MMA Independent and Data Driven

Municipal Market Analytics, Inc.

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Municipal Market Analytics

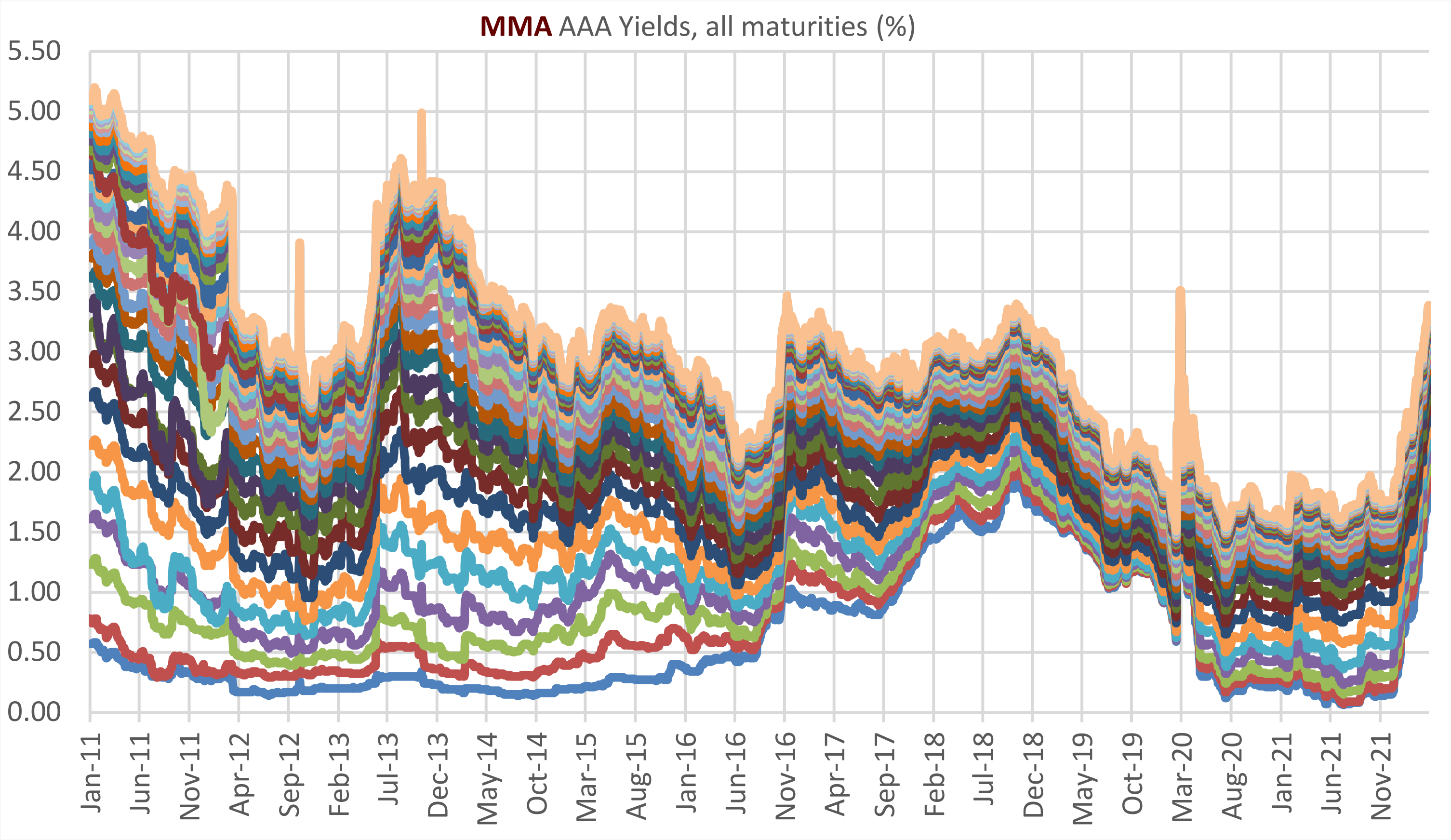
- The leading independent research and consulting group in the US municipal market
- Well known thought leader on market and credit trends, infrastructure finance, related systemic risks, and regulation/policy issues
- No sales, trading, banking, or underwriting operations or affiliations; **MMA** is not a registered advisor, municipal advisor, or asset manager
- Core business is strategy and research reports and proprietary market data; several hundred municipal industry subscribers, including buy side and sell side firms, regulators, and others
- Consulting arrangements include long-term default modeling, bank portfolio filtering for credit surveillance, and single name credit research
- Teaching modules for municipal credit analysis training

Topics for the presentation

- Capital Market Overview & Muni Bond Credit Trends
- **MMA** Sector Outlooks And Where They Are Headed in 2H22
- The Pandemic's Effects: Work From Home, Revenue Disruption, Etc.
- Responses By Governments, Advocates, and Investors
- Focus On Specific Local Tax Revenue Impacts

Market update: Yields higher via the Fed & inflation headlines

- AAA tax-exempt benchmark yields are ~150bps higher in 2022
- Term and credit spreads remain compressed; scarcity remains a factor



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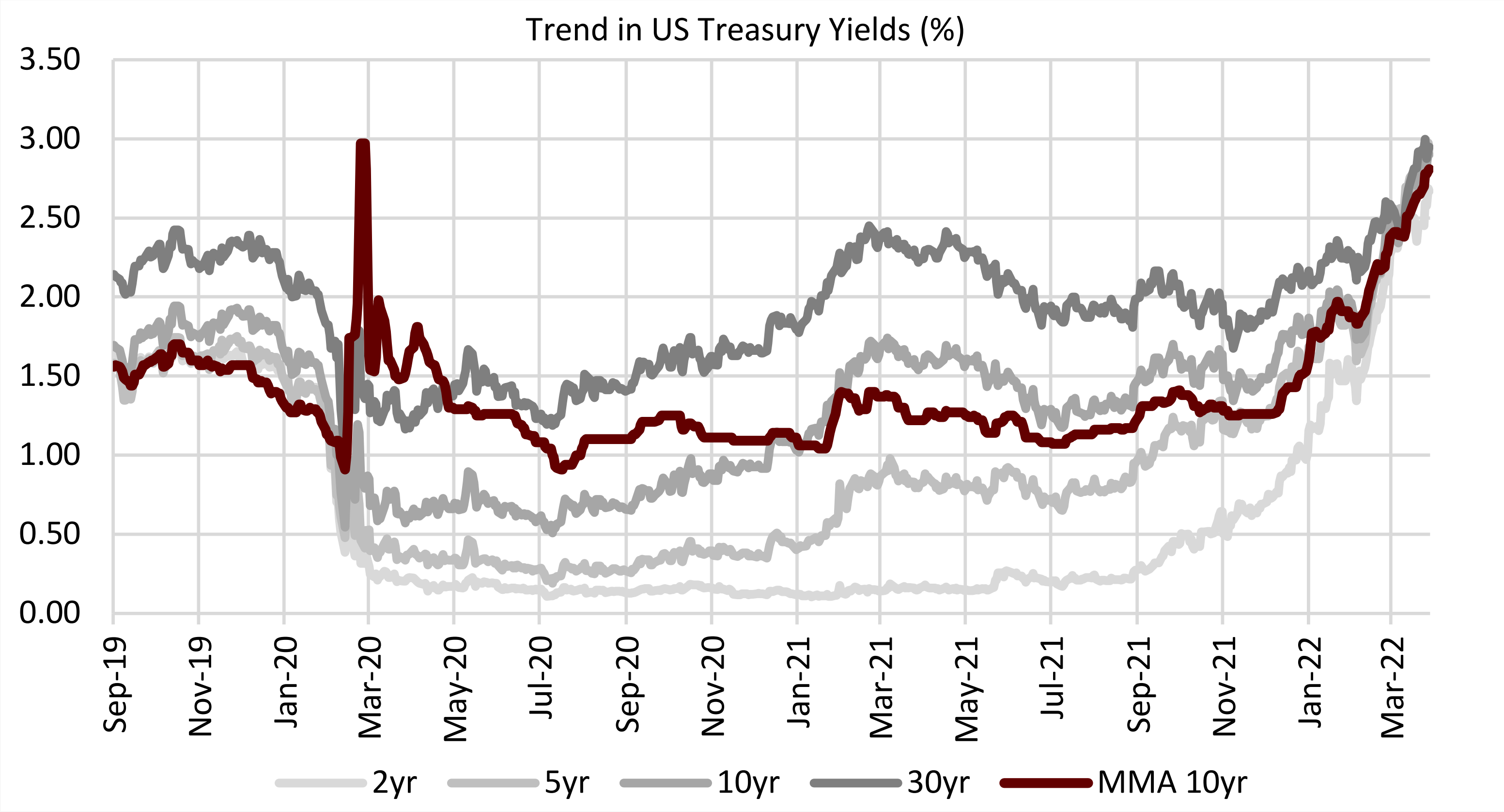
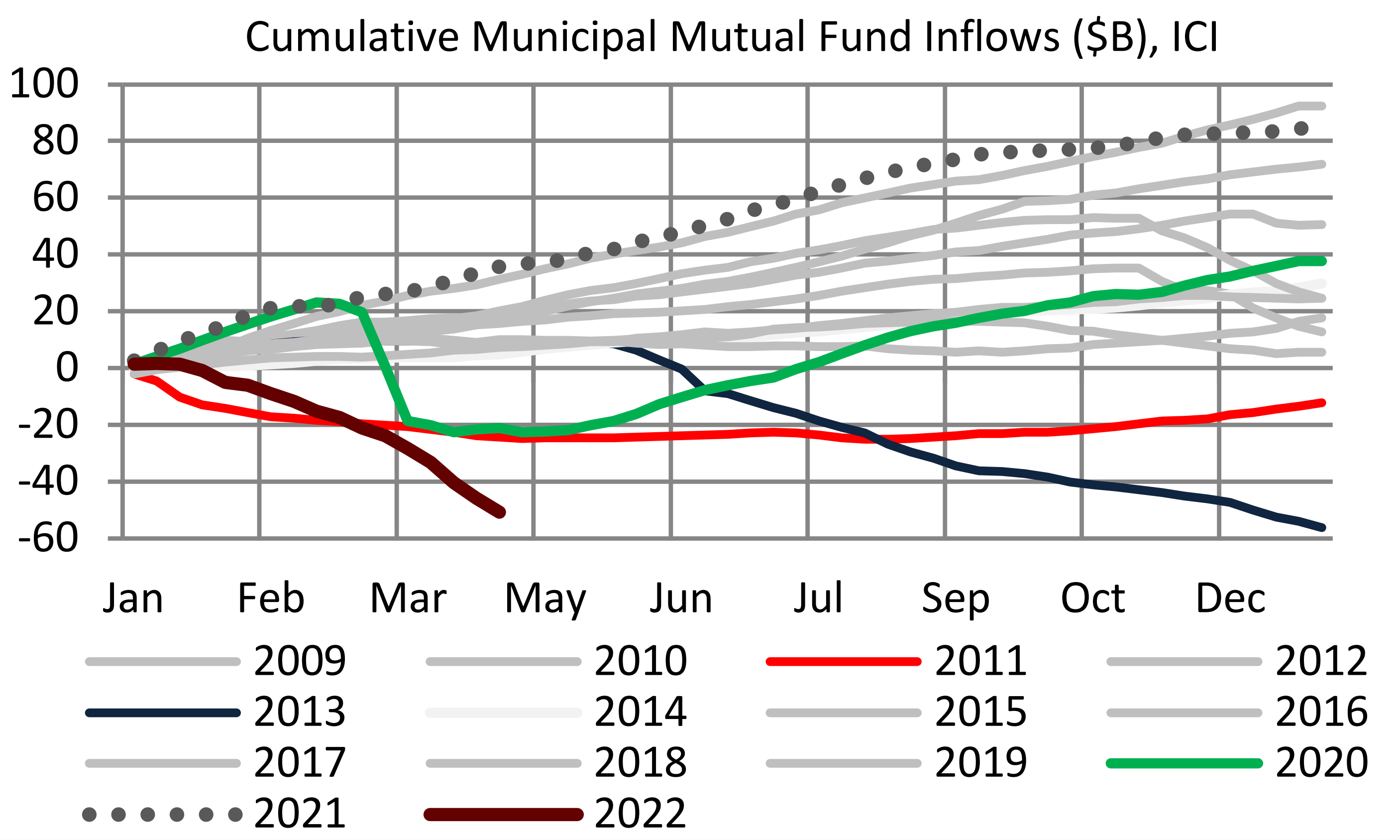
Market Update: Fairly-tight correlation with US Treasuries

- Tax-exempt muni bond prices did not respond much in 2021 but have in 2022



Fears of inflation have led to mutual fund withdrawals

- Mutual funds were the marginal buyer prior to 2022, led by the largest funds
- Outflows have driven selling, but not *forced* selling b/c of funds' cash adequacy
  - Noting: Slower aggregate selloff in '22 vs '20 & rapid portfolio runoff

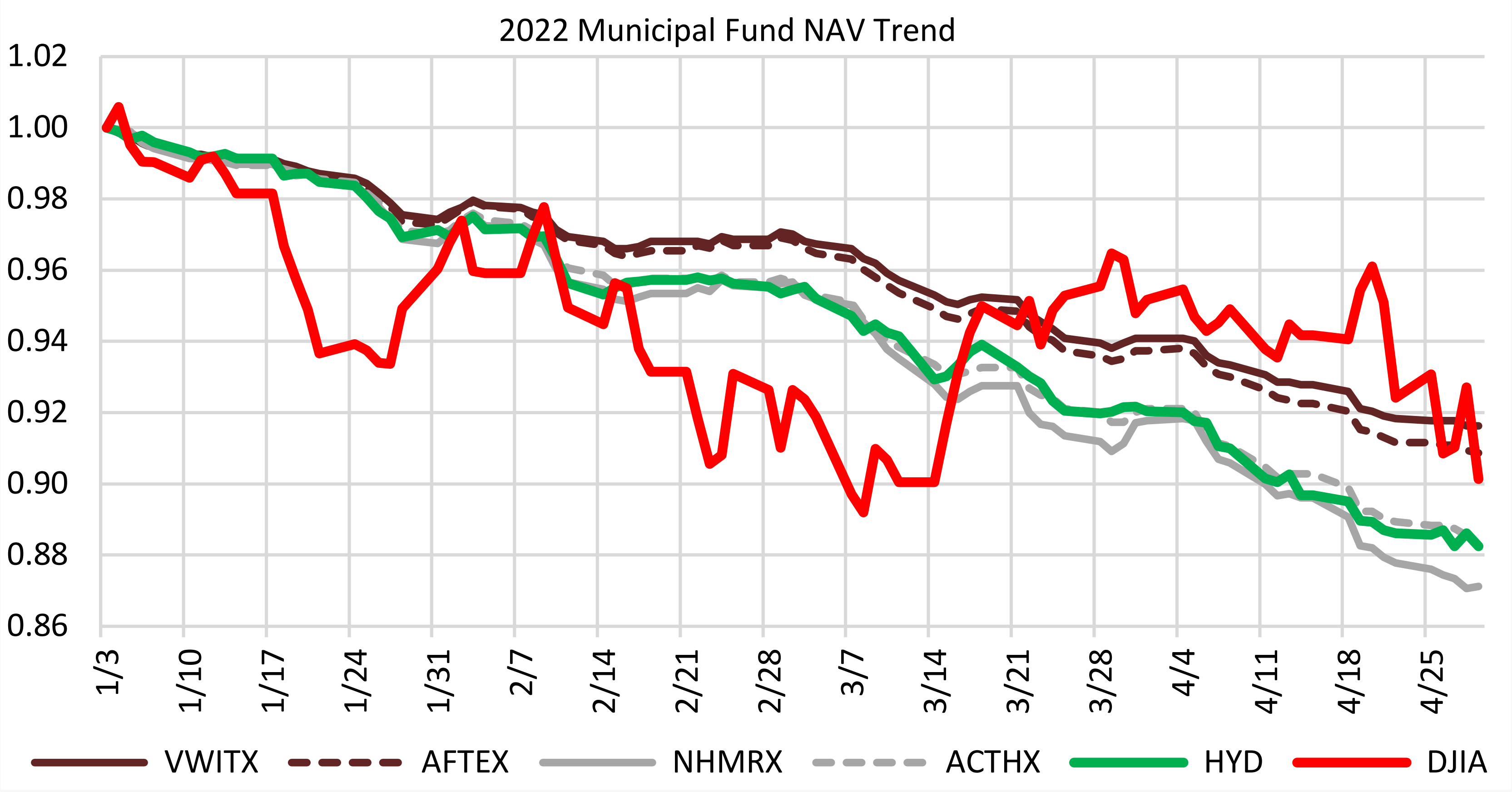


And with fund outflows occurring…

- The role of marginal buyer has rotated to more traditional investors who:
  - Rely less on diversification to manage credit risk
  - Prefer higher rated credits
  - Prefer 5% coupons and defensive structures
- Which leaves the funds holding the least attractive bonds at present, exacerbating NAV performance and accelerating outflows: a negative feedback loop
- Global and headline uncertainty does not help
- This is especially problematic for high yield funds, which are also contending with a longer-term loss of investors to very cheap opportunities created by the Russian invasion (e.g., Chinese corporates)

Fund NAVs down sharply, sped in part by structure (1/2)

- IG funds down 8-9% YTD, HY funds down 11-13%
- Hard to expect fund flows turn aggressively positive absent a major development



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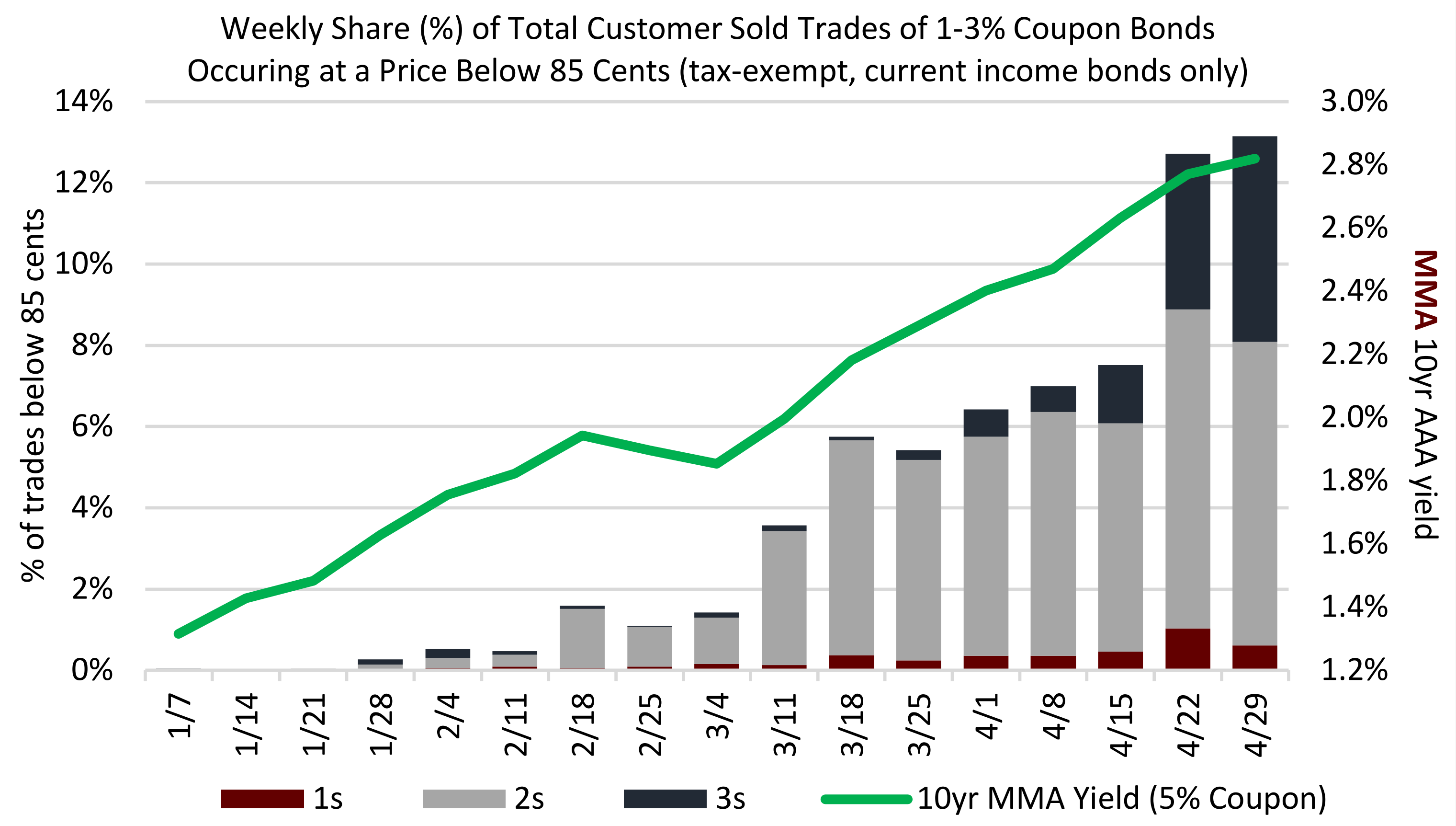
De minimus gains rule has hurt lower coupon tax-exempts

- Only ¼ pt of capital gain is allowed per year of ownership, otherwise entire gain is subject to ordinary income tax rate; kicks bond prices lower as threshold nears
- Mutual funds have favored long, low coupons in the last few years



Market stabilization is possible; full recovery depends on funds

- Many/most municipal strategists call the market as currently attractive
- They may actually be right this time
- BUT current investors are only participating because they can: yields are high enough to cover fees, bonds are available enough to be purchased
- Anything like the former, pre-2022 market is impossible absent a return to inflows by the mutual funds, for whatever reason
- Once that happens, still endemic scarcity of tax-exempt product—
  - because of:
    1) low issuance;
    2) rapid amortization; and
    3) heavy taxable advance refunding use since the pandemic—
  - suggests a fast turn in prices
- *Cf*: the lack of distribution problems in the muni primary market; with the right structure, capital markets buyers are still abundant

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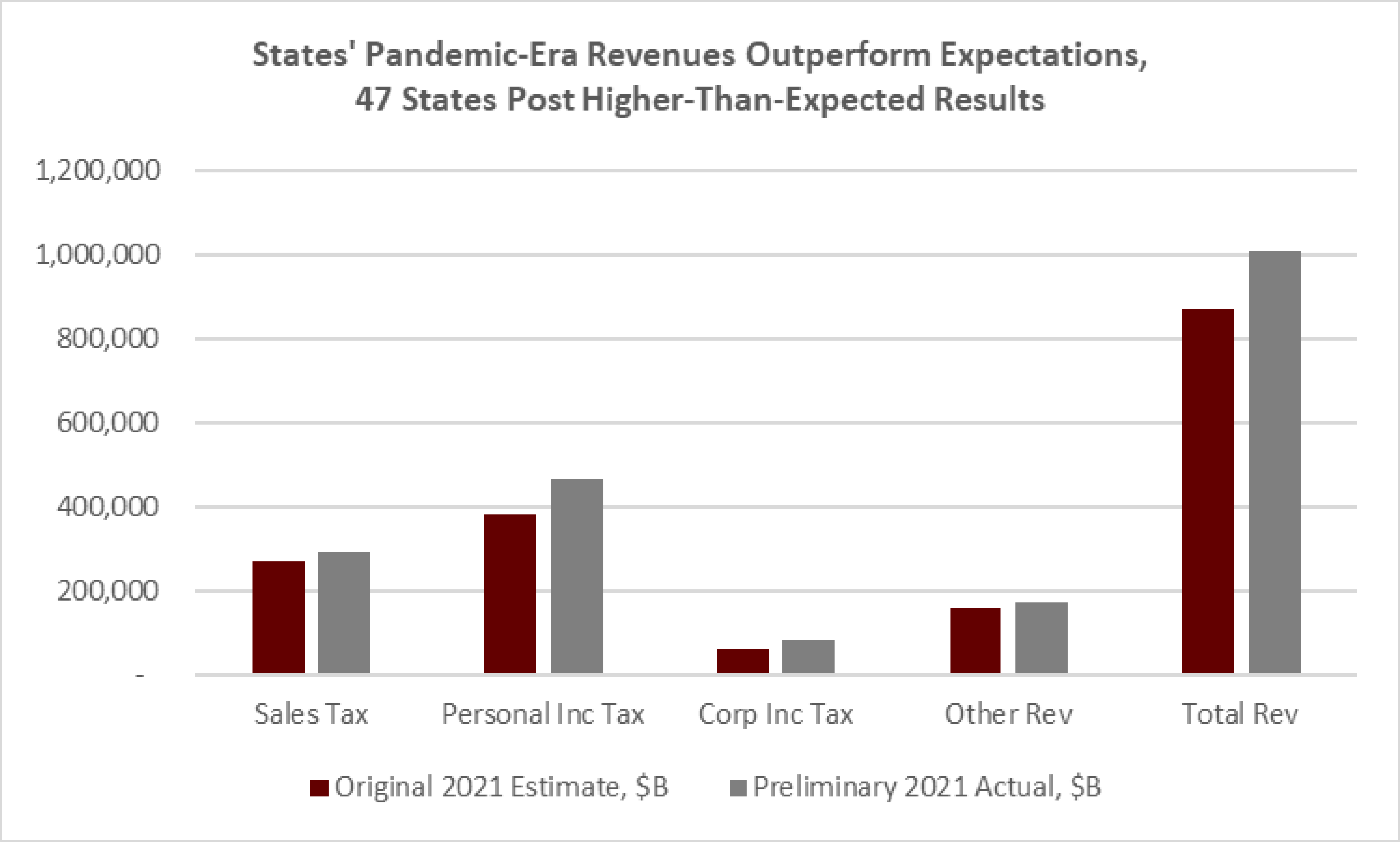
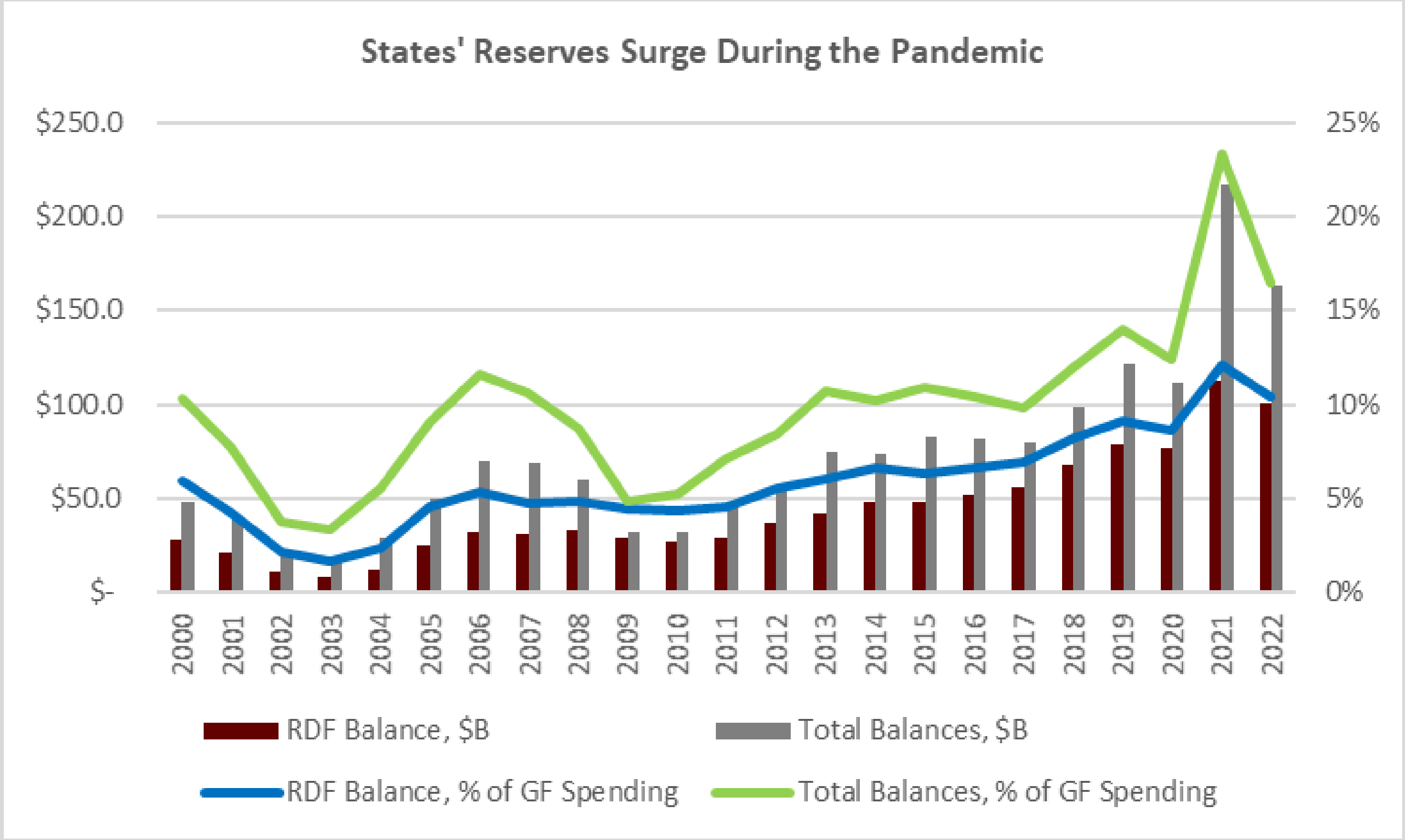
State sector finances unexpected better via federal aid & revenue outperformance (Source: NASBO)

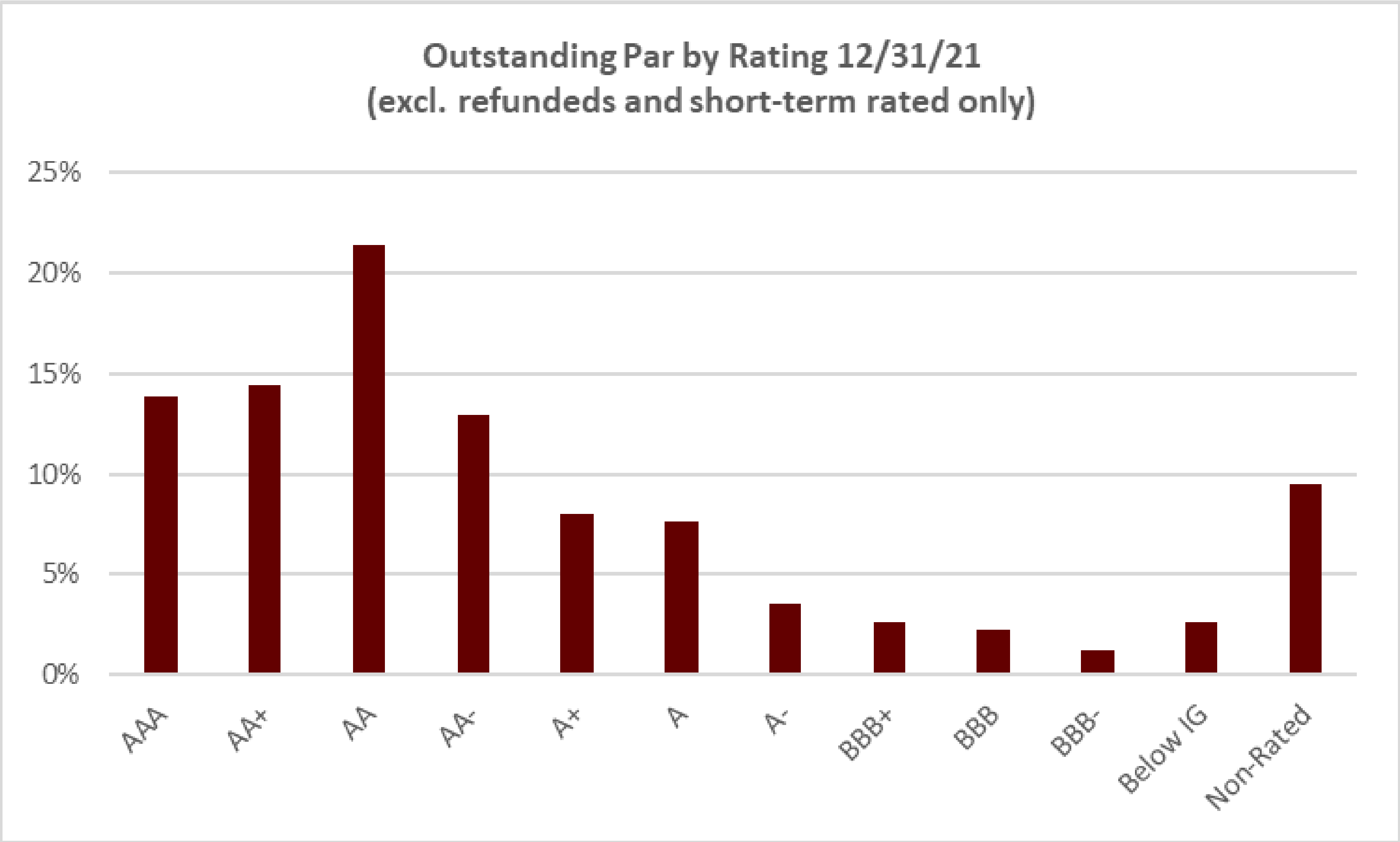


States have been able to save a lot of the excess money

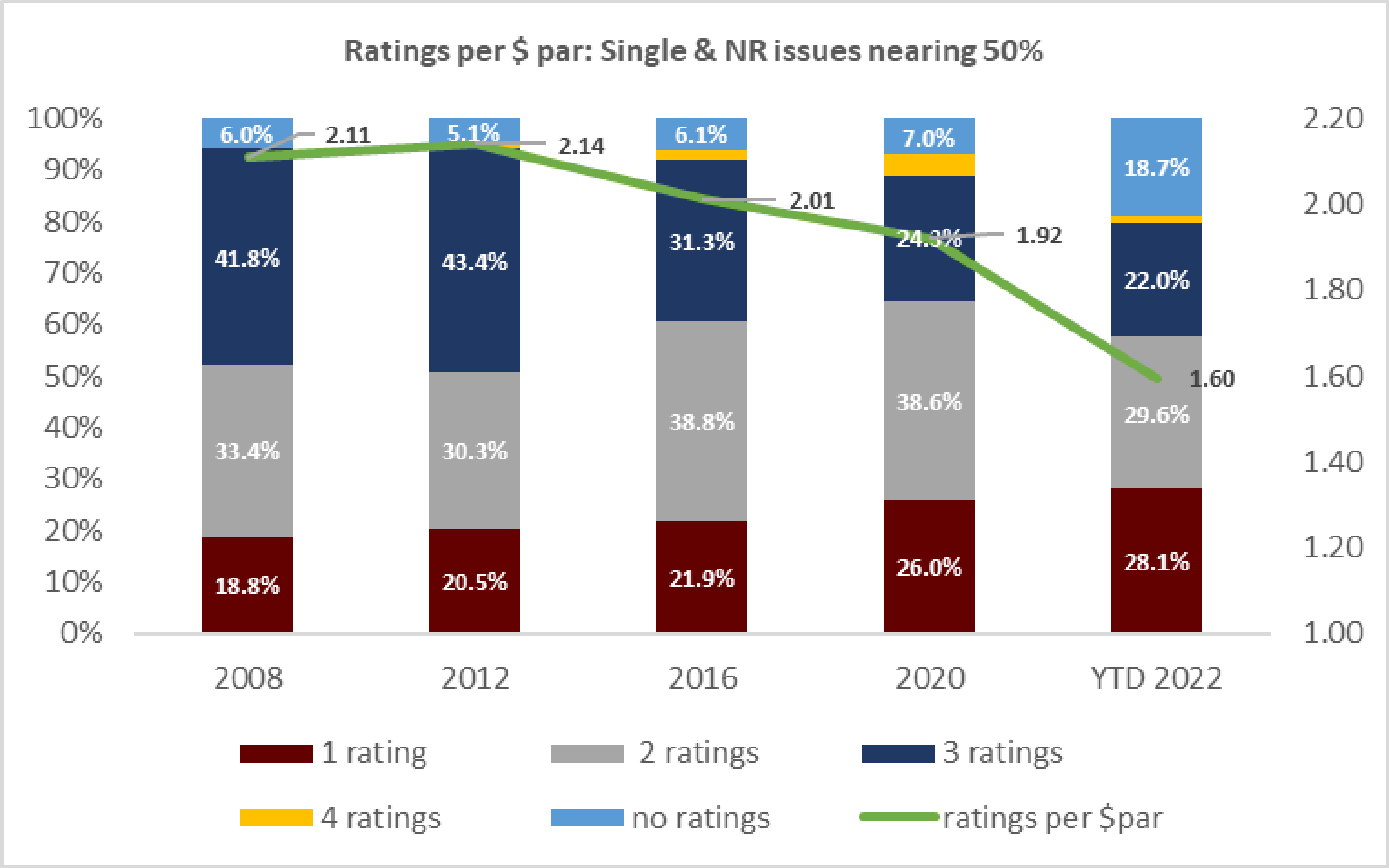
- Better state revenues mean better state aid to locals and, more importantly, fewer or no state aid cuts
- Larger reserves now suggests this may last for the next few years



Municipal universe is still very well rated & poised to improve



Despite the pandemic, capital markets investors are still demanding fewer ratings



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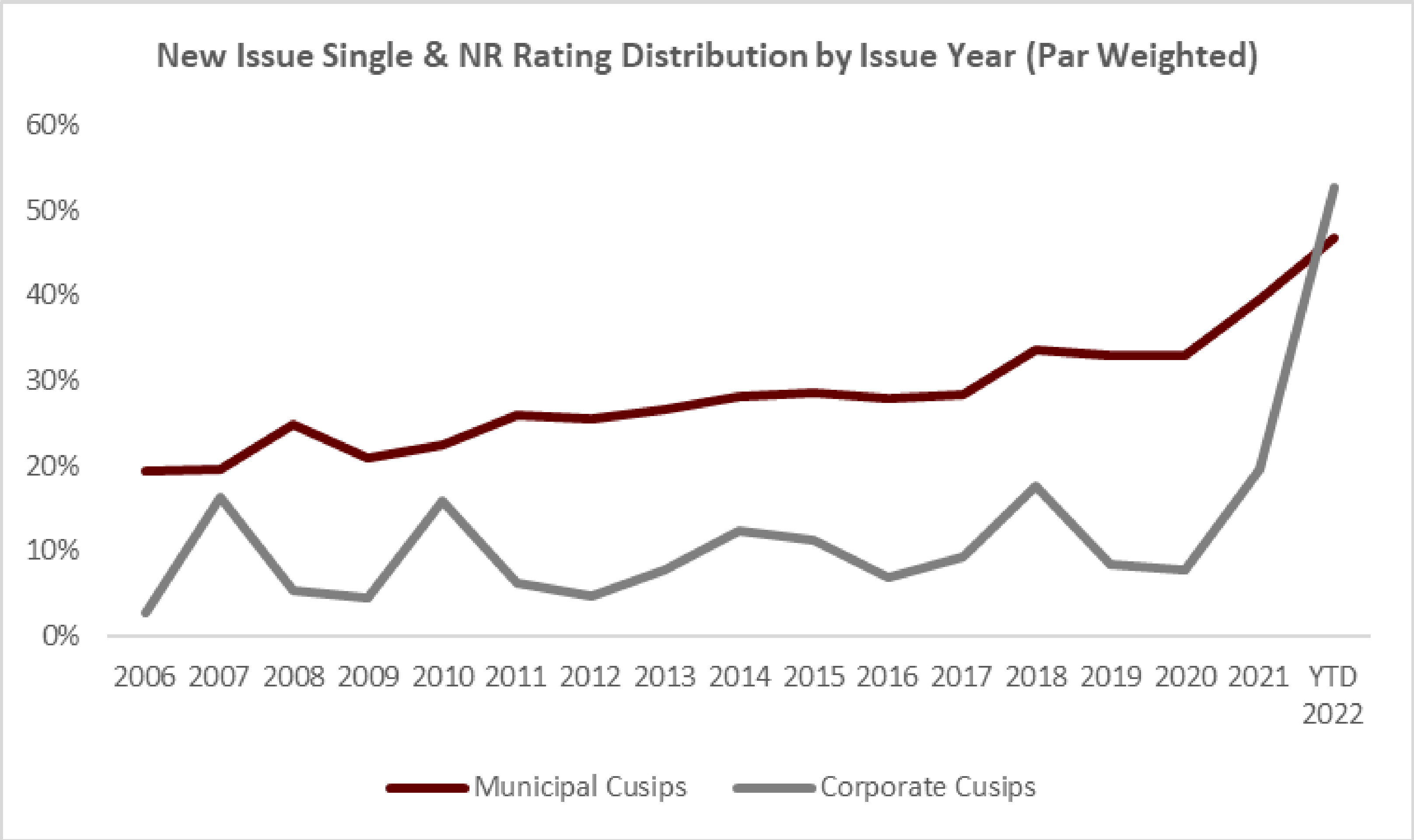
Single-rated and NR names hit over 50% of par in Q122



Few chapter 9 bankruptcies when more were expected

- Only one muni bankruptcy for a borrower with bonds outstanding since the start of the pandemic (3/20): 714 days ago

Number of Chapter 9 Bankruptcy (& PROMESA-related) Filings, by type of debtor																	
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Total
City/County	1	2	4	0	4	3	1	0	1	0	0	0	1	1	0	0	18
Utility/Transportation	1	0	0	1	0	2	0	1	0	0	0	0	1	0	2	0	8
Health Care	2	0	2	1	2	2	3	3	1	3	4	3	0	1	0	0	27
Land Secured	1	1	3	4	5	4	3	5	1	3	2	1	2	0	0	0	35
Puerto Rico	0	0	0	0	0	0	0	0	0	0	5	0	1	0	0	0	6
Other	0	1	1	0	2	0	0	1	0	0	1	0	0	0	1	0	7
Total Cases Filed	5	4	10	6	13	11	7	10	3	6	12	4	5	2	3	0	101
Total Non-PR Cases Still Ongoing	0	0	0	0	0	0	0	0	0	0	1	0	0	2	1	0	4
Total Non-PR Par Involved ($B)	0.12	0.09	0.06	0.36	4.64	0.40	8.92	0.13	0.01	0.08	0.35	0.01	0.04	0.04	0.00	0.00	15.25
Avg Non-PR Bond Recovery (%)	100	74	100	76	86	85	86	82	64	100	76	100	100	n.a.	n.a.	n.a.	86
Avg Non-PR Length of Case (mo)	22	23	22	8	9	17	19	16	13	25	15	13	11	n.a.	n.a.	n.a.	16

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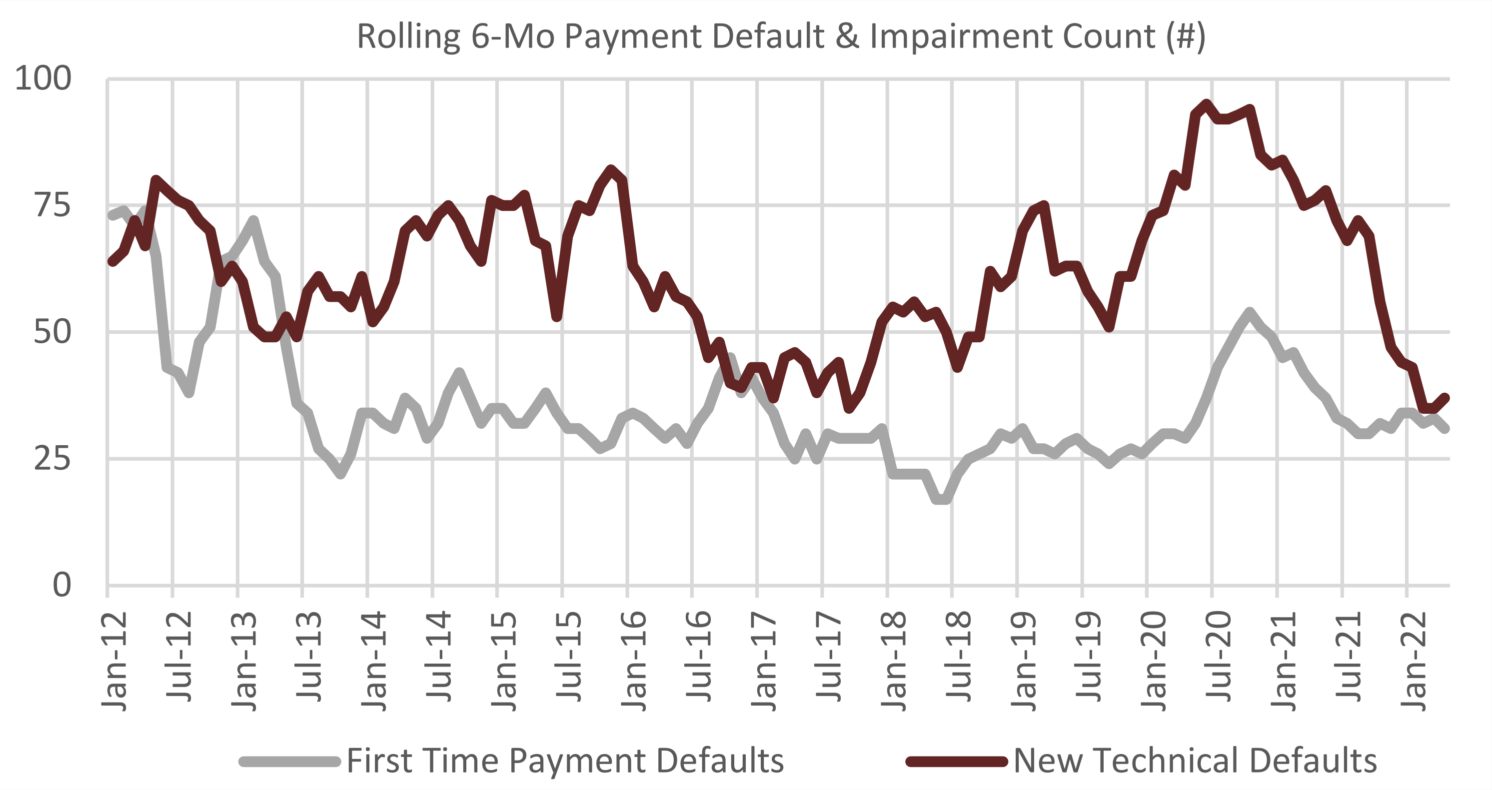
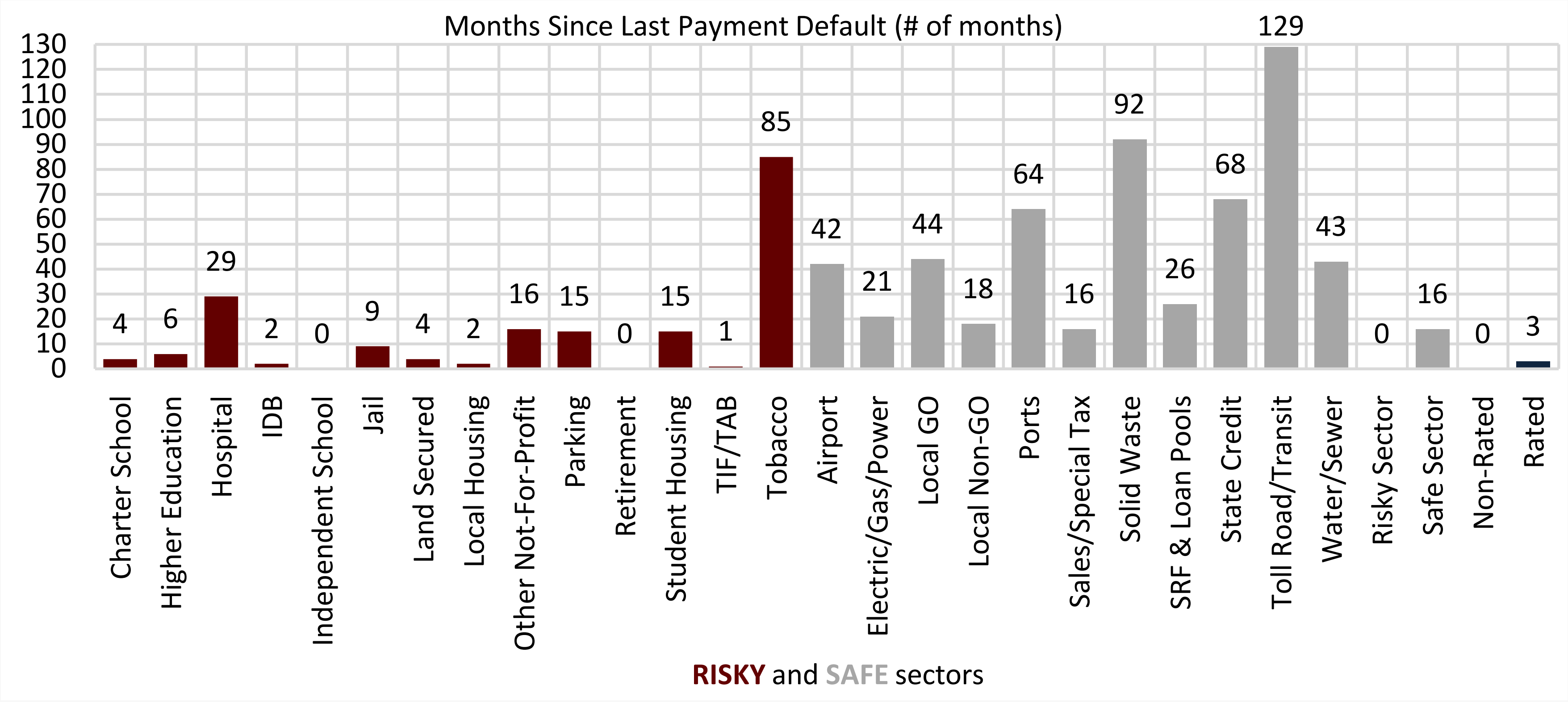
Monetary and technical default counts have also trailed off

- Federal stimulus, strong state revenues, and still constructive market participation all aid troubled or potentially troubled borrowers



Fewer monetary defaults in particular for safe sector borrowers

- Senior living: 12 of 19 total muni payment defaults this year, 33 of 67 last year
- No safe sector borrower has defaulted since the end of 2020



Looking ahead: Major sector outlooks are positive, but headwinds are increasing

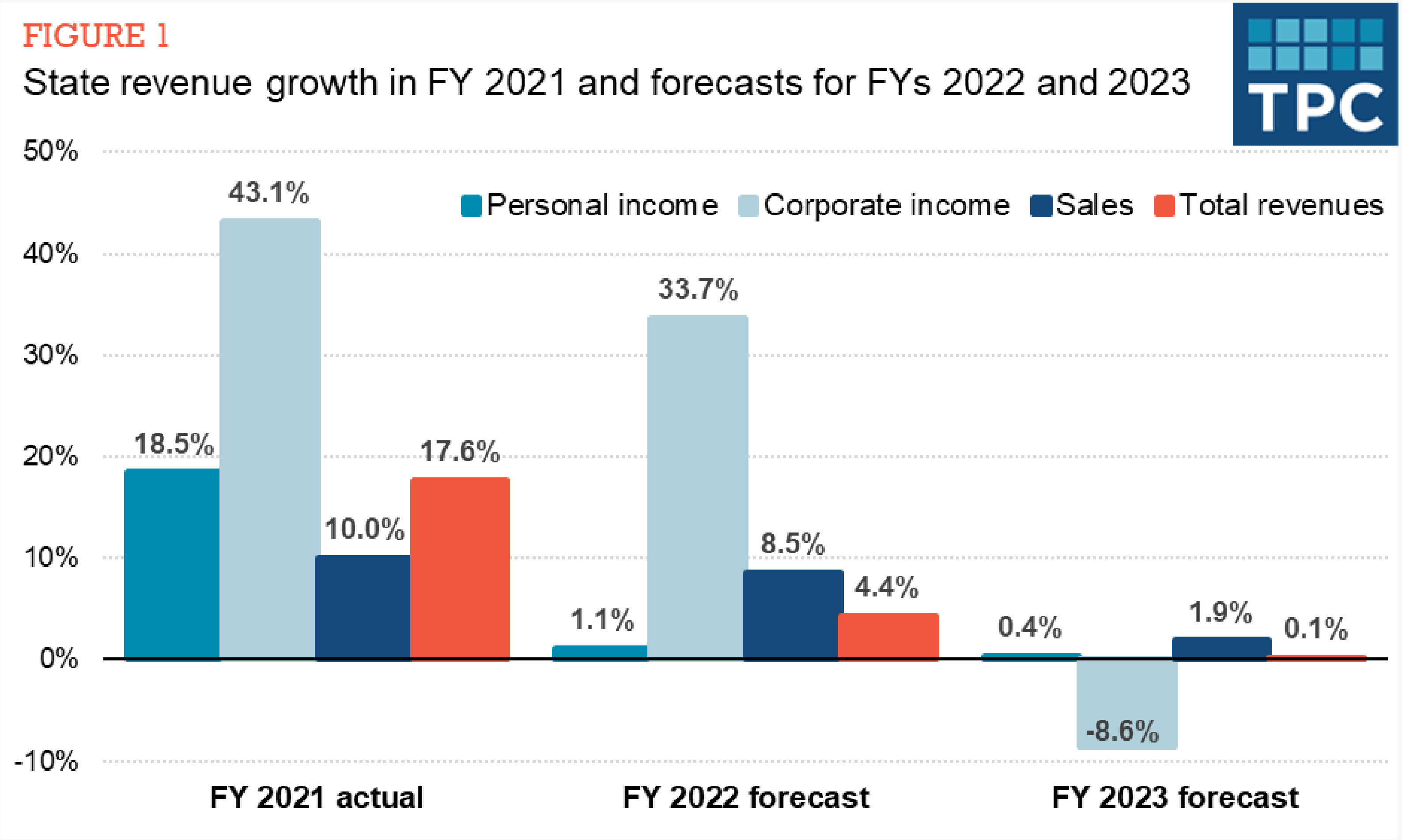
- **MMA** may cut a few sector outlooks for 2H22, including local GO & non-GO, sales & special tax, and most public utilities

MMA SECTOR OUTLOOK SUMMARY; MAJOR SECTORS ONLY SHOWN									
SECTOR	TYPE	1H22	*2H21*	*1H21*	SECTOR	TYPE	1H22	*2H21*	*1H21*
Airport	Safe	POSITIVE	*POSITIVE*	*POSITIVE*	Charter School	Risky	POSITIVE	*POSITIVE*	*NEUTRAL*
Electric/Gas/Pwr	Safe	(POSITIVE)	*POSITIVE*	*NEUTRAL*	Higher Ed	Risky	(NEUTRAL)	*(NEUTRAL)*	*NEGATIVE*
Local GO	Safe	POSITIVE	*POSITIVE*	*NEGATIVE*	Hospital	Risky	NEUTRAL	*NEUTRAL*	*NEGATIVE*
Local Non-GO	Safe	POSITIVE	*POSITIVE*	*NEGATIVE*	**IDB**	Risky	NEUTRAL	*(NEUTRAL)*	*NEGATIVE*
Ports	Safe	POSITIVE	*POSITIVE*	*NEUTRAL*	Ind Schools	Risky	NEUTRAL	*NEUTRAL*	*NEUTRAL*
PreRefunded	Safe	(POSITIVE)	*(POSITIVE)*	*POSITIVE*	**Jail**	Risky	(NEGATIVE)	*NEGATIVE*	*NEGATIVE*
Sales/Special Tax	Safe	POSITIVE	*(POSITIVE)*	*NEGATIVE*	**Land Secured**	Risky	NEUTRAL	*(POSITIVE)*	*NEGATIVE*
Solid Waste	Safe	POSITIVE	*POSITIVE*	*POSITIVE*	**Local Housing**	Risky	NEUTRAL	*(NEUTRAL)*	*NEGATIVE*
SRF & Loan Pools	Safe	POSITIVE	*POSITIVE*	*POSITIVE*	**Parking**	Risky	NEGATIVE	*NEUTRAL*	*NEGATIVE*
State Credit	Safe	POSITIVE	*POSITIVE*	*NEGATIVE*	Retirement	Risky	NEGATIVE	*NEGATIVE*	*NEGATIVE*
State Housing	Safe	POSITIVE	*POSITIVE*	*POSITIVE*	**Student Hsg**	Risky	NEUTRAL	*(NEUTRAL)*	*NEGATIVE*
Toll Road/Transit	Safe	POSITIVE	*POSITIVE*	*NEGATIVE*	TIF/TAB	Risky	(NEUTRAL)	*(NEUTRAL)*	*NEGATIVE*
Water/Sewer	Safe	POSITIVE	*POSITIVE*	*NEUTRAL*	Tobacco	Risky	POSITIVE	*POSITIVE*	*POSITIVE*

Sector headwinds headlined by cyclical & secular uncertainty

- Cyclical factors include likely conclusion of federal stimulus and splash back in state and local tax revenue collections
- The latter will likely be worsened in states that, per the Institute on Taxation and Economic Policy (ITEP), are cutting taxes
- States that have **already passed** material, recurring tax rate reductions, including Alabama, Arizona, Idaho, Iowa, Indiana, Kansas (really!), Minnesota, Mississippi, Nebraska, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, South Carolina, and Utah
- States still **considering** material, recurring tax rate reductions include Colorado, Georgia, Louisiana, Missouri, South Dakota, Tennessee, Virginia, West Virginia
- Tax cuts are politically difficult to reverse; better choices would have been spending increases, debt paydowns, capital and/or human investments

And the Tax Policy Center now notes flagging state tax collection forecasts: Not good but also not a disaster



Secular changes are only slowly becoming clear

- Work from home accommodations during the pandemic are becoming permanent for many, but not all, employers
- This does not apply, generally, to lower wage service jobs, health care, or hospitality where workers must be on site
- Similarly, many government jobs like police, fire, education, public works, and transit do not allow for work from home
- White collar, better paid jobs, for example in technology, finance, management, etc., are most likely to allow for at least limited work from home going forward

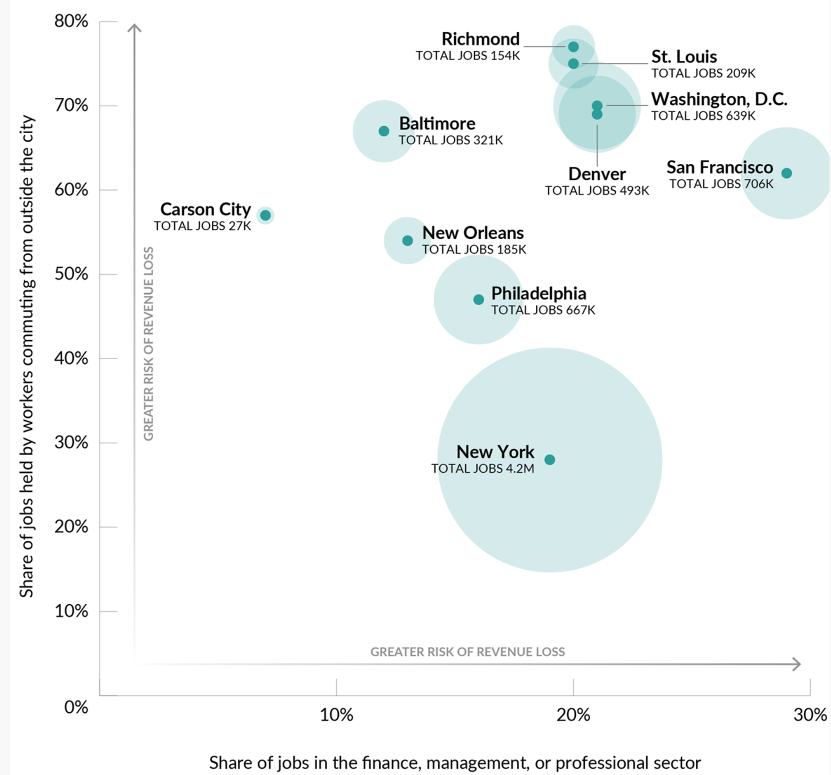
Tax impact of work from home depends on local specifics (1/2)

- Most smaller cities depend on property taxes for bulk of revenues, insulating them somewhat from this adjustment
- But larger cities and cities in several states may rely more heavily on sales and/or a local income or wage tax, which are more vulnerable
- This is compounded by a reliance on commuters, specifically intercity or interstate commuters
- Philadelphia has struggled with its wage tax while NYC has done better b/c of intracity commuters

Figure 1

Cities With More Commuters and Those Able to Work From Home Could Face Post-Pandemic Fiscal Risk

A look at the share of jobs held by commuters and the share of workers in finance, management, or professional sectors compared with total jobs in 10 cities



Notes: Census data cannot be disaggregated to the city level but only to the state, county, and census tract levels. Pew selected these 10 cities because they are either independent cities that the data recognizes or cities that are also classified as counties. They also are geographically diverse and range in population size. The size of the green circles indicates total jobs in the city.

Sources: Commuters are identified using 2019 data from the Census Bureau, https://lehd.ces.census.gov/data/, the latest available year of data. The professional sectors aggregate the Finance & Insurance North American Industry Classification System (NAICS) sector, the Management of Companies and Enterprises NAICS sector, and the Professional, Scientific, & Technical NAICS sector.

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Tax impact of work from home depends on local specifics (2/2)

Where do local government revenues come from? (Source: Pew)		
Property Taxes >75%	Sales Tax Revenues >25%	Income Tax Revenues >25%
AK	AL	KY
CT	AR	MD
IA	AZ	OH
ID	CO	PA
IN	KS	
MA	LA	
ME	MO	
MI	ND	
MN	NM	
MS	OK	
MT	SD	
NH	UT	
NJ	WA	
RI		
VA		
VT		
WI		

Work from home's local impact also depends on commercial real estate exposure/reliance/concentration (1/2)

- ITEP report in November 2021 forecast **employment-related declines** of 6% in commercial real estate values in major metros, ranging from 1% in Austin to 13% in San Francisco
- Companies will also be needing less space per worker; these **space-related declines** are projected to range from 12% (where WFH averages 1-2 days per week) to 25% (where WFH is 3+ days)
- ITEP modeled city revenue effects based on these assumptions, also incorporating local economic makeup and city revenue mixes…
- In general, more diversified revenue streams generally fared better, regardless of CRE downturn
- Atlanta was worst affected, projected revenues falling >6% while NY, SF, Austin were off 2-4%

Work from home's local impact also depends on commercial real estate exposure/reliance/concentration (2/2)

ITEP: Industry Specific Expectations (% Working From Home)	
Utilities	41%
Construction	22%
Wholesale Trade	67%
Information	80%
Finance and Insurance	85%
Real Estate Rental and Leasing	54%
Professional, Scientific, Technical	86%
Management of Companies and Enterprises	86%
Administrative Support, Waste Management	43%
Health Care and Social Assistance	24%
Arts, Entertainment, and Recreation	36%
Other Services (expect Public Admin)	43%
Retail Trade	22%
Transportation and Warehousing	25%
Average	51%

Remember too that commercial taxes are generally not large

- And that, while all corporate taxes are a point of consideration, industrial taxpayers have generally done well because of supply chain problems; the crux is commercial properties
- Cities facing expected or actual commercial tax declines have, of necessity, foisted costs onto residential taxpayers or experimented with entertainment, cannabis, sports, gaming, or other new taxes
- Tolerance of temporary/permanent restaurant expansions directly reflect a desire to minimize the reallocation of costs to residential taxpayers
- Shopping malls are an issue, but sometimes (e.g., NJ) the things malls sell (e.g., clothing) is not taxable, so less important than you might think

Local flexibility to adjust revenues is often very limited (1/2)

- All states define how local governments can tax their economies
- To the extent states allow local governments to change their either their revenue mix or specific tax rates, only a council vote may be required, but often voter approval is needed
- Although best practice advice is for states to increase both revenue and spending flexibility at the local level, but…
- State restrictions on local flexibility have been increasing in recent years (e.g., property tax caps via the levy directly, levy growth, assessed value growth, etc.)
- Growth limiters can be particularly problematic during a recession as they can prevent revenues from regaining former levels for years (see Fig. 1, next page)

Local flexibility to adjust revenues is often very limited (2/2)

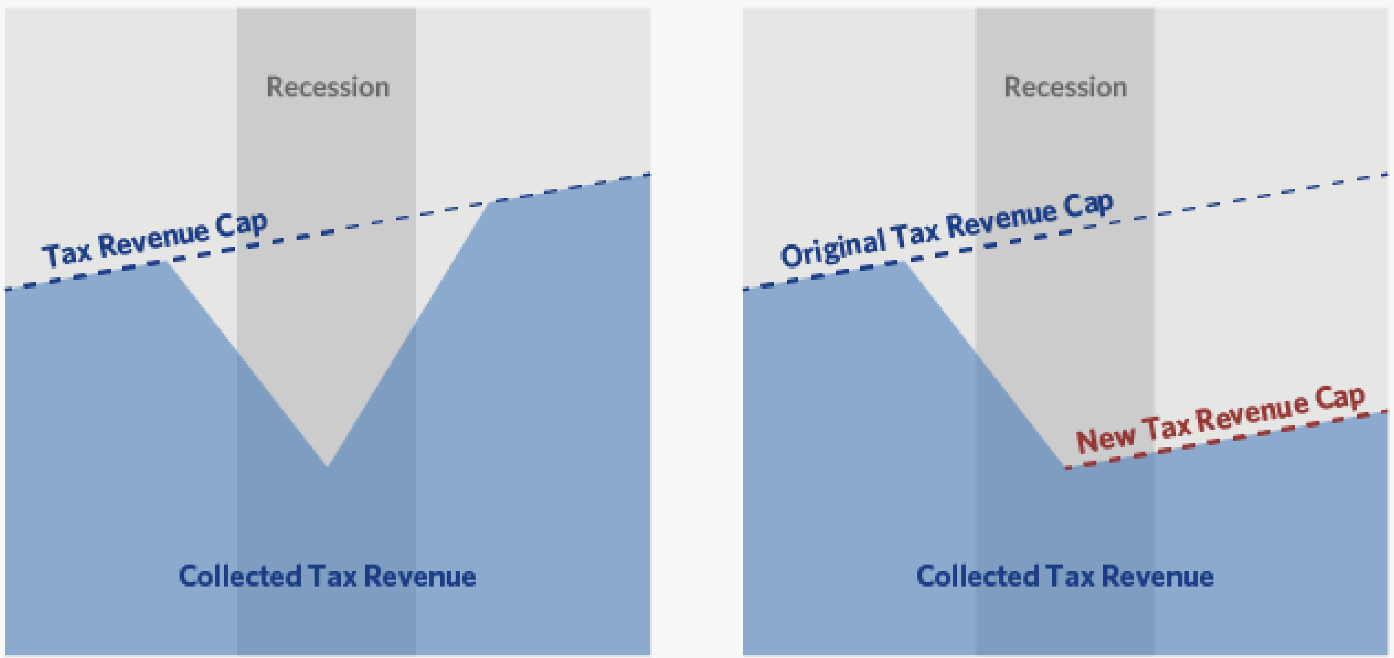
Figure 1

Tax Limits Can Create 'Ratchet-Down' Effect on Local Revenue

State-imposed constraints hamper pace of revenue growth after a recession

Without ratchet effect, revenue is able to bounce back after a temporary drop

With ratchet effect, a temporary drop becomes a permanent reduction in cap



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GFOA: New revenues are possible with sufficient accountability

- Since ‘04, 3,023 local revenue initiatives (69%) in CA were voter-approved
- Taxes with a specified and specific purpose were more likely to succeed
- Local governments can target areas of specific need (e.g., roads, child welfare) to improve chances of success
- Temporary or voter repeal-able taxes are more likely to be approved than permanent ones, which is also an appropriate perspective now
- And linking new revenues to a transparent and strategic plan helps, especially if the plan is created with citizen input
- Other, non-voter-linked ways to adjust revenue mixes are highly viable and may be subject to less state scrutiny
- These include zoning reform or permitting changes (to allow for more, differently-taxed businesses), utility expansion (giving companies a reason to locate or grow), or highly tactical use of tax incentives

Income taxes have performed well in many cases

- Income taxes are vulnerable from work from home, but recent performance in many cities has been unexpectedly strong
- From Fitch's report on Columbus, OH, "Fiscal 2022 revenue is exceeding fiscal 2021 levels through March 31. This is largely due to income tax collections increasing by almost 11% despite the city receiving some requests for refunds from non-resident employees who worked remotely during parts of the fiscal year. Income tax growth has been strong due to job and wage growth in the city, as well as an increase in bonuses. While non-residents have been able to claim income tax refunds for day that they worked remotely in fiscal 2021, the state Supreme Court recently declines to hear a case that would have allowed non-residents to claim refunds for days they worked remotely prior to January 1, 2021."

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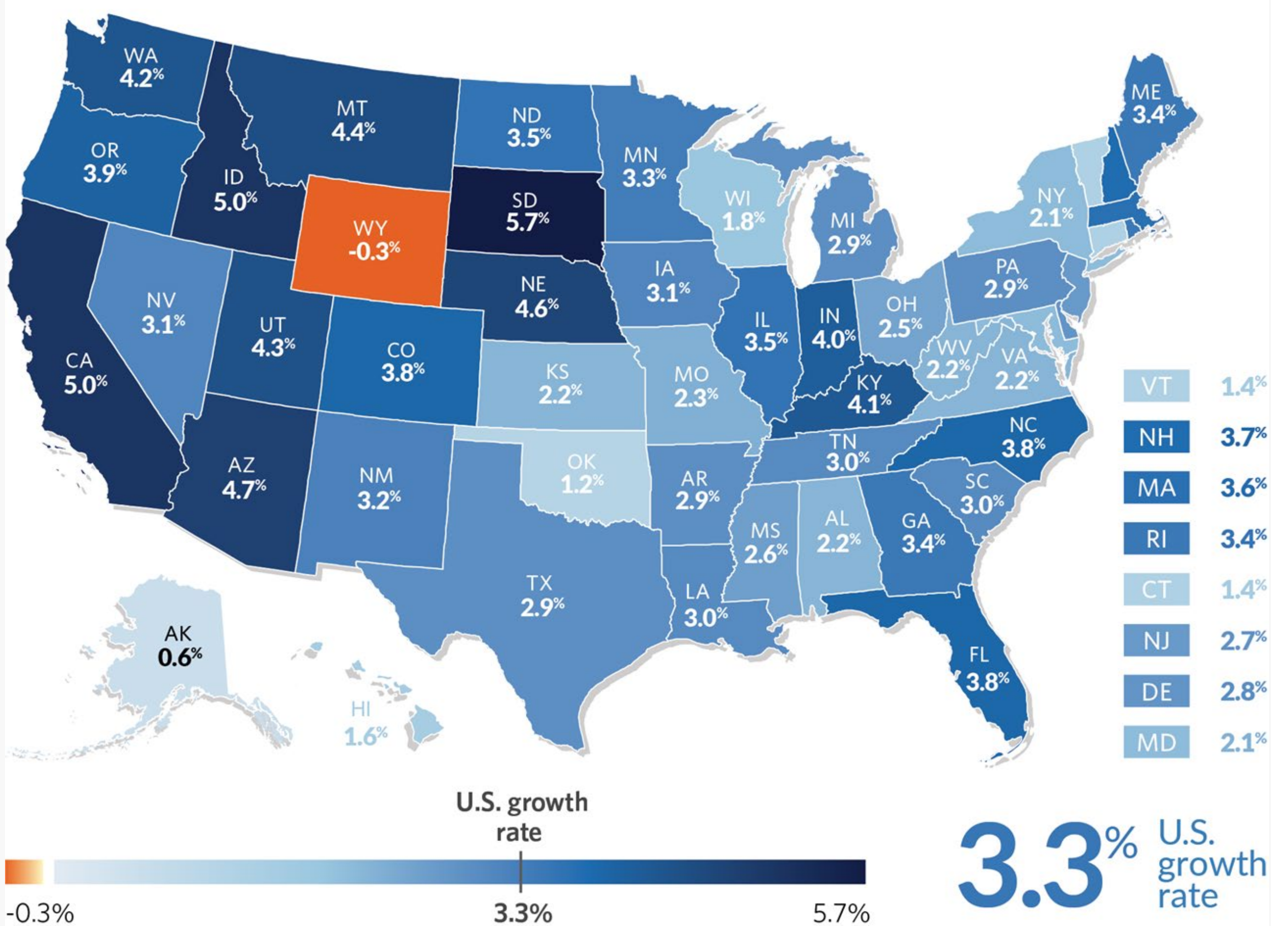
But the removal of federal aid could change things (1/2)

Total Personal Income Surpasses Pre-Pandemic Levels in 49 States

Annualized growth rate after accounting for inflation, Q4 2019-Q3 2021



Source: Pew's analysis based on data from the U.S. Bureau of Economic Analysis

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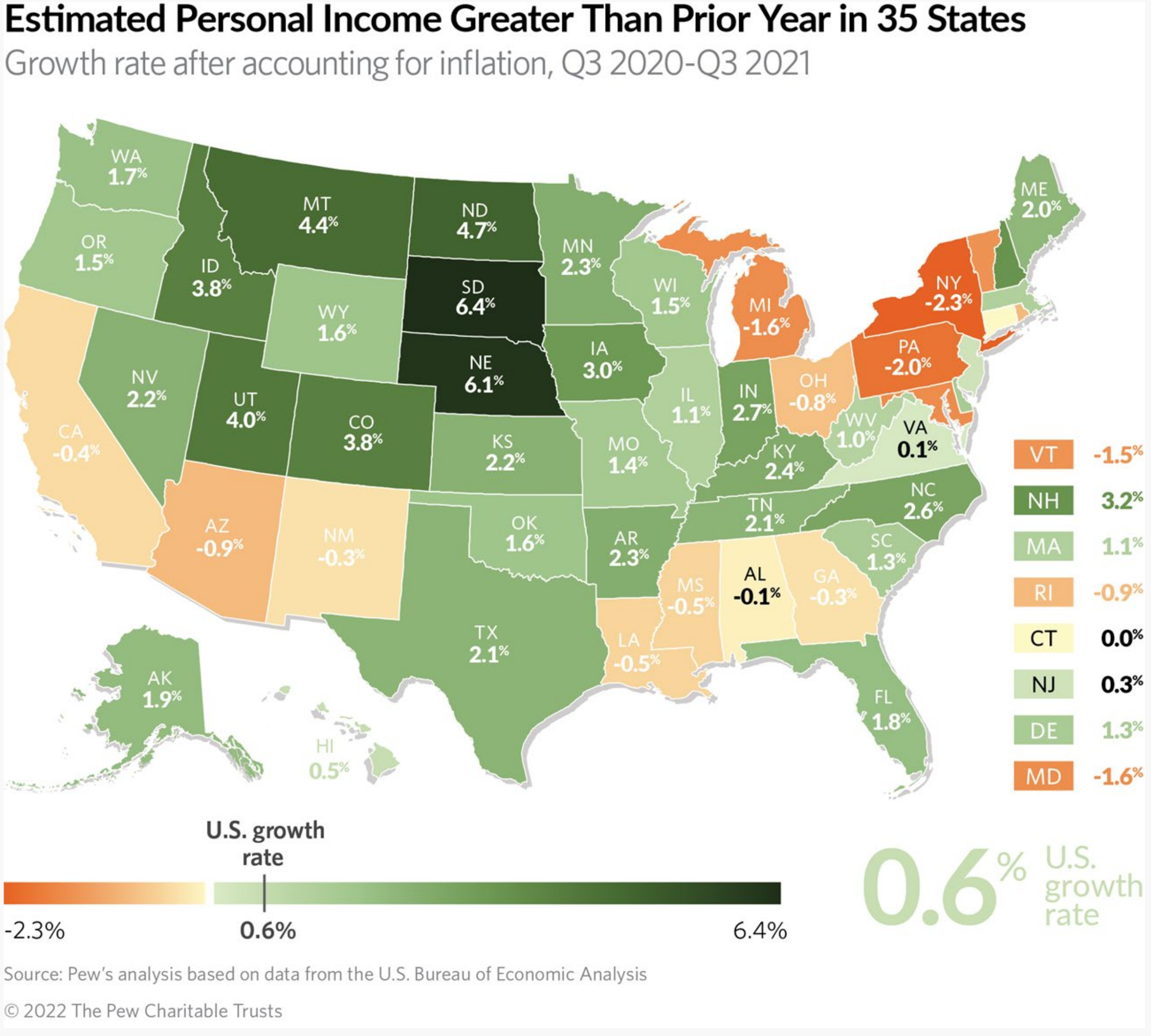
But the removal of federal aid could change things (2/2)



Sales taxes benefit from inflation, so, good news for cities

- Heavy sales tax reliance has been a boon in some places, like Florida, and
- The strong rebound in purchases of goods (taxed) versus services (untaxed) has been a beneficial development
- The *Wayfair* decision by SCOTUS (in 2018) allows the taxing of online transactions: another fortuitous change pre-pandemic
- Supply-side inflation may continue for some time, despite the Fed’s efforts, noting continuing COVID infections in China/Asia and how the Russian invasion of Ukraine will affect oil, grain, and fertilizer prices worldwide, perhaps for years

Political risk is rising and will keep rising into the Midterms

- Reedy Creek's dissolution by Florida is an archetypal form of municipal distress: triggered by political animosity from the state
- Electioneering politicians are cutting taxes, making future state aid cuts more likely once revenue slowdowns follow
- Pre-emption policies (where states take away local powers or limit local choices) have grown and are typically to the detriment of local borrowers
- Anti-school, anti-education sentiment could be a disaster for future rounds of school-related voter approval requests (for taxes, bonding, etc.)
- Potential Republican control of Congress raises the risk of ARPA aid clawbacks or similar accelerated reversals of federal stimulus

Want to learn more?

--Watch **MMA's Masterclass on Muni Credit Analysis**--

For the basics of understanding muni credit and examining a bank portfolio of muni bonds

Go to www.mma-research.com for more info

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