/21: Bloomberg Municipal Bond Index: 1.06%, Bloomberg Municipal Bond Illinois: 3.55%, Bloomberg Municipal Bond New Jersey: 2.50%.</p>

Theme	Rationale	Portfolio in Action	Mid-Year Status
2 Stamina: Key sectors withstand the COVID shutdown	<p>We expect to see excess return opportunities in the COVID-impacted healthcare, transportation and travel-related municipal sectors. COVID-induced wider credit spreads on select issuers should continue into 2021, and the risk for investors to avoid are those securities with perceived credit weakness. However, a subset of those issuers have access to a broad array of policy and financial tools that should aid them in surviving the current crisis. We believe strategies employing an active, relative value approach focused on understanding credit fundamentals, liquidity and the political landscape can better identify those bonds that represent value. However, because politics play a role and outcomes are likely uneven, investing agility is also essential.</p>	<p>Amidst the dislocation, MacKay Municipal Managers identified opportunities in “frontline COVID credits” including transportation, healthcare and dedicated tax returns. We have maintained an overweight exposure to these sectors.</p> <p>Fundamental analysis and relative value security selection has been of the utmost importance within these sectors.</p>	<p>On Target</p> <p>Healthcare and transportation are the best performing revenue backed sectors YTD, with Bloomberg Municipal Bond: Hospital Index returning 2.15% and Bloomberg Municipal Bond: Transportation Index returning 1.93%, vs. the Bloomberg Municipal Bond Index at 1.06% as of 6/30/21.</p> <p>The stamina of these sectors can be illustrated via the following: The scale of downgrades for airport ratings was lower than what was anticipated, as ratings for 88% of the bonds in the Bloomberg Municipal Bond: Airport Index were unchanged over the past year (source: CreditSights, 6/24/21). Among hospitals, number of upgrades has exceeded number of downgrades YTD as of 6/14/21. (source: FitchRatings)</p>
3 Resurrection: Puerto Rico rises while high risk deal bond prices decline	<p>We believe that the long-awaited final chapters in the restructuring of Puerto Rico debt will provide investors an attractive relative value opportunity in the Territory's credits. Ultimately, a combined \$11 billion of Puerto Rico related debt could restructure out of default in 2021 and resume paying interest. We anticipate demand for these bonds will be strong. The opportunity in Puerto Rico credits stands out relative to much riskier, primarily single site, project finance municipal credits that are prevalent in some high yield portfolios. We anticipate those highly leveraged and illiquid bond financings could face significant spread widening as project revenues fall short of original projections and investors, facing potential restructurings, attempt to sell their positions.</p>	<p>Puerto Rico securities have played an important role in alpha generation for our portfolios over the years. Where guidelines permit, we have taken a dynamic approach within this sector.</p> <p>During the first half of 2021, Puerto Credits have been a large contributor in our portfolios.</p> <p>We have maintained our rigorous underwriting standards and avoided the speculative parts of the high yield market.</p>	<p>On Target</p> <p>The restructuring of Puerto Rico debt is expected to occur later this year and \$7.4Bn of central government debt is now expected to be back on accrual per the Federal Oversight and Management Board's Commonwealth Plan of Adjustment. (Source: Bloomberg News, 7/7/21)</p> <p>The bonds that are expected to restructure, General Obligation bonds, Public Buildings Authority (PBAs), and Puerto Rico Electric Power Authority (PREPAs) have returned in the range of 12-20% YTD as of 6/30/21 (Source: MSRB, ICE, Bloomberg). The Bloomberg High Yield Muni Index has returned 6.13% YTD.</p> <p>While defaults in the overall municipal market remain low, more than 80% of the defaults YTD have been concentrated in retirement (senior living, assisted living centers) and project financing (single-site project finance deals) (source: MMA Trends as of 6/30/21). We believe positive technicals of the current market may be delaying spread widening in the highly leveraged and illiquid bond financings.</p>

Theme	Rationale	Portfolio in Action	Mid-Year Status
4 Oasis: Taxable municipal bonds in a global fixed income world	<p>We believe taxable bond investors, in recognition that corporate bond yields do not adequately compensate them for their relative risk, add to their taxable municipal holdings. When compared to corporate bonds, we believe taxable municipal bonds' stronger credit quality, higher yields, and risk benefits offer better value for investors with tax-free accounts. In 2020, corporate bonds yields fell to record lows while their interest rate risk, as measured by the duration of the ICE BofA US Corporate Index, had the largest single-year extension in over 30 years. In contrast, taxable municipal risk adjusted yields are the cheapest they have been in more than a decade when compared to investment grade corporate bonds.¹ Tax-exempt investors will likely benefit as strong demand for taxable municipal bonds spurs issuance and reduces tax-exempt supply.</p>	<p>MacKay Municipal Managers runs dedicated taxable municipal strategies and advocates the use of taxable municipals in accounts where appropriate. Based on our relative value analysis, we have increased taxable municipal exposure in tax-exempt portfolios where guidelines permit.</p> <p>With the organic level of growth in this market, we have also seen growth in the number of taxable municipal accounts as attributes of the asset class continue to resonate with retail and non-traditional buyers.</p> <p>With the expectation of an Infrastructure bill passing and an evolution with a greater breadth of supply, we believe in the longevity of this asset class within municipals.</p>	<p>On Target</p> <p>Using Morningstar's Intermediate Core category as a proxy, Taxable Municipals have returned 0.30% YTD as of 6/30/21, while US treasuries (Bloomberg U.S. Treasury Index), IG corporates (Bloomberg U.S. Corporate Investment Grade Index), and securitized debt (ABS and MBS) (Bloomberg U.S. Asset Backed Securities Index/Bloomberg U.S. Mortgage Backed Securities Index), have returned -2.58%, -1.27% and 0.18%/-0.77% respectively.</p> <p>YTD taxable issuance, \$65B is approximately 30% of total municipal issuance, \$238B. (source: Bloomberg, 6/30/21)</p> <p>There is an upward trend year over year for municipal allocation within non-US portfolios. (source: FRED economic data as of 3/31/21)</p>
5 Essentiality: Municipal bonds outlast the headlines	<p>We believe that tax-exempt bonds from municipal issuers providing essential services will outperform other fixed income asset classes due to their favorable, intrinsic credit characteristics. While we understand municipal bond investor uncertainty is due to weak economic conditions, low yields and negative news coverage on the sector, investors should focus on what we believe is the inherent stability of municipal revenue streams sourced from municipal services that are essential to our everyday lives. They should find confidence in select local government bonds supported by property taxes that continue to be paid, income taxes collected and sales taxes withheld. Those revenue streams support many forms of state-level debt. Although we expect the economy to recover, thoughtful, research-driven credit selection is also essential to differentiate among issuers.</p>	<p>Despite headline news regarding COVID cases, state budgets and the like, MacKay Municipal Managers continued to focus on relative value analysis to find opportunities in the municipal market. The essentiality of the market has sustained as the economy came to halt and has slowly recovered since.</p> <p>We continue to favor municipals in this environment. Strong mutual fund flows and oversubscribed deals in the primary market are evidence of the stability and the perseverance of the asset class.</p>	<p>On Target</p> <p>Given the essential nature of the municipal market, issuers were able to secure significant federal assistance through the American Rescue Plan (ARP) to fund necessary services such as airports, transit and education.</p> <p>According to Bloomberg data tracking of Fitch and S&P rated bonds, when comparing market value of upgrades, year to date, 2021 has seen a 6x increase compared to 2020. We would attribute this primarily due to improved financial picture after better than expected tax collections and infusion of federal aid.</p> <p>According to the Census data as of 3/31/21, the states' tax collections grew by 9.6% year over year, general sales and gross receipts taxes increased 3.5%, individual income taxes ballooned by 18.6%, and corporation net income tax collections were up 33.1%.</p> <p>According to MMA, there have been 30 new municipal defaults through 6/30/21 which is down 20% from the same timeframe last year. Overall, however defaults remain low in the municipal market.</p>

1. As of 12/2020 – Comparing yield to worst divided by modified duration to worst for the ICE BofA Broad US Taxable Municipal Securities Index and the ICE BofA US Corporate Index over the last 10 years. Past performance is no guarantee of future results, which will vary. It is not possible to invest directly in an index.



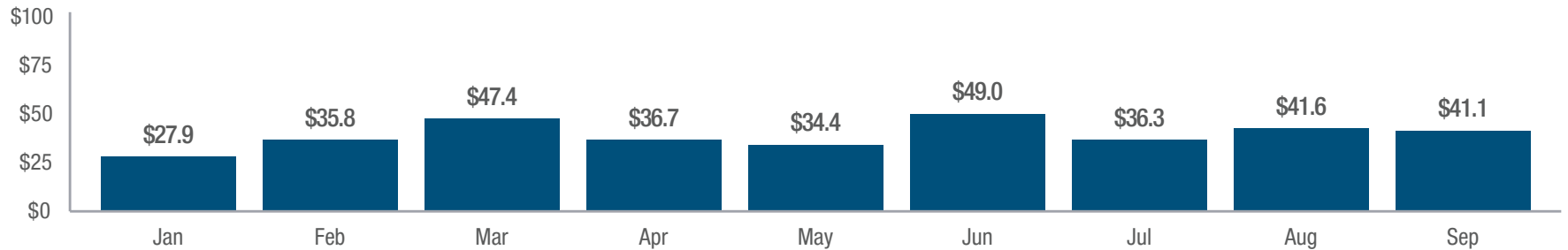
Municipal Market Monthly Update

TECHNICAL BACKDROP

SUPPLY:

- September issuance came in at \$41 billion, down 1% month-over-month and 23% year-over-year, with net issuance at \$20 billion.
- YTD gross and net issuance through the month-end was +\$350 billion and +\$114 billion, respectively.

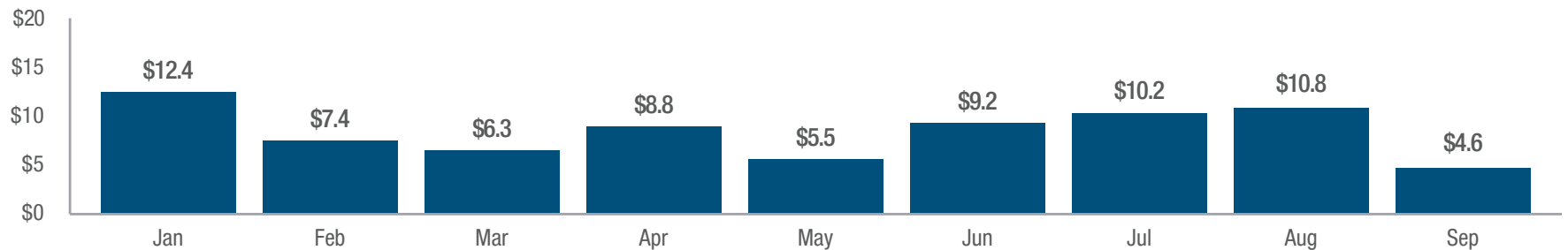
2021 Monthly Gross Issuance (\$B)



DEMAND:

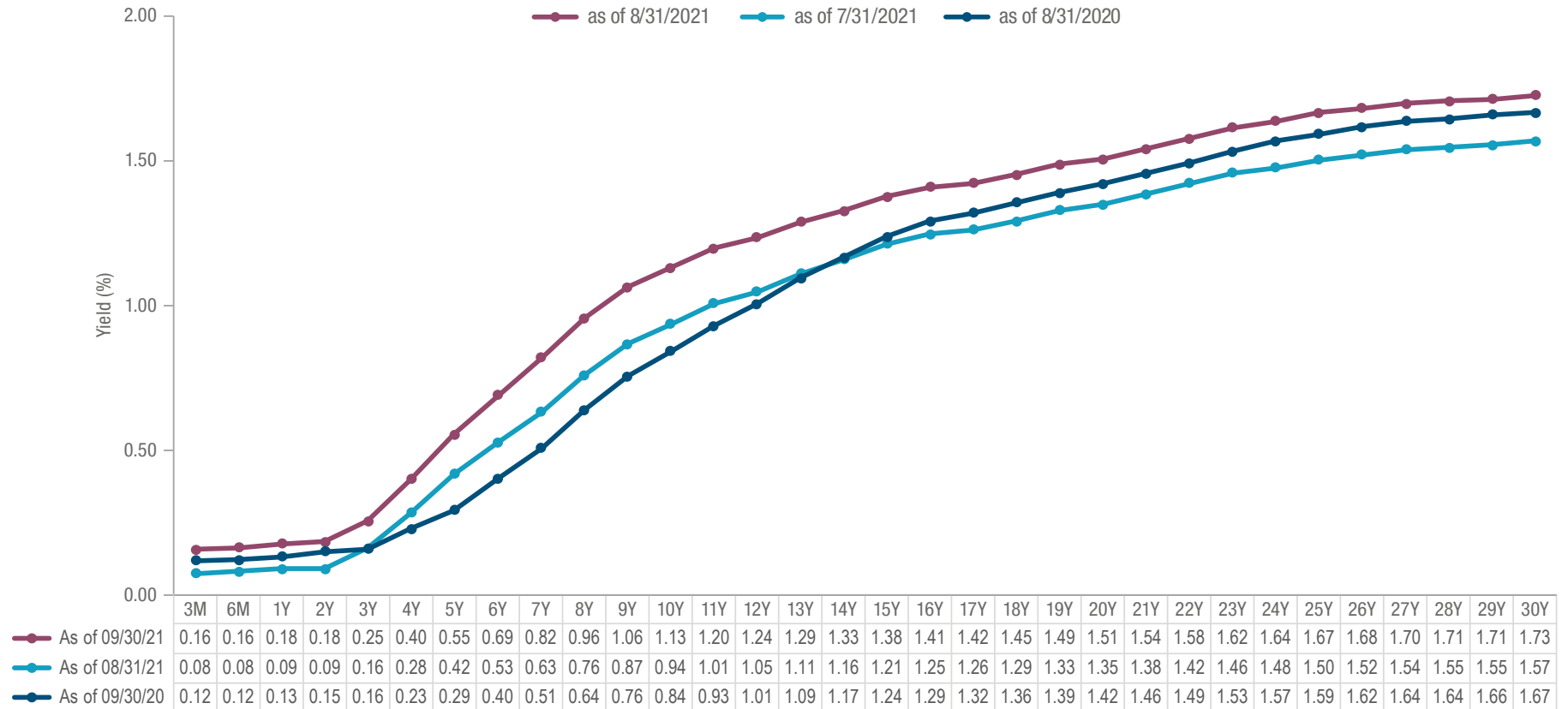
- Muni flows were positive in September, with inflows averaging \$2.0 billion per week.

2021 Monthly Municipal Fund Flows (\$B)



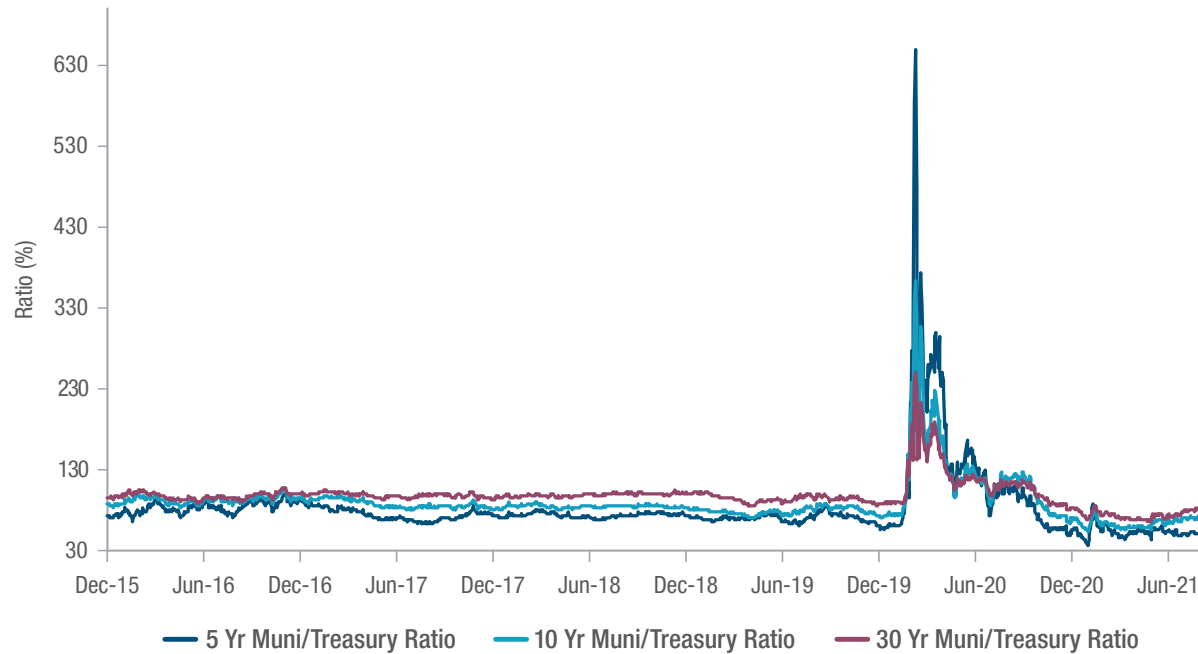
Source: Barclays Research, as of 09/30/21.

AAA-Rated Municipal Yield Curve (%)



Source: Bloomberg, as of 09/30/21. The yield curve is a visual representation of the yield of AAA-Rated Municipal Bonds at varying maturities. Past performance is not indicative of future results.

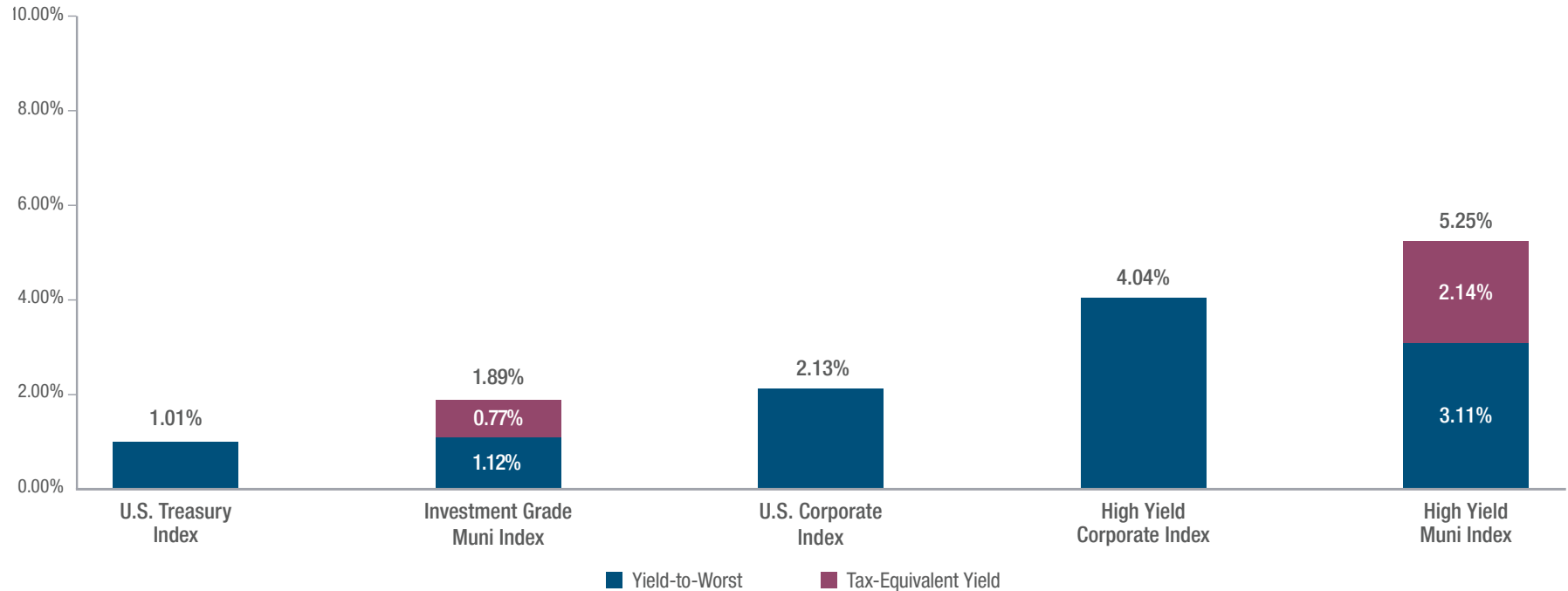
AAA-Rated Municipal/Treasury Yield Ratio (%)



Tenor	Muni/Treasury Ratio	Trailing 5-Yr Median
5 Yr	56%	75%
10 Yr	75%	86%
30 Yr	83%	98%

Source: Bloomberg, as of 09/30/21. Representative indices: Bloomberg U.S. Treasury Index and Bloomberg U.S. Municipal Index. Past performance is not indicative of future results. An investment cannot be made in an index.

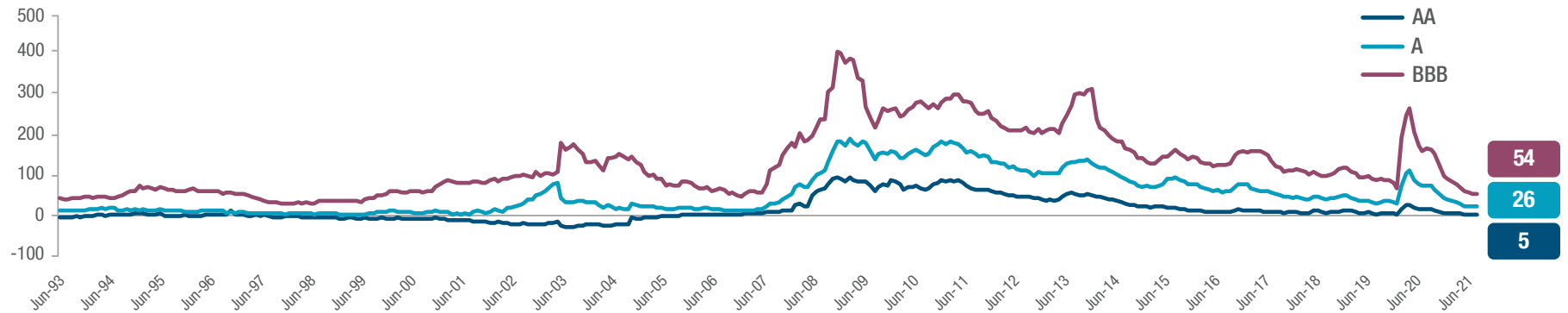
September 2021 Tax-Equivalent Yields



Source: Bloomberg, as of 09/30/21. Representative indices: Bloomberg U.S. Treasury Index, Bloomberg U.S. Corporate Bond Index, Bloomberg U.S. Municipal Index, Bloomberg U.S. High Yield Corporate Index, and Bloomberg High Yield Municipal Index. Assumes 37% federal tax rate and 3.8% net investment income tax. Yield to worst is computed by using the lower of either the yield to maturity or the yield to call on every possible call date. Past performance is not indicative of future results. An investment cannot be made in an index. Figures may not sum up due to rounding.

Investment Grade Municipal Market Spreads & Performance

AA-, A-, and BBB-Rated Municipal Index Yield Spreads Over AAA-Rated Municipal Index Yield



Source: Bloomberg as of 09/30/21. Monthly data. Representative indices: Bloomberg Municipal AAA Index, Bloomberg Municipal AA Index, Bloomberg Municipal A Index, and Bloomberg Municipal BBB Index. Past performance is not indicative of future results. An investment cannot be made in an index.

Returns (%), as of September 30, 2021

	Number Issues	Price Return	Coupon Return	MTD Total Return	Past 3m	Past 6m	Year to Date	Past 12m
Municipal Bond Index	55,948	-1.03	0.31	-0.72	-0.27	1.15	0.79	2.63
1 Year (1-2)	4,320	-0.46	0.36	-0.10	0.00	0.10	0.31	0.44
3 Year (2-4)	7,037	-0.55	0.34	-0.21	0.09	0.35	0.50	0.83
5 Year (4-6)	6,035	-0.78	0.32	-0.46	0.13	0.61	0.30	1.08
7 Year (6-8)	5,683	-1.01	0.31	-0.70	-0.03	0.69	0.15	1.42
10 Year (8-12)	10,714	-1.14	0.31	-0.83	-0.15	0.99	0.41	2.21
15 Year (12-17)	10,829	-1.22	0.30	-0.92	-0.33	1.44	0.90	3.41
20 Year (17-22)	5,713	-1.18	0.31	-0.88	-0.47	1.62	1.31	3.99
Long Bond (22+)	5,617	-1.30	0.30	-1.00	-0.74	2.05	1.57	4.64

MTD: Month to Date, Source: Barclays Research, as of 09/30/21. Representative indices: Bloomberg Municipal Index, Bloomberg Municipal 1 Yr 1-2, Bloomberg Municipal 3 Yr 2-4, Bloomberg Municipal 5 Yr 4-6, Bloomberg Municipal 10 Yr 8-12, Bloomberg Municipal 20 Yr 17-22, and Bloomberg Municipal Long 22+ Yr. Past performance is not indicative of future results. An investment cannot be made in an index.

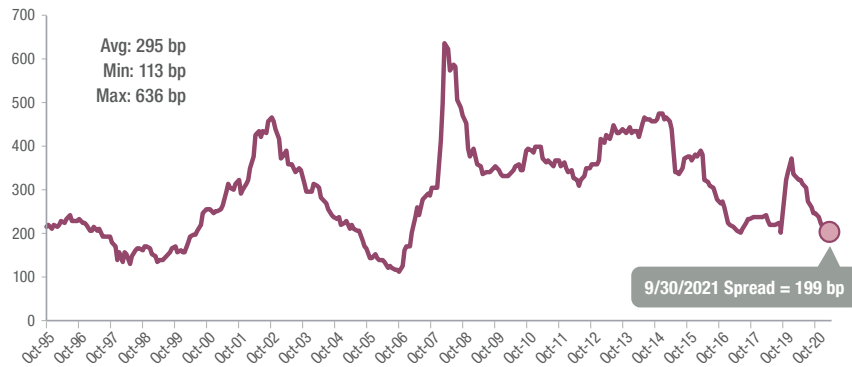
High Grade Municipals, Returns by Sector

September 2021	(%)	Year-to-Date 2021	(%)
Electric	-0.58	Hospital	1.90
Resource Recovery	-0.64	Leasing	1.70
Leasing	-0.74	Transportation	1.56
IDR/PCR (ex-tobacco)	-0.75	Tobacco	1.09
Transportation	-0.76	IDR/PCR (ex-tobacco)	0.94
Hospital	-0.78	Education	0.78
Special Tax	-0.78	Special Tax	0.78
Water & Sewer	-0.78	Electric	0.40
Education	-0.79	Housing	0.21
Housing	-0.82	Water & Sewer	0.03
Tobacco	-0.94	Resource Recovery	-0.26

Source: Barclays Research, as of 09/30/21. Representative indices: Bloomberg Municipal AAA Index and Bloomberg High Yield Municipal Index. Past performance is not indicative of future results. An investment cannot be made in an index.

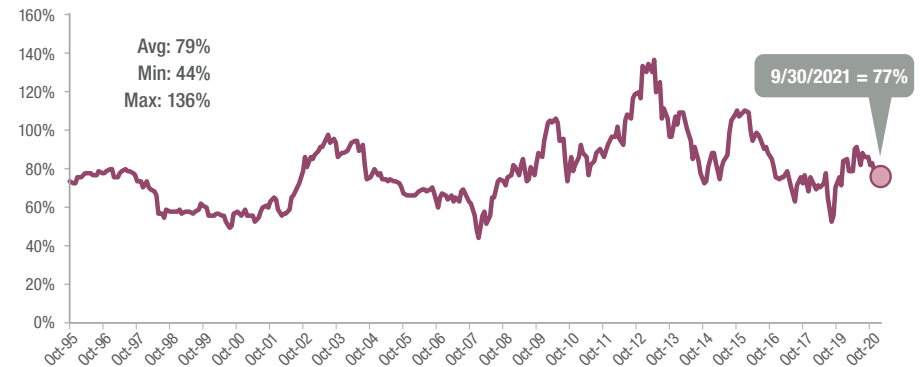
High Yield Municipal Market Spreads & Performance

High Yield Municipal Index Yields Minus Investment Grade Municipal Index Yields



Source: Barclays Research, as of 09/30/21. Representative indices: High Yield Municipal Index: Bloomberg High Yield Municipal Index; Investment Grade Municipal Index: Bloomberg Municipal Index. Past performance is not indicative of future results. An investment cannot be made in an index.

Ratio of High Yield Municipal Index to Corporate High Yield Index Yield-to-Worst



Source: Barclays Research, as of 09/30/21. Representative indices: Municipal High Yield Index: Bloomberg High Yield Municipal Index; Corporate High Yield Index: Bloomberg U.S. Corporate High Yield Index. Past performance is not indicative of future results. An investment cannot be made in an index.

Yield-to-worst (YTW) is the lowest potential yield that can be received on a bond without the issuer actually defaulting. The YTW is calculated by making worst-case scenario assumptions on the issue by calculating the return that would be received if the issuer uses provisions, including prepayments, calls or sinking funds.

Returns (%), as of September 30, 2021

	Number Issues	Price Return	Coupon Return	MTD Total Return	Past 3m	Past 6m	Year to Date	Past 12m
High Yield Muni	5,164	-0.99	0.34	-0.65	0.38	4.33	6.53	11.33
High Yield Muni Ex-Puerto Rico	5,031	-1.05	0.36	-0.70	0.34	4.16	6.61	11.16
High Yield Muni Puerto Rico	87	-0.63	0.26	-0.37	0.68	5.46	6.04	12.54

MTD: Month to Date, Source: Barclays Research, as of 09/30/21. Representative indices: Bloomberg High Yield Municipal Index, Bloomberg High Yield Municipal Ex-Puerto Rico Index, and Bloomberg High Yield Municipal Puerto Rico Index. Past performance is not indicative of future results. An investment cannot be made in an index.

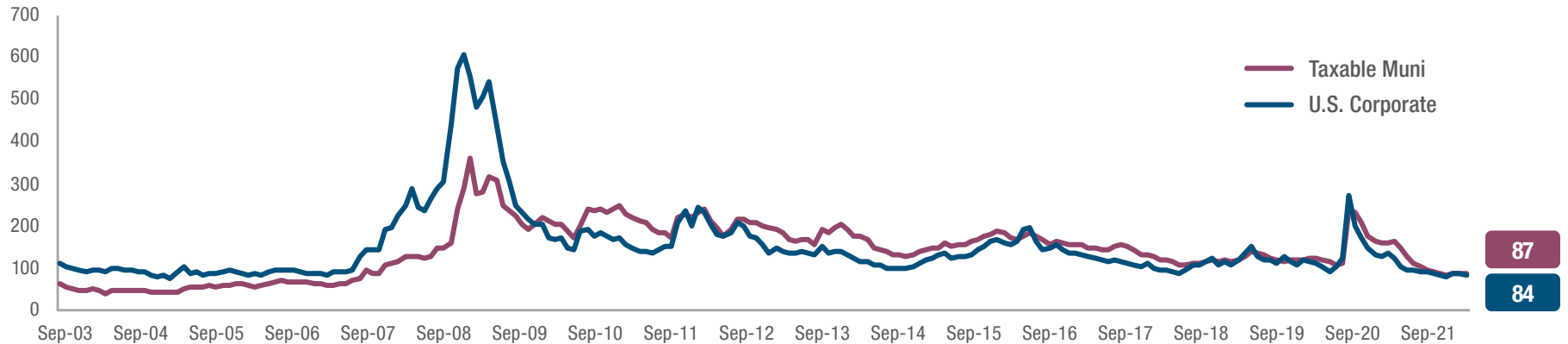
High Yield Municipals, Returns by Sector

September 2021	(%)	Year-to-Date 2021	(%)
Resource Recovery	0.38	Leasing	10.51
Electric	0.25	Transportation	9.28
Water & Sewer	-0.04	Education	8.59
Transportation	-0.36	IDR/PCR (ex-tobacco)	6.77
Hospital	-0.38	HY Tobacco	6.28
Education	-0.45	Hospital	6.17
HY Tobacco	-0.60	Special Tax	5.49
Special Tax	-0.65	Resource Recovery	5.35
IDR/PCR (ex-tobacco)	-0.70	Water & Sewer	4.03
Leasing	-1.60	Electric	3.99
Housing	-1.98	Housing	3.80

Source: Barclays Research, as of 09/30/21. Representative index: Bloomberg High Yield Municipal Index. Past performance is not indicative of future results. An investment cannot be made in an index.

Taxable Municipal Market Spreads & Performance

Taxable Municipal Index Option-Adjusted Spread vs. U.S. Corporate Index Option-Adjusted Spread (bps)



Source: Bloomberg as of 09/30/21. Monthly data. Representative indices: Bloomberg Taxable Municipal Index and Bloomberg U.S. Corporate Index. The option-adjusted spread (OAS) is the measurement of the spread of a fixed income security rate and the risk-free rate of return, which is adjusted to take into account an embedded option. Past performance is not indicative of future results. An investment cannot be made in an index.

Returns (%), as of September 31, 2021

	Number Issues	Price Return	Coupon Return	MTD Total Return	Past 3m	Past 6m	Year to Date	Past 12m
Taxable Muni	9,088	-1.52	0.28	-1.24	0.20	4.11	0.50	1.93

MTD: Month to Date, Source: Barclays Research, as of 09/30/21. Representative index: Bloomberg Taxable Municipal Index. Past performance is not indicative of future results. An investment cannot be made in an index.

Taxable Municipals, Returns by Sector

	September 2021 (%)	Year-to-Date 2021 (%)		September 2021 (%)	Year-to-Date 2021 (%)
ETM	-0.02	0.42	Airport	-1.23	2.37
Pre-Refunded	-0.20	0.13	Tax	-1.32	0.58
Industrial Development Revenue	-0.41	1.94	Hospitals	-1.41	0.74
Single Family Housing	-0.50	0.84	Utilities - Other	-1.44	-0.80
Multi-Family Housing	-0.63	1.44	GO - State	-1.46	0.99
Tobacco	-0.87	3.99	Toll & Turnpike	-1.62	-0.28
Pollution Control	-0.88	0.06	Water & Sewer	-1.67	-0.30
Misc	-0.93	1.15	Health	-1.67	-0.06
Leasing COPS & Appropriations	-1.13	1.03	Power	-1.81	-0.08
Transportation	-1.17	2.95	Education	-1.86	-0.56
GO - Local	-1.21	0.84			

Source: ICE Indices, as of 09/30/21. Representative index: ICE BofA U.S. Taxable Municipal Securities Plus Index (TXBL). Past performance is not indicative of future results. An investment cannot be made in an index.



Seasonal Imbalance Of Municipal Bonds In The Fall

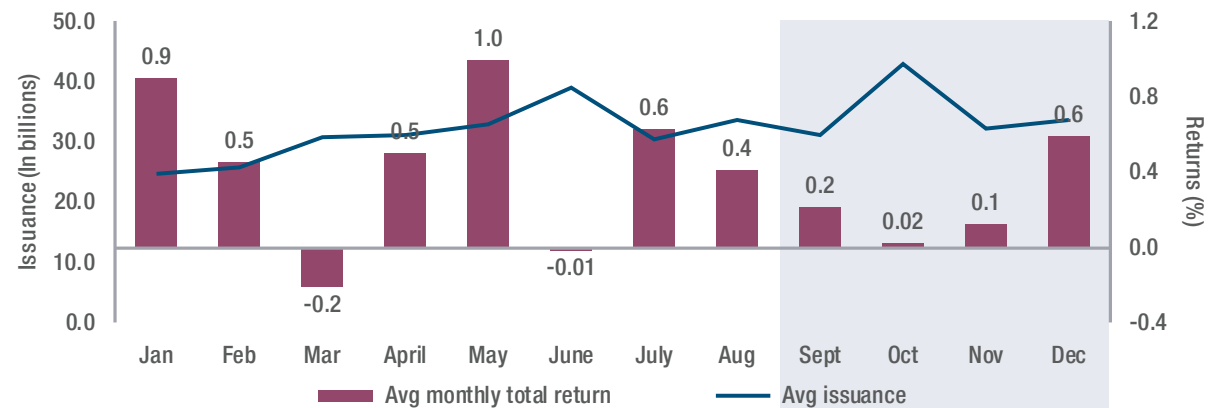
Historical data shows that every year in the fall, we start to see softening in municipal bond performance. What's happening? In a nutshell—more supply than demand due to a temporary increase in supply.

For the seasoned investment professional, this equates to opportunity since demand typically outpaces supply again late in the year. And for investors sitting on the sidelines looking to put cash to work, it's an ideal time to consider investing in municipal bonds.

Source: Bloomberg, 8/31/21. Average monthly total returns are for Bloomberg Municipal Index. Bloomberg Municipal Index is considered representative of the broad market for investment-grade tax-exempt bonds with a maturity of at least one year. Bonds subject to the alternative minimum tax or with floating or zero coupons are excluded. It is not possible to invest directly in an index. Past performance is no guarantee of future results, which will vary. "New York Life Investments" is both a service mark, and the common trade name, of certain investment advisors affiliated with New York Life Insurance Company. "Securities are distributed by NYLIFE Distributors LLC, 30 Hudson Street, Jersey City, NJ 07302, a wholly owned subsidiary of New York Life Insurance Company. NYLIFE Distributors LLC is a Member FINRA/SIPC.

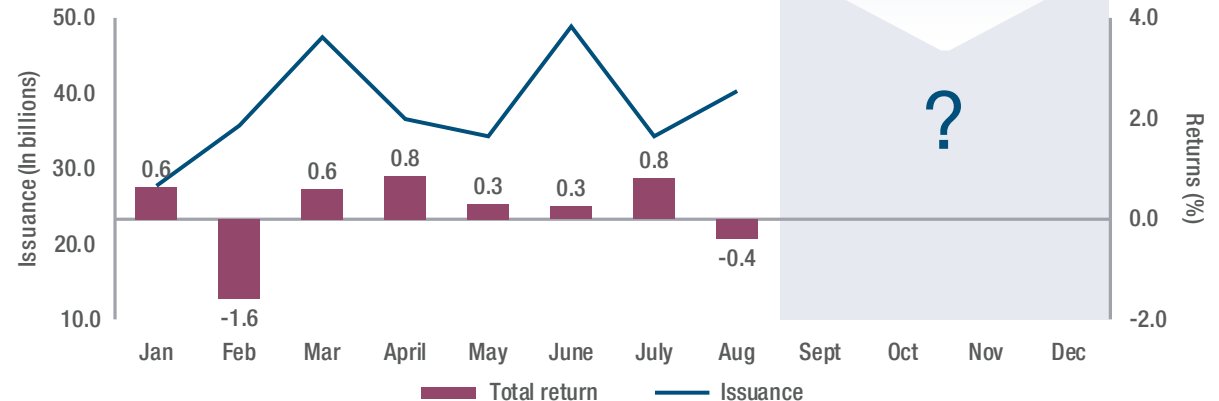
Historical view (2011-2020)

Average monthly municipal bond issuance and average monthly total returns



Current year

2021 monthly issuance and monthly total returns

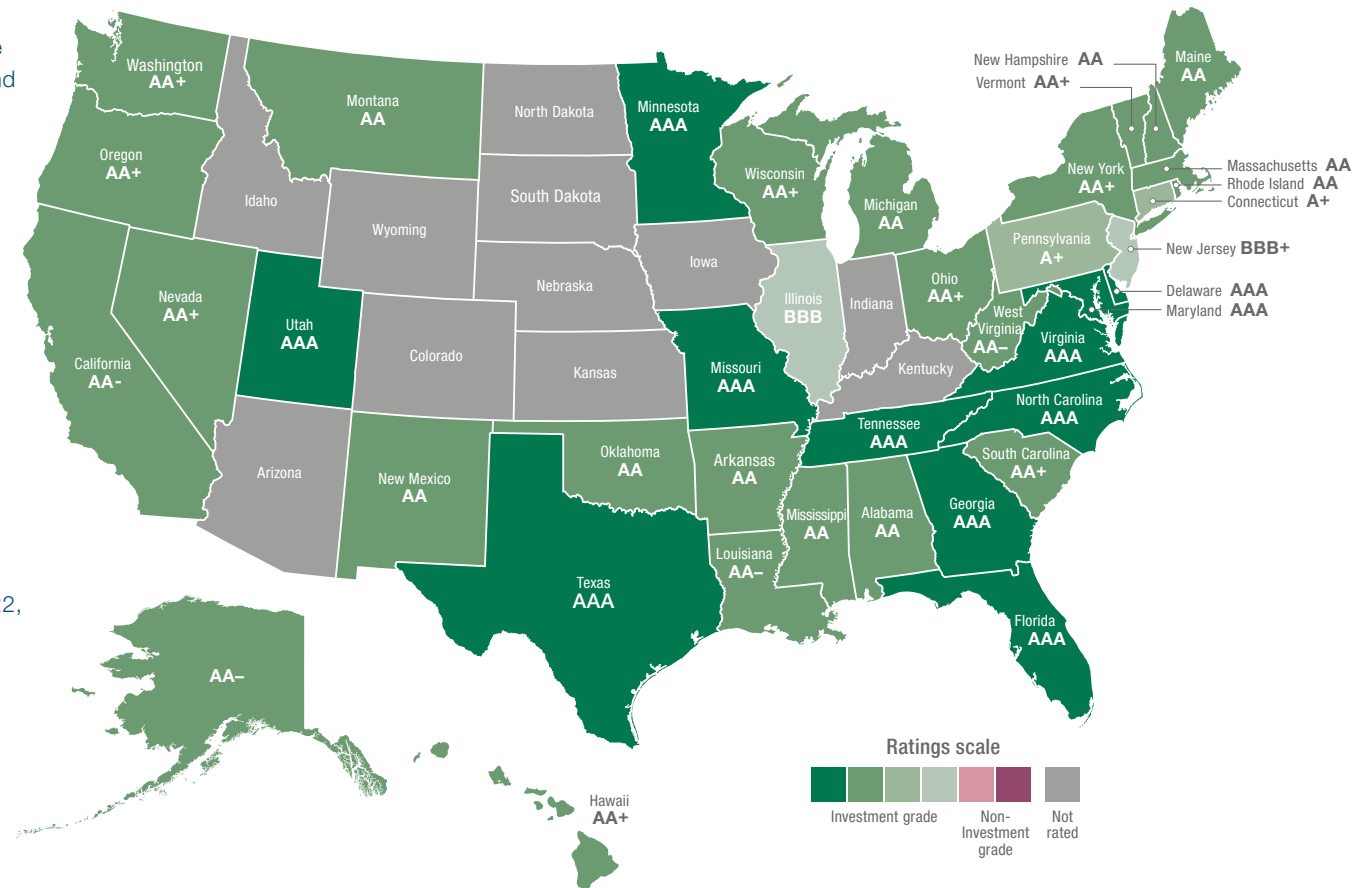




October 2021 State Overviews

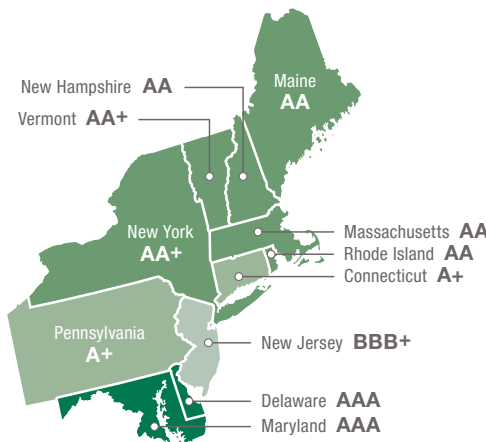
As of 9/30/21

As the novel Coronavirus swept across the country in March of 2020, we saw state and federal governments attempt to brace for the financial repercussions. While early projections called for the largest state budget deficits in recent history, recent findings indicate that states have fared far better than initially thought, with many of them budgeting for the current fiscal year using record-high budget surpluses from FY 2021. With the assistance of federal government grants, state and local governments were able to navigate through these uncertain times. The \$350B American Relief Plan, passed in March of 2021, provided states with either a lump sum payment or two equal payments, the second tranche to be delivered in May 2022, when states can expect to receive over \$100B in additional aid. The current fiscal health of the country reflects not only the generous federal aid, but also the resilience of state economies as many state tax collections are surpassing pre-pandemic levels, reporting an average 12.1 percent increase year-over-year. With vaccination rates continuing to rise, infection rates plateauing, and entering FY 2022 with exceptional liquidity, States are now facing questions related to how they will utilize the influx of cash rather than how they will manage massive projected deficits. Consequently, across the country, states are reporting the highest funding of state pension systems due to increased funding amounts as well as historically high investment rates of return.



North

The eastern state budgets made a significant improvement year-over-year as the region recovered more than anticipated from the COVID-19 pandemic.



- **Connecticut** saw tax receipts grow by \$500M from May to FYE 2021, leading to General Fund revenues closing at \$20.3B, \$274M more than projected just two months prior to fiscal year-end.
- **Massachusetts** also saw meaningful growth in tax collections resulting in year-over-year revenue growth of 15.3 percent, beating projections by 17.3 percent.

- The **State of New Jersey** revised revenue projections upon surging tax collections - generating more cash than the state is accustomed to going into fiscal year 2022. At the onset of the pandemic, Governor Murphy warned New Jersey's revenue loss could be upward of \$30B. Ending FY 2021 with an unprecedented \$10.1B surplus, the Governor and his administration now expect to spend approximately \$4B of its reserves during FY 2022 to finance the first full contribution to the public pension system in nearly three decades, a considerable accomplishment for one of the worst-funded state pension funds in the country.
- **New York**, the early epicenter of the novel COVID-19 virus, benefitted largely from vaccine rollouts and federal aid in FY 2021. Ending the fiscal year, the state had a fund balance \$2.4B higher than projected and \$216.6M higher than FY 2020 levels. Supported by high fund levels and temporary tax increases, the state is heading

into FY 2022 with the largest budget in state history: \$212B (10 percent higher than FY 2021). As New York's fiscal year ends on March 31, FY 2020 may not have captured the full impact COVID-19 had on revenue collections recovery, however, in the 5 months ended August 31, 2021, personal income tax collections year-over-year increased by 35.94 percent and sales tax collections by 31.61 percent.

- **Pennsylvania** closed FY 2021 with a historical \$2.5B surplus due in part to tax collections coming in \$3.4B above projection. Using the surplus, the state plans to increase spending by 7.8 percent year-over-year to improve funding for its school systems while saving most of its relief aid.

	FY 2021 General Fund Results (Balance % of Exp)	Major Revenue Sources (% Change from 2020)	Pension Funding Level (2019)	APRA Funds % of GF Budget
CT	\$470.5M ▲ 2.35%	Personal Income Tax: \$9,705 (3.3%) ▲ Sales Tax: \$4,637M (7.8%) ▲	46%	\$4.4B 8.3%
MA	\$4.3B ▲ 2.21%	Personal Income Tax: \$19.59B (12.9%) ▲ Sales Tax: \$7.83B (15.0%) ▲	59%	\$8.7B 8.4%
NJ	\$10.1B ▲ 24.28%	Personal Income Tax: \$15.28B (16.8%) ▲ Sales Tax: \$10.62B (20.9%) ▲	36%	\$9.8B 9.2%
NY	\$9.2B ▲ 8.85%	Personal Income Tax: \$54.967B (2.4%) ▲ Sales Tax: \$16.12B (10.6%) ▼	92%	\$23.5B 7.4%
PA	\$1.5B ▲ 3.72%	Personal Income Tax: \$16.3B (27.3%) ▲ Sales Tax: \$12.8 (18.5%) ▲	56%	\$13.4B 7.9%

All state budget links are on the [NASBO website](#). CT: [State Fiscal Briefs](#) [Consensus Revenue January 2021](#) [State Comptroller Release](#) [Connecticut Tax Developments 2021](#) [Ctmirror.org](#) [Consensus Revenue April 2021](#) MJ: [Massachusetts Department of Revenue](#) NJ: [nbcphiladelphia.com](#) [State Revenue Update](#) [nj.com](#) [Treasury News Release](#) NY: [Fiscal Year Tax Collections](#) [Enacted Budget Review](#) [2020 Annual Cash Basis Report](#) PA: [Revenue Department Releases Fiscal Year 2020-21 Collections](#) [Senate Passes FY 2021-22 State Budget](#) [paprovers.org](#)

State Profiles



CONNECTICUT



Capital City
Hartford



Governor
Ned Lamont (D)

Total issuance,
as % of market issuance (YTD)¹ 1.72%

of issuers² 456

Pension funded ratio (2019)³ 44.37%

State GO ratings⁴

Moody's Aa3

S&P A+

Fitch A+

Top marginal rates⁵

State level 6.99%

Federal and state combined 43.99%

Tax equivalent yields⁶

2% 3.83%

3% 5.75%

4% 7.66%



DELAWARE



Capital City
Dover



Governor
John Carney (D)

Total issuance,
as % of market issuance (YTD)¹ 0.09%

of issuers² 164

Pension funded ratio (2019)³ 83.42%

State GO ratings⁴

Moody's Aaa

S&P AAA

Fitch AAA

Top marginal rates⁵

State level 6.60%

Federal and state combined 43.60%

Tax equivalent yields⁶

2% 3.80%

3% 5.70%

4% 7.60%



MAINE



Capital City
Augusta



Governor
Janet Mills (D)

Total issuance,
as % of market issuance (YTD)¹ 0.29%

of issuers² 364

Pension funded ratio (2019)³ 84.29%

State GO ratings⁴

Moody's Aa2

S&P AA

Fitch —

Top marginal rates⁵

State level 7.15%

Federal and state combined 44.15%

Tax equivalent yields⁶

2% 3.84%

3% 5.76%

4% 7.68%

1. Bloomberg, September 2021. 2. Electronic Municipal Market Access (EMMA), September 2021. 3. PEW, 2019. 4. Bloomberg, September 2021. 5. Tax Foundation, March 2021. 6. Tax equivalent yield assumes the current maximum state and federal income tax rate (for 2020) and the 3.8% Medicare surcharge. Tax treatment of Fund distributions vary; investors should consult a tax advisor with respect to the tax implications of an investment in a Fund that invests in tax-exempt securities.

State Profiles



MARYLAND



Capital City
Annapolis



Governor
Larry Hogan (R)

Total issuance,
as % of market issuance (YTD)¹ 1.89%

of issuers² 468

Pension funded ratio (2019)³ 71.57%

State GO ratings⁴

Moody's Aaa

S&P AAA

Fitch AAA

Top marginal rates⁵

State level 5.75%

Federal and state combined 42.75%

Tax equivalent yields⁶

2% 3.74%

3% 5.61%

4% 7.48%



MASSACHUSETTS



Capital City
Boston



Governor
Charlie Baker (R)

Total issuance,
as % of market issuance (YTD)¹ 2.89%

of issuers² 909

Pension funded ratio (2019)³ 59.40%

State GO ratings⁴

Moody's Aa1

S&P AA

Fitch AA+

Top marginal rates⁵

State level 5.00%

Federal and state combined 42.00%

Tax equivalent yields⁶

2% 3.69%

3% 5.54%

4% 7.38%



NEW HAMPSHIRE



Capital City
Concord



Governor
Chris Sununu (R)

Total issuance,
as % of market issuance (YTD)¹ 0.25%

of issuers² 295

Pension funded ratio (2019)³ 65.52%

State GO ratings⁴

Moody's Aa1

S&P AA

Fitch AA+

Top marginal rates⁵

State level 5.00%

Federal and state combined 42.00%

Tax equivalent yields⁶

2% 3.69%

3% 5.54%

4% 7.38%

1. Bloomberg, September 2021. 2. Electronic Municipal Market Access (EMMA), September 2021. 3. PEW, 2019. 4. Bloomberg, September 2021. 5. Tax Foundation, March 2021. 6. Tax equivalent yield assumes the current maximum state and federal income tax rate (for 2020) and the 3.8% Medicare surcharge. Tax treatment of Fund distributions vary; investors should consult a tax advisor with respect to the tax implications of an investment in a Fund that invests in tax-exempt securities.

State Profiles



NEW JERSEY



Capital City
Trenton



Governor
Phil Murphy (D)

Total issuance, as % of market issuance (YTD) ¹	3.33%
---	-------

# of issuers ²	2,041
---------------------------	-------

Pension funded ratio (2019) ³	39.73%
--	--------

State GO ratings⁴

Moody's	A3
---------	----

S&P	BBB+
-----	------

Fitch	A-
-------	----

Top marginal rates⁵

State level	10.75%
-------------	--------

Federal and state combined	47.75%
----------------------------	--------

Tax equivalent yields⁶

2%	4.13%
----	-------

3%	6.19%
----	-------

4%	8.26%
----	-------



NEW YORK



Capital City
Albany



Governor
Kathy Hochul (D)

Total issuance, as % of market issuance (YTD) ¹	12.34%
---	--------

# of issuers ²	3,659
---------------------------	-------

Pension funded ratio (2019) ³	96.09%
--	--------

State GO ratings⁴

Moody's	Aa2
---------	-----

S&P	AA+
-----	-----

Fitch	AA+
-------	-----

Top marginal rates⁵

State level	8.82%
-------------	-------

Federal and state combined	45.82%
----------------------------	--------

Tax equivalent yields⁶

2%	3.97%
----	-------

3%	5.95%
----	-------

4%	7.94%
----	-------



PENNSYLVANIA



Capital City
Harrisburg



Governor
Tom Wolf (D)

Total issuance, as % of market issuance (YTD) ¹	3.98%
---	-------

# of issuers ²	4,317
---------------------------	-------

Pension funded ratio (2019) ³	58.03%
--	--------

State GO ratings⁴

Moody's	Aa3
---------	-----

S&P	A+
-----	----

Fitch	AA-
-------	-----

Top marginal rates⁵

State level	3.07%
-------------	-------

Federal and state combined	40.07%
----------------------------	--------

Tax equivalent yields⁶

2%	3.56%
----	-------

3%	5.34%
----	-------

4%	7.13%
----	-------

1. Bloomberg, September 2021. 2. Electronic Municipal Market Access (EMMA), September 2021. 3. PEW, 2019. 4. Bloomberg, September 2021. 5. Tax Foundation, March 2021. 6. Tax equivalent yield assumes the current maximum state and federal income tax rate (for 2020) and the 3.8% Medicare surcharge. Tax treatment of Fund distributions vary; investors should consult a tax advisor with respect to the tax implications of an investment in a Fund that invests in tax-exempt securities.

State Profiles



RHODE ISLAND



Capital City
Providence



Governor
Daniel McKee (D)

Total issuance, as % of market issuance (YTD) ¹	0.39%
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# of issuers ²	181
---------------------------	-----

Pension funded ratio (2019) ³	54.45%
--	--------

State GO ratings⁴

Moody's	Aa2
---------	-----

S&P	AA
-----	----

Fitch	AA
-------	----

Top marginal rates⁵

State level	5.99%
-------------	-------

Federal and state combined	42.99%
----------------------------	--------

Tax equivalent yields⁶

2%	3.76%
----	-------

3%	5.64%
----	-------

4%	7.52%
----	-------



VERMONT



Capital City
Montpelier



Governor
Phil Scott (R)

Total issuance, as % of market issuance (YTD) ¹	0.08%
---	-------

# of issuers ²	116
---------------------------	-----

Pension funded ratio (2019) ³	63.72%
--	--------

State GO ratings⁴

Moody's	Aa1
---------	-----

S&P	AA+
-----	-----

Fitch	AA+
-------	-----

Top marginal rates⁵

State level	8.75%
-------------	-------

Federal and state combined	45.75%
----------------------------	--------

Tax equivalent yields⁶

2%	3.96%
----	-------

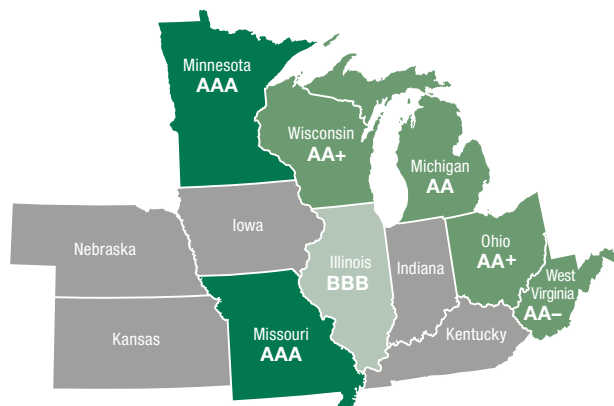
3%	5.95%
----	-------

4%	7.93%
----	-------

1. Bloomberg, September 2021. 2. Electronic Municipal Market Access (EMMA), September 2021. 3. PEW, 2019. 4. Bloomberg, September 2021. 5. Tax Foundation, March 2021. 6. Tax equivalent yield assumes the current maximum state and federal income tax rate (for 2020) and the 3.8% Medicare surcharge. Tax treatment of Fund distributions vary; investors should consult a tax advisor with respect to the tax implications of an investment in a Fund that invests in tax-exempt securities.

Central

Similar to the east coast states, the central region of the country has largely recovered from the financial impact of the pandemic.



► In September, the **State of Michigan** passed its \$70B FY 2022 budget with a focus on fixing roads and bridges as well as using ~\$1B of federal aid to expand child care, with \$7.5B of the relief money still to be appropriated.

► **Illinois** saw FY 2021 General Fund revenue

receipts increase by nearly 18% over the year, driven by an increase in sales and individual income tax collections and reporting a General Fund surplus and reduction in billable backlog. With the highest pension debt levels in the country at \$230B (2019), the systems were able to realize nearly 26 percent in investment returns during the previous fiscal year, bringing assets to \$24.8B.

► **Ohio** revenue outlook remains strong, with projections showing revenue growth of \$4.7B between FYs 2020 and 2023, or an average of \$1.18B per year.

► The **State of Kentucky** enjoyed a 10.9% increase in General Fund receipts year-over-year, resulting in a record-high surplus of \$1.1B, up from just \$303M at the end of last year. With 25% investment returns for FY 2021, the state pension system has reported increased funding levels to \$22.7B.

	FY 2021 General Fund Results (Balance % of Exp)	Major Revenue Sources (% Change from 2020)	Pension Funding Level (2019)	APRA Funds % of GF Budget
IL	\$646M ▲ 1.42%	Personal Income Tax: \$25,637M (30.1%) ▲ Sales Tax: \$17,330M (35.7%) ▲	39%	\$14.1B 10.5%
KY	\$1.1B ▲ 33.77%	Personal Income Tax: \$5,143.8M (7.9%) ▲ Sales Tax: \$4,561M (12.0%) ▲	46%	\$3.8B 5.5%
MI	\$2,852.2M ▲ 27.48%	Personal Income Tax: \$7,134M (3.9%) ▲ Sales Tax: \$1,392M (7.1%) ▲	61%	\$10.9B 10.9%
OH	\$1.7B ▲ 4.71%	Personal Income Tax: \$10,201M (29.4%) ▲ Sales Tax: \$12,191M (14.1%) ▲	75%	\$10.7B 7.2%

All state budget links are on the [NASBO website](#). MI: [Projected Revenues and Expenditures Report](#) [freep.com](#) [Economic Outlook May 2021](#) IL: [sj-r.com](#) [taxfoundation.org](#) [The Civic Federation: Blog1](#) [The Civic Federation: Blog2](#) [The Civic Federation: Blog3](#) [illinoispolicy.org](#) [Illinois Policy Report](#) OH: [Preliminary Revenue Data](#) [Taxfoundation.org](#) [LBO Budget Footnotes](#) [Statenews.org](#) KY: [General and Road Fund Report](#) [thetimestribune.com](#) [2020-21 Budget of the Commonwealth](#)

State Profiles



ILLINOIS



Capital City
Springfield



Governor
J.B. Pritzker (D)

Total issuance, as % of market issuance (YTD) ¹	2.44%
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# of issuers ²	4,750
---------------------------	-------

Pension funded ratio (2019) ³	38.92%
--	--------

State GO ratings⁴

Moody's	Baa2
---------	------

S&P	BBB
-----	-----

Fitch	BBB-
-------	------

Top marginal rates⁵

State level	4.95%
-------------	-------

Federal and state combined	41.95%
----------------------------	--------

Tax equivalent yields⁶

2%	3.69%
----	-------

3%	5.53%
----	-------

4%	7.37%
----	-------



IOWA



Capital City
Des Moines



Governor
Kim Reynolds (R)

Total issuance, as % of market issuance (YTD) ¹	0.94%
---	-------

# of issuers ²	2,581
---------------------------	-------

Pension funded ratio (2019) ³	85.36%
--	--------

State GO ratings⁴

Moody's	—
---------	---

S&P	—
-----	---

Fitch	—
-------	---

Top marginal rates⁵

State level	8.53%
-------------	-------

Federal and state combined	45.53%
----------------------------	--------

Tax equivalent yields⁶

2%	3.95%
----	-------

3%	5.92%
----	-------

4%	7.89%
----	-------



INDIANA



Capital City
Indianapolis



Governor
Eric Holcomb (R)

Total issuance, as % of market issuance (YTD) ¹	1.21%
---	-------

# of issuers ²	4,107
---------------------------	-------

Pension funded ratio (2019) ³	68.60%
--	--------

State GO ratings⁴

Moody's	—
---------	---

S&P	—
-----	---

Fitch	—
-------	---

Top marginal rates⁵

State level	3.23%
-------------	-------

Federal and state combined	40.23%
----------------------------	--------

Tax equivalent yields⁶

2%	3.57%
----	-------

3%	5.36%
----	-------

4%	7.15%
----	-------

1. Bloomberg, September 2021. 2. Electronic Municipal Market Access (EMMA), September 2021. 3. PEW, 2019. 4. Bloomberg, September 2021. 5. Tax Foundation, March 2021. 6. Tax equivalent yield assumes the current maximum state and federal income tax rate (for 2020) and the 3.8% Medicare surcharge. Tax treatment of Fund distributions vary; investors should consult a tax advisor with respect to the tax implications of an investment in a Fund that invests in tax-exempt securities.

State Profiles



KANSAS



Capital City
Topeka



Governor
Laura Kelly (D)

Total issuance,
as % of market issuance (YTD)¹ 1.09%

of issuers² 2,301

Pension funded ratio (2019)³ 69.88%

State GO ratings⁴

Moody's —

S&P —

Fitch —

Top marginal rates⁵

State level 5.70%

Federal and state combined 42.70%

Tax equivalent yields⁶

2% 3.74%

3% 5.61%

4% 7.48%



KENTUCKY



Capital City
Frankfort



Governor
Andy Beshear (D)

Total issuance,
as % of market issuance (YTD)¹ 0.80%

of issuers² 1,975

Pension funded ratio (2019)³ 44.64%

State GO ratings⁴

Moody's —

S&P —

Fitch —

Top marginal rates⁵

State level 5.00%

Federal and state combined 42.00%

Tax equivalent yields⁶

2% 3.69%

3% 5.54%

4% 7.38%



MICHIGAN



Capital City
Lansing



Governor
Gretchen Whitmer (D)

Total issuance,
as % of market issuance (YTD)¹ 2.08%

of issuers² 3,703

Pension funded ratio (2019)³ 61.09%

State GO ratings⁴

Moody's Aa1

S&P AA

Fitch AA

Top marginal rates⁵

State level 4.25%

Federal and state combined 41.25%

Tax equivalent yields⁶

2% 3.64%

3% 5.46%

4% 7.28%

1. Bloomberg, September 2021. 2. Electronic Municipal Market Access (EMMA), September 2021. 3. PEW, 2019. 4. Bloomberg, September 2021. 5. Tax Foundation, March 2021. 6. Tax equivalent yield assumes the current maximum state and federal income tax rate (for 2020) and the 3.8% Medicare surcharge. Tax treatment of Fund distributions vary; investors should consult a tax advisor with respect to the tax implications of an investment in a Fund that invests in tax-exempt securities.

State Profiles



MINNESOTA



Capital City
St. Paul



Governor
Tim Walz (D)

Total issuance, as % of market issuance (YTD) ¹	1.32%
---	-------

# of issuers ²	3,642
---------------------------	-------

Pension funded ratio (2019) ³	82.23%
--	--------

State GO ratings⁴

Moody's	Aa1
---------	-----

S&P	AAA
-----	-----

Fitch	AAA
-------	-----

Top marginal rates⁵

State level	9.85%
-------------	-------

Federal and state combined	46.85%
----------------------------	--------

Tax equivalent yields⁶

2%	4.05%
----	-------

3%	6.08%
----	-------

4%	8.11%
----	-------



MISSOURI



Capital City
Jefferson City



Governor
Mike Parson (R)

Total issuance, as % of market issuance (YTD) ¹	1.04%
---	-------

# of issuers ²	3,678
---------------------------	-------

Pension funded ratio (2019) ³	77.78%
--	--------

State GO ratings⁴

Moody's	Aaa
---------	-----

S&P	AAA
-----	-----

Fitch	AAA
-------	-----

Top marginal rates⁵

State level	5.40%
-------------	-------

Federal and state combined	42.40%
----------------------------	--------

Tax equivalent yields⁶

2%	3.72%
----	-------

3%	5.58%
----	-------

4%	7.43%
----	-------



NEBRASKA



Capital City
Lincoln



Governor
Pete Ricketts (R)

Total issuance, as % of market issuance (YTD) ¹	0.64%
---	-------

# of issuers ²	2,505
---------------------------	-------

Pension funded ratio (2019) ³	93.15%
--	--------

State GO ratings⁴

Moody's	—
---------	---

S&P	—
-----	---

Fitch	—
-------	---

Top marginal rates⁵

State level	6.84%
-------------	-------

Federal and state combined	43.84%
----------------------------	--------

Tax equivalent yields⁶

2%	3.82%
----	-------

3%	5.73%
----	-------

4%	7.64%
----	-------

1. Bloomberg, September 2021. 2. Electronic Municipal Market Access (EMMA), September 2021. 3. PEW, 2019. 4. Bloomberg, September 2021. 5. Tax Foundation, March 2021. 6. Tax equivalent yield assumes the current maximum state and federal income tax rate (for 2020) and the 3.8% Medicare surcharge. Tax treatment of Fund distributions vary; investors should consult a tax advisor with respect to the tax implications of an investment in a Fund that invests in tax-exempt securities.

State Profiles



OHIO



Capital City
Columbus



Governor
Mike DeWine (R)

Total issuance, as % of market issuance (YTD) ¹	2.15%
---	-------

# of issuers ²	3,428
---------------------------	-------

Pension funded ratio (2019) ³	79.99%
--	--------

State GO ratings⁴

Moody's	Aa1
---------	-----

S&P	AA+
-----	-----

Fitch	AA+
-------	-----

Top marginal rates⁵

State level	4.80%
-------------	-------

Federal and state combined	41.80%
----------------------------	--------

Tax equivalent yields⁶

2%	3.68%
----	-------

3%	5.51%
----	-------

4%	7.35%
----	-------



WEST VIRGINIA



Capital City
Charleston



Governor
Jim Justice (R)

Total issuance, as % of market issuance (YTD) ¹	0.29%
---	-------

# of issuers ²	721
---------------------------	-----

Pension funded ratio (2019) ³	83.37%
--	--------

State GO ratings⁴

Moody's	Aa2
---------	-----

S&P	AA-
-----	-----

Fitch	AA
-------	----

Top marginal rates⁵

State level	6.50%
-------------	-------

Federal and state combined	43.50%
----------------------------	--------

Tax equivalent yields⁶

2%	3.80%
----	-------

3%	5.69%
----	-------

4%	7.59%
----	-------



WISCONSIN



Capital City
Madison



Governor
Tony Evers (D)

Total issuance, as % of market issuance (YTD) ¹	2.04%
---	-------

# of issuers ²	2,987
---------------------------	-------

Pension funded ratio (2019) ³	102.96%
--	---------

State GO ratings⁴

Moody's	Aa1
---------	-----

S&P	AA+
-----	-----

Fitch	AA+
-------	-----

Top marginal rates⁵

State level	7.65%
-------------	-------

Federal and state combined	44.65%
----------------------------	--------

Tax equivalent yields⁶

2%	3.88%
----	-------

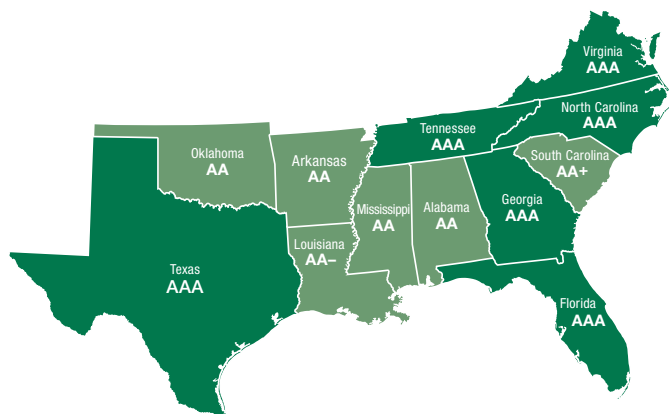
3%	5.82%
----	-------

4%	7.76%
----	-------

1. Bloomberg, September 2021. 2. Electronic Municipal Market Access (EMMA), September 2021. 3. PEW, 2019. 4. Bloomberg, September 2021. 5. Tax Foundation, March 2021. 6. Tax equivalent yield assumes the current maximum state and federal income tax rate (for 2020) and the 3.8% Medicare surcharge. Tax treatment of Fund distributions vary; investors should consult a tax advisor with respect to the tax implications of an investment in a Fund that invests in tax-exempt securities.

South

Economies in the southern region of the country proved resilient throughout the year, with many states having to continuously revise budgets as they prepared for economies to reopen during the summer of 2020.



- **Florida** had significant year-over-year growth in tax collections, with sales and use tax revenues growing 43 percent and corporate income tax revenues growing 77 percent. Governor DeSantis took this opportunity to pass the FY 2022 Florida Leads budget, which comes in

at just over \$100B and includes \$169M in relief for the taxpayers of Florida.

- **Georgia** saw a 13.5 percent increase in total tax revenues year-over-year, with sales tax receipts increasing nearly \$1.3B. The state also managed to end the fiscal year with a \$2.2B surplus even after funding the rainy day fund to full capacity.
- **Oklahoma**, a state with historically high reliance on the energy sector, had total gross receipts for FY 2021 come in at \$14.3B, just \$80M less than what was collected in FY 2019 and almost 12 percent above FY 2020 collections.

- The **State of Texas**, whose fiscal year spans from September through August, experienced over 7 percent in overall tax collections, resulting in \$60.5B of General Fund revenues. Despite the economy taking a hit from oil and gas demand shortfalls, oil production tax revenues ended the year up by nearly 7 percent and natural gas production tax revenues were up by approximately 70 percent compared to FY 2020 collections.

	FY 2021 General Fund Results (Balance % of Exp)	Major Revenue Sources (% Change from 2020)	Pension Funding Level (2019)	APRA Funds % of GF Budget
FL	\$2.3B ▲ 6.57%	Personal Income Tax: \$3,407.2M (37.3%) ▲ Sales Tax: \$34,331.5M (20.6%) ▲	77%	\$15.9B 9.7%
GA	\$2.2B ▲ 8.79%	Personal Income Tax: \$14,222M (14.6%) ▲ Sales Tax: \$6,948M (12.7%) ▲	79%	\$8.4B 8.9%
OK	\$282M ▲ 3.38%	Personal Income Tax: \$4,210M (2.9%) ▲ Sales Tax: \$5,880M (7.2%) ▲	80%	\$3.2B 7.5%
TX	\$5.0B ▲ 1.92%	Personal Income Tax: n/a Sales Tax: \$36B (5.6%) ▲	67%	\$26.3B 12.2%

All state budget links are on the [NASBO website](#). FL: [Overview of Georgia's 2022 Fiscal Year Budget](#)
[Governor's 2020 - 2021 Proposed State Budget](#) [taxfoundation.org](#) [flgov.com](#) GA: [Overview of Georgia's 2022 Fiscal Year Budget](#) [ajc.com](#) [allongeorgia.com](#) [apnews.com](#) [Department of Revenue Press Release](#)
[Monthly Department Revenue Collection](#) OK: [ocpathink.org](#) [Oklahoma Economic Report](#) TX: [thetexan.news](#)
[Comptroller Revenue Estimate Release](#) [Comptroller Revenue Announcement](#)

State Profiles



ALABAMA



Capital City
Montgomery



Governor
Kay Ivey (R)

Total issuance, as % of market issuance (YTD) ¹	1.54%
---	-------

# of issuers ²	2,189
---------------------------	-------

Pension funded ratio (2019) ³	69.38%
--	--------

State GO ratings⁴

Moody's	Aa1
---------	-----

S&P	AA
-----	----

Fitch	AA+
-------	-----

Top marginal rates⁵

State level	5.00%
-------------	-------

Federal and state combined	42.00%
----------------------------	--------

Tax equivalent yields⁶

2%	3.69%
----	-------

3%	5.54%
----	-------

4%	7.38%
----	-------



ARKANSAS



Capital City
Little Rock



Governor
Asa Hutchinson (R)

Total issuance, as % of market issuance (YTD) ¹	0.65%
---	-------

# of issuers ²	1,592
---------------------------	-------

Pension funded ratio (2019) ³	79.99%
--	--------

State GO ratings⁴

Moody's	Aa1
---------	-----

S&P	AA
-----	----

Fitch	—
-------	---

Top marginal rates⁵

State level	5.90%
-------------	-------

Federal and state combined	42.90%
----------------------------	--------

Tax equivalent yields⁶

2%	3.75%
----	-------

3%	5.63%
----	-------

4%	7.50%
----	-------



FLORIDA



Capital City
Tallahassee



Governor
Ron DeSantis (R)

Total issuance, as % of market issuance (YTD) ¹	3.45%
---	-------

# of issuers ²	3,781
---------------------------	-------

Pension funded ratio (2019) ³	78.22%
--	--------

State GO ratings⁴

Moody's	Aaa
---------	-----

S&P	AAA
-----	-----

Fitch	AAA
-------	-----

Top marginal rates⁵

State level	0.00%
-------------	-------

Federal and state combined	37.00%
----------------------------	--------

Tax equivalent yields⁶

2%	3.38%
----	-------

3%	5.07%
----	-------

4%	6.76%
----	-------

1. Bloomberg, September 2021. 2. Electronic Municipal Market Access (EMMA), September 2021. 3. PEW, 2019. 4. Bloomberg, September 2021. 5. Tax Foundation, March 2021. 6. Tax equivalent yield assumes the current maximum state and federal income tax rate (for 2020) and the 3.8% Medicare surcharge. Tax treatment of Fund distributions vary; investors should consult a tax advisor with respect to the tax implications of an investment in a Fund that invests in tax-exempt securities.

State Profiles



GEORGIA



Capital City
Atlanta



Governor
Brian Kemp (R)

Total issuance, as % of market issuance (YTD) ¹	1.74%
---	-------

# of issuers ²	2,001
---------------------------	-------

Pension funded ratio (2019) ³	78.68%
--	--------

State GO ratings⁴

Moody's	Aaa
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S&P	AAA
-----	-----

Fitch	AAA
-------	-----

Top marginal rates⁵

State level	5.75%
-------------	-------

Federal and state combined	42.75%
----------------------------	--------

Tax equivalent yields⁶

2%	3.74%
----	-------

3%	5.61%
----	-------

4%	7.48%
----	-------



LOUISIANA



Capital City
Baton Rouge



Governor
John Bel Edwards (D)

Total issuance, as % of market issuance (YTD) ¹	1.01%
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# of issuers ²	1,749
---------------------------	-------

Pension funded ratio (2019) ³	66.91%
--	--------

State GO ratings⁴

Moody's	Aa3
---------	-----

S&P	AA-
-----	-----

Fitch	AA-
-------	-----

Top marginal rates⁵

State level	6.00%
-------------	-------

Federal and state combined	43.00%
----------------------------	--------

Tax equivalent yields⁶

2%	3.76%
----	-------

3%	5.64%
----	-------

4%	7.52%
----	-------



MISSISSIPPI



Capital City
Jackson



Governor
Tate Reeves (R)

Total issuance, as % of market issuance (YTD) ¹	0.33%
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# of issuers ²	1,307
---------------------------	-------

Pension funded ratio (2019) ³	61.67%
--	--------

State GO ratings⁴

Moody's	Aa2
---------	-----

S&P	AA
-----	----

Fitch	AA
-------	----

Top marginal rates⁵

State level	5.00%
-------------	-------

Federal and state combined	42.00%
----------------------------	--------

Tax equivalent yields⁶

2%	3.69%
----	-------

3%	5.54%
----	-------

4%	7.38%
----	-------

1. Bloomberg, September 2021. 2. Electronic Municipal Market Access (EMMA), September 2021. 3. PEW, 2019. 4. Bloomberg, September 2021. 5. Tax Foundation, March 2021. 6. Tax equivalent yield assumes the current maximum state and federal income tax rate (for 2020) and the 3.8% Medicare surcharge. Tax treatment of Fund distributions vary; investors should consult a tax advisor with respect to the tax implications of an investment in a Fund that invests in tax-exempt securities.

State Profiles



NORTH CAROLINA



Capital City
Raleigh



Governor
Roy Cooper (D)

Total issuance, as % of market issuance (YTD) ¹	1.61%
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# of issuers ²	1,089
---------------------------	-------

Pension funded ratio (2019) ³	88.45%
--	--------

State GO ratings⁴

Moody's	Aaa
---------	-----

S&P	AAA
-----	-----

Fitch	AAA
-------	-----

Top marginal rates⁵

State level	5.25%
-------------	-------

Federal and state combined	42.25%
----------------------------	--------

Tax equivalent yields⁶

2%	3.71%
----	-------

3%	5.56%
----	-------

4%	7.41%
----	-------



OKLAHOMA



Capital City
Oklahoma City



Governor
Kevin Stitt (R)

Total issuance, as % of market issuance (YTD) ¹	0.61%
---	-------

# of issuers ²	1,735
---------------------------	-------

Pension funded ratio (2019) ³	80.73%
--	--------

State GO ratings⁴

Moody's	Aa2
---------	-----

S&P	AA
-----	----

Fitch	—
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Top marginal rates⁵

State level	5.00%
-------------	-------

Federal and state combined	42.00%
----------------------------	--------

Tax equivalent yields⁶

2%	3.69%
----	-------

3%	5.54%
----	-------

4%	7.38%
----	-------



SOUTH CAROLINA



Capital City
Columbia



Governor
Henry McMaster (R)

Total issuance, as % of market issuance (YTD) ¹	1.13%
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# of issuers ²	872
---------------------------	-----

Pension funded ratio (2019) ³	55.39%
--	--------

State GO ratings⁴

Moody's	Aaa
---------	-----

S&P	AA+
-----	-----

Fitch	AAA
-------	-----

Top marginal rates⁵

State level	7.00%
-------------	-------

Federal and state combined	44.00%
----------------------------	--------

Tax equivalent yields⁶

2%	3.83%
----	-------

3%	5.75%
----	-------

4%	7.66%
----	-------

1. Bloomberg, September 2021. 2. Electronic Municipal Market Access (EMMA), September 2021. 3. PEW, 2019. 4. Bloomberg, September 2021. 5. Tax Foundation, March 2021. 6. Tax equivalent yield assumes the current maximum state and federal income tax rate (for 2020) and the 3.8% Medicare surcharge. Tax treatment of Fund distributions vary; investors should consult a tax advisor with respect to the tax implications of an investment in a Fund that invests in tax-exempt securities.

State Profiles



TENNESSEE



Capital City
Nashville



Governor
Bill Lee (R)

Total issuance,
as % of market issuance (YTD)¹ 1.96%

of issuers² 1,351

Pension funded ratio (2019)³ 98.24%

State GO ratings⁴

Moody's Aaa

S&P AAA

Fitch AAA

Top marginal rates⁵

State level 1.00%

Federal and state combined 38.00%

Tax equivalent yields⁶

2% 3.44%

3% 5.15%

4% 6.87%



TEXAS



Capital City
Austin



Governor
Greg Abbott (R)

Total issuance,
as % of market issuance (YTD)¹ 10.64%

of issuers² 6,950

Pension funded ratio (2019)³ 69.02%

State GO ratings⁴

Moody's Aaa

S&P AAA

Fitch AAA

Top marginal rates⁵

State level 0.00%

Federal and state combined 37.00%

Tax equivalent yields⁶

2% 3.38%

3% 5.07%

4% 6.76%



VIRGINIA



Capital City
Richmond



Governor
Ralph Northam (D)

Total issuance,
as % of market issuance (YTD)¹ 1.93%

of issuers² 1,221

Pension funded ratio (2019)³ 77.21%

State GO ratings⁴

Moody's Aaa

S&P AAA

Fitch AAA

Top marginal rates⁵

State level 5.75%

Federal and state combined 42.75%

Tax equivalent yields⁶

2% 3.74%

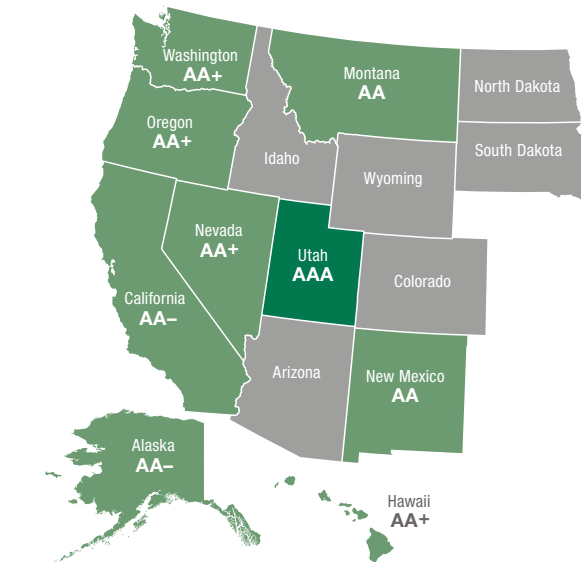
3% 5.61%

4% 7.48%

1. Bloomberg, September 2021. 2. Electronic Municipal Market Access (EMMA), September 2021. 3. PEW, 2019. 4. Bloomberg, September 2021. 5. Tax Foundation, March 2021. 6. Tax equivalent yield assumes the current maximum state and federal income tax rate (for 2020) and the 3.8% Medicare surcharge. Tax treatment of Fund distributions vary; investors should consult a tax advisor with respect to the tax implications of an investment in a Fund that invests in tax-exempt securities.

West

Western states reported strong tax collections, leading to record level surpluses and historically high budgets for FY 2022. In the first 6 months of the fiscal year.



► **Arizona's** General Fund Revenues posted nearly 18 percent year-over-year growth. The Fund's two largest revenue categories, individual income tax and transaction privilege tax, posted growth rates of approximately 27 percent and 11 percent, respectively.

► The **State of California** ended FY 2021 with a record budget surplus of \$85B, allowing Governor Newsom to enact a \$196B budget for FY 2022. California state tax collections, led by a 73% increase in Personal Income Tax receipts, allowed the state to add to reserves and fund statewide education and social programs.

► The **State of Colorado** saw personal income tax collections surge nearly 40 percent year-over-year, allowing the state to pass a record-high budget of \$34.1B- almost \$4B larger than FY 2021's budget.

► The **State of Nevada**, revenues were hit hard during the pandemic due to its heavy reliance on the tourism industry. The state's recovery is led by the gaming industry, where it is bringing in its sixth straight month of \$1B+ in revenues (August 2021), something that's only happened four times in its history. At fiscal year-end, the state saw gaming fee collections increase by 14.1 percent year-over-year, contributing to a year-end General Fund balance of over \$4.474B.

	FY 2021 General Fund Results (Balance % of Exp)	Major Revenue Sources (% Change from 2020)	Pension Funding Level (2019)	APRA Funds % of GF Budget
AZ	\$881M ▲ 7.16%	Personal Income Tax: \$5,663M (26.7%) ▲ Sales Tax: \$5,796M (7.5%) ▲	67%	\$6.8B 10.3%
CA	\$28.2B ▲ 17.0%	Personal Income Tax: \$143,755M (73.4%) ▲ Sales Tax: \$28,648M (8.4%) ▲	72%	\$42.9B 8.0%
CO	\$1.0B ▲ 7.45%	Personal Income Tax: \$10,679M (38.8%) ▲ Sales Tax: \$3,752M (6.7%) ▲	55%	\$5.8B 9.4%
NV	\$4.5B ▲ 30.05%	Personal Income Tax: \$1,065B (4.1%) ▲ Sales Tax: \$638M (14.1%) ▲	77%	\$3.8B 17.2%

All state budget links are on the [NASBO website](#). AZ: [Arizona Executive Budget Summary 2022](#) CA: [May Revenue Outlook](#) [California State Budget 2021-22](#) [politico.com](#) [General Fund Statement](#) CO: [Colorado Economic & Fiscal Outlook](#) [General Fund Report](#) [kdvr.com](#) NV: [Interim Finance Committee](#) [Fiscal Report Revenue Reference Manual](#) [Statewide Expenditure Summary](#) [Press Release](#)

State Profiles



ALASKA



Capital City
Juneau



Governor
Mike Dunleavy (R)

Total issuance,
as % of market issuance (YTD)¹ 0.22%

of issuers² 147

Pension funded ratio (2019)³ 67.36%

State GO ratings⁴

Moody's Aa3

S&P AA-

Fitch A+

Top marginal rates⁵

State level 0.00%

Federal and state combined 37.00%

Tax equivalent yields⁶

2% 3.38%

3% 5.07%

4% 6.76%



ARIZONA



Capital City
Phoenix



Governor
Doug Ducey (R)

Total issuance,
as % of market issuance (YTD)¹ 1.74%

of issuers² 1,354

Pension funded ratio (2019)³ 65.16%

State GO ratings⁴

Moody's —

S&P —

Fitch —

Top marginal rates⁵

State level 8.00%

Federal and state combined 45.00%

Tax equivalent yields⁶

2% 3.91%

3% 5.86%

4% 7.81%



CALIFORNIA



Capital City
Sacramento



Governor
Gavin Newsom (D)

Total issuance,
as % of market issuance (YTD)¹ 16.90%

of issuers² 9,152

Pension funded ratio (2019)³ 71.93%

State GO ratings⁴

Moody's Aa2

S&P AA-

Fitch AA

Top marginal rates⁵

State level 13.30%

Federal and state combined 50.30%

Tax equivalent yields⁶

2% 4.36%

3% 6.54%

4% 8.71%

1. Bloomberg, September 2021. 2. Electronic Municipal Market Access (EMMA), September 2021. 3. PEW, 2019. 4. Bloomberg, September 2021. 5. Tax Foundation, March 2021. 6. Tax equivalent yield assumes the current maximum state and federal income tax rate (for 2020) and the 3.8% Medicare surcharge. Tax treatment of Fund distributions vary; investors should consult a tax advisor with respect to the tax implications of an investment in a Fund that invests in tax-exempt securities.

State Profiles



COLORADO



Capital City
Denver



Governor
Jared Polis (D)

Total issuance, as % of market issuance (YTD) ¹	2.69%
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# of issuers ²	2,820
---------------------------	-------

Pension funded ratio (2019) ³	66.46%
--	--------

State GO ratings⁴

Moody's	—
---------	---

S&P	—
-----	---

Fitch	—
-------	---

Top marginal rates⁵

State level	4.55%
-------------	-------

Federal and state combined	41.55%
----------------------------	--------

Tax equivalent yields⁶

2%	3.66%
----	-------

3%	5.49%
----	-------

4%	7.32%
----	-------



HAWAII



Capital City
Honolulu



Governor
David Ige (D)

Total issuance, as % of market issuance (YTD) ¹	0.30%
---	-------

# of issuers ²	70
---------------------------	----

Pension funded ratio (2019) ³	54.87%
--	--------

State GO ratings⁴

Moody's	Aa2
---------	-----

S&P	AA+
-----	-----

Fitch	AA
-------	----

Top marginal rates⁵

State level	11.00%
-------------	--------

Federal and state combined	48.00%
----------------------------	--------

Tax equivalent yields⁶

2%	4.15%
----	-------

3%	6.22%
----	-------

4%	8.30%
----	-------



IDAHO



Capital City
Boise



Governor
Brad Little (R)

Total issuance, as % of market issuance (YTD) ¹	0.33%
---	-------

# of issuers ²	527
---------------------------	-----

Pension funded ratio (2019) ³	94.58%
--	--------

State GO ratings⁴

Moody's	—
---------	---

S&P	—
-----	---

Fitch	—
-------	---

Top marginal rates⁵

State level	6.93%
-------------	-------

Federal and state combined	43.93%
----------------------------	--------

Tax equivalent yields⁶

2%	3.83%
----	-------

3%	5.74%
----	-------

4%	7.65%
----	-------

1. Bloomberg, September 2021. 2. Electronic Municipal Market Access (EMMA), September 2021. 3. PEW, 2019. 4. Bloomberg, September 2021. 5. Tax Foundation, March 2021. 6. Tax equivalent yield assumes the current maximum state and federal income tax rate (for 2020) and the 3.8% Medicare surcharge. Tax treatment of Fund distributions vary; investors should consult a tax advisor with respect to the tax implications of an investment in a Fund that invests in tax-exempt securities.

State Profiles



MONTANA



Capital City
Helena



Governor
Greg Gianforte (R)

Total issuance, as % of market issuance (YTD) ¹	0.15%
---	-------

# of issuers ²	798
---------------------------	-----

Pension funded ratio (2019) ³	72.50%
--	--------

State GO ratings⁴

Moody's	Aa1
---------	-----

S&P	AA
-----	----

Fitch	AA+
-------	-----

Top marginal rates⁵

State level	6.90%
-------------	-------

Federal and state combined	43.90%
----------------------------	--------

Tax equivalent yields⁶

2%	3.82%
----	-------

3%	5.74%
----	-------

4%	7.65%
----	-------



NEVADA



Capital City
Carson City



Governor
Steve Sisolak (D)

Total issuance, as % of market issuance (YTD) ¹	0.41%
---	-------

# of issuers ²	274
---------------------------	-----

Pension funded ratio (2019) ³	76.46%
--	--------

State GO ratings⁴

Moody's	Aa1
---------	-----

S&P	AA+
-----	-----

Fitch	AA+
-------	-----

Top marginal rates⁵

State level	0.00%
-------------	-------

Federal and state combined	37.00%
----------------------------	--------

Tax equivalent yields⁶

2%	3.38%
----	-------

3%	5.07%
----	-------

4%	6.76%
----	-------



NEW MEXICO



Capital City
Santa Fe



Governor
**Michelle Lujan
Grisham (D)**

Total issuance, as % of market issuance (YTD) ¹	0.48%
---	-------

# of issuers ²	660
---------------------------	-----

Pension funded ratio (2019) ³	67.32%
--	--------

State GO ratings⁴

Moody's	Aa2
---------	-----

S&P	AA
-----	----

Fitch	—
-------	---

Top marginal rates⁵

State level	5.90%
-------------	-------

Federal and state combined	42.90%
----------------------------	--------

Tax equivalent yields⁶

2%	3.75%
----	-------

3%	5.63%
----	-------

4%	7.10%
----	-------

1. Bloomberg, September 2021. 2. Electronic Municipal Market Access (EMMA), September 2021. 3. PEW, 2019. 4. Bloomberg, September 2021. 5. Tax Foundation, March 2021. 6. Tax equivalent yield assumes the current maximum state and federal income tax rate (for 2020) and the 3.8% Medicare surcharge. Tax treatment of Fund distributions vary; investors should consult a tax advisor with respect to the tax implications of an investment in a Fund that invests in tax-exempt securities.

State Profiles



NORTH DAKOTA



Capital City
Bismarck



Governor
Doug Burgum (R)

Total issuance,
as % of market issuance (YTD)¹ 0.39%

of issuers² 872

Pension funded ratio (2019)³ 69.84%

State GO ratings⁴

Moody's —

S&P —

Fitch —

Top marginal rates⁵

State level 2.90%

Federal and state combined 39.90%

Tax equivalent yields⁶

2% 3.55%

3% 5.33%

4% 7.10%



OREGON



Capital City
Salem



Governor
Kate Brown (D)

Total issuance,
as % of market issuance (YTD)¹ 1.37%

of issuers² 1,205

Pension funded ratio (2019)³ 80.23%

State GO ratings⁴

Moody's Aa1

S&P AA+

Fitch AA+

Top marginal rates⁵

State level 9.90%

Federal and state combined 46.90%

Tax equivalent yields⁶

2% 4.06%

3% 6.09%

4% 8.11%



SOUTH DAKOTA



Capital City
Pierre



Governor
Kristi Noem (R)

Total issuance,
as % of market issuance (YTD)¹ 0.25%

of issuers² 582

Pension funded ratio (2019)³ 100.09%

State GO ratings⁴

Moody's —

S&P —

Fitch —

Top marginal rates⁵

State level 0.00%

Federal and state combined 37.00%

Tax equivalent yields⁶

2% 3.38%

3% 5.07%

4% 6.76%

1. Bloomberg, September 2021. 2. Electronic Municipal Market Access (EMMA), September 2021. 3. PEW, 2019. 4. Bloomberg, September 2021. 5. Tax Foundation, March 2021. 6. Tax equivalent yield assumes the current maximum state and federal income tax rate (for 2020) and the 3.8% Medicare surcharge. Tax treatment of Fund distributions vary; investors should consult a tax advisor with respect to the tax implications of an investment in a Fund that invests in tax-exempt securities.

State Profiles



UTAH



Capital City
Salt Lake City



Governor
Spencer Cox (R)

Total issuance, as % of market issuance (YTD) ¹	0.97%
---	-------

# of issuers ²	874
---------------------------	-----

Pension funded ratio (2019) ³	91.67%
--	--------

State GO ratings⁴

Moody's	Aaa
---------	-----

S&P	AAA
-----	-----

Fitch	AAA
-------	-----

Top marginal rates⁵

State level	4.95%
-------------	-------

Federal and state combined	41.95%
----------------------------	--------

Tax equivalent yields⁶

2%	3.69%
----	-------

3%	5.53%
----	-------

4%	7.37%
----	-------



WASHINGTON



Capital City
Olympia



Governor
Jay Inslee (D)

Total issuance, as % of market issuance (YTD) ¹	2.72%
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# of issuers ²	1,842
---------------------------	-------

Pension funded ratio (2019) ³	96.34%
--	--------

State GO ratings⁴

Moody's	Aaa
---------	-----

S&P	AA+
-----	-----

Fitch	AA+
-------	-----

Top marginal rates⁵

State level	0.00%
-------------	-------

Federal and state combined	37.00%
----------------------------	--------

Tax equivalent yields⁶

2%	3.38%
----	-------

3%	5.07%
----	-------

4%	6.76%
----	-------



WYOMING



Capital City
Cheyenne



Governor
Mark Gordon (R)

Total issuance, as % of market issuance (YTD) ¹	0.14%
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# of issuers ²	310
---------------------------	-----

Pension funded ratio (2019) ³	76.54%
--	--------

State GO ratings⁴

Moody's	—
---------	---

S&P	—
-----	---

Fitch	—
-------	---

Top marginal rates⁵

State level	0.00%
-------------	-------

Federal and state combined	37.00%
----------------------------	--------

Tax equivalent yields⁶

2%	3.38%
----	-------

3%	5.07%
----	-------

4%	6.76%
----	-------

1. Bloomberg, September 2021. 2. Electronic Municipal Market Access (EMMA), September 2021. 3. PEW, 2019. 4. Bloomberg, September 2021. 5. Tax Foundation, March 2021. 6. Tax equivalent yield assumes the current maximum state and federal income tax rate (for 2020) and the 3.8% Medicare surcharge. Tax treatment of Fund distributions vary; investors should consult a tax advisor with respect to the tax implications of an investment in a Fund that invests in tax-exempt securities.

ABOUT RISK

All investments are subject to market risk and will fluctuate in value.

A portion of a municipal fund's income may be subject to state and local taxes or the Alternative Minimum Tax. Investments in bonds are subject to interest-rate risk and can lose principal value when interest rates rise. Bonds are also subject to credit risk, in which the bond issuer may fail to pay interest and principal in a timely manner. High-yield securities (commonly referred to as "junk bonds") are generally considered speculative because they present a greater risk of loss than higher-quality debt securities and may be subject to greater price volatility. High-yield municipal bonds may be subject to increased liquidity risk, as compared to other high-yield debt securities. Municipal securities risks include the ability of the issuer to repay the obligation, the relative lack of information about certain issuers, and the possibility of future tax and legislative changes, which could affect the market for and value of municipal securities. Such uncertainties could cause increased volatility in the municipal securities market. Securities that are liquid at the time of purchase may subsequently become illiquid, due to events relating to the issuer of the securities, market events, economic conditions, or investor perceptions. The views and opinions expressed herein are solely those of the MacKay Municipal Managers™ team of MacKay Shields and are subject to change.

Neither New York Life Investment Management LLC, nor its affiliates or representatives provide tax, legal or accounting advice. Please contact your own professionals. 6 Fund returns are net; Index returns are gross. Bloomberg Municipal Bond Index is considered representative of the broad market for investment-grade, tax-exempt bonds with a maturity of at least one year. High Yield Municipal Bond Blended Index consists of the Bloomberg High Yield Municipal Bond Index and the Bloomberg Municipal Bond Index weighted 60%/40% respectively which is believed to be a fair representation of the MainStay MacKay High Yield Municipal Bond I Fund's guidelines. Bloomberg New York Municipal Bond Index is a market value-weighted index of New York investment-grade, tax-exempt, fixed-rate municipal bonds with maturities of one year or more. Bloomberg California Municipal Bond Index is a market value-weighted index of California investment-grade, tax-exempt, fixed-rate municipal bonds with maturities of one year or more. Bloomberg 3-Year Municipal Bond Index is considered representative of the broad market for investment-grade tax-exempt bonds with a maturity range of 2-4 years. Index results assume the reinvestment of all capital gain and dividend distributions. Source: Bloomberg.

DEFINITIONS

Active management is the use of a human element, such as a single manager, co-managers or a team of managers, to actively manage a fund's portfolio. Active management strategies typically have higher fees than passive management.

Alpha measures a fund's risk-adjusted performance and is expressed as an annualized percentage. **Credit spread** reflects the difference in yield between a treasury and corporate bond of the same maturity. **Duration** is a measure of the sensitivity of the price of a bond to a change in interest rates. **Interest rate risk** is the potential that a change in overall interest rates will reduce the value of a bond. **Modified Duration** is inversely related to the approximate percentage change in price for a given change in yield. **Duration to Worst** is the duration of a bond, computed using the bond's nearest call date or maturity, whichever comes first. This measure ignores future cash flow fluctuations due to embedded optionality. **Standard deviation** measures how widely dispersed returns have been over a specific period of time. A high standard deviation indicates that the range is wide, implying greater potential for volatility. **Spread widening** means that the difference between two bonds is increasing. **Yield to worst** is a measure of the lowest possible yield that can be received on a bond that fully operates within the terms of its contract without defaulting. The yield-to-worst metric is used to evaluate the worst-case scenario for yield at the earliest allowable retirement date. **Coupon returns** refer to the annual interest provided by a bond. **Price returns** refer to returns generated by investments due to changes in price over a period of time. **MTD returns** refer to returns generated on monthly basis. **Credit ratings:** Moody's rates borrowers on a scale from Aaa through C. Aaa through Baa3 represent investment grade, while Ba1 through C represent non-investment grade. Standard & Poor's rates borrowers on a scale from AAA to D. AAA through BBB represent investment grade, while BB through D represent non-investment grade. Fitch rates borrowers on a scale from AAA to D. AAA to BBB represent investment grade, while BB through D represent non-investment grade. **Bloomberg U.S. Aggregate Bond Index** is a broad-based benchmark that measures the investment-grade, U.S. dollar-denominated, fixed-rate taxable bond market, including Treasuries, government-related and corporate securities, mortgage-backed securities (agency fixed-rate and hybrid adjustable-rate mortgage pass-throughs), asset-backed securities, and commercial mortgage-backed securities. **Bloomberg U.S. Corporate High Yield Index** represents the universe of fixed rate, non-investment grade debt. **Bloomberg Municipal Bond Index** is considered representative of the broad market for investment-grade, tax-exempt bonds with a maturity of at least one year. Bonds subject to the alternative minimum tax or with floating or zero coupons are excluded. **Bloomberg High Yield Municipal Index:** is an unmanaged index of municipal bonds with the following characteristics: fixed coupon rate, credit rating of Ba1 or lower or non-rated using the middle rating of Moody's, S&P, and Fitch, outstanding par value of at least \$3 million, and issued as part of a transaction of at least \$20 million. In addition, the bonds must have a dated-date after December 31, 1990 and must be at least one year from their maturity date. **Bloomberg Municipal Bond Illinois Index** is a sub-index of the Bloomberg Municipal Bond Index and represents Illinois municipal bonds. **Bloomberg Municipal Bond New Jersey Index** is a sub-index of the Bloomberg Municipal Bond Index and represents NJ municipal bonds. **Bloomberg Municipal Bond Hospital Index** is a sub-index of the Bloomberg Municipal Bond Index and represents hospital municipal bonds. **Bloomberg Municipal Bond Transportation Index** is a sub-index of the Bloomberg Municipal Bond Index and represents transportation municipal bonds. **Bloomberg Municipal Bond Airport Index** is a sub-index of the Bloomberg Municipal Bond Index and represents airport municipal bonds. Bloomberg Taxable Municipal Index is a rules-based, market-value-weighted index engineered for the long-term taxable bond market. **Bloomberg U.S. Treasury Index** measures the public obligations of the US Treasury with a remaining maturity of one year or more. Must be a US Treasury security. Must have at least \$300 million par amount outstanding. Must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following ratings agencies: Moody's, S&P, Fitch. Must be fixed rate. Must be dollar-denominated and non-convertible. **Bloomberg U.S. Corporate Investment Grade Bond Index** measures the investment grade, fixed-rate, taxable corporate bond market. It includes USD denominated securities publicly issued by US and non-US industrial, utility and financial issuers. **Bloomberg Asset Backed Securities Index** is a subset of the Bloomberg U.S. Aggregate Bond Index and tracks asset-backed securities with maturities of at least one year. **Bloomberg U.S. MBS Index** measures the performance of investment grade fixed-rate mortgage-backed pass-through securities of GNMA, FNMA, and FHLMC. ICE BofA U.S. Corporate Index: tracks the performance of U.S. dollar-denominated investment-grade corporate debt publicly issued in the U.S. domestic market. **ICE BofA U.S. Taxable Municipal Securities Plus Index** tracks the performance of U.S. dollar denominated taxable municipal debt publicly issued by U.S. states and territories, and their political subdivisions, in the U.S. domestic market.

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