U.S. Municipal Bond Market

Anticipating Municipal Issuance Will Remain Challenged Again in 2023: Our Forecast

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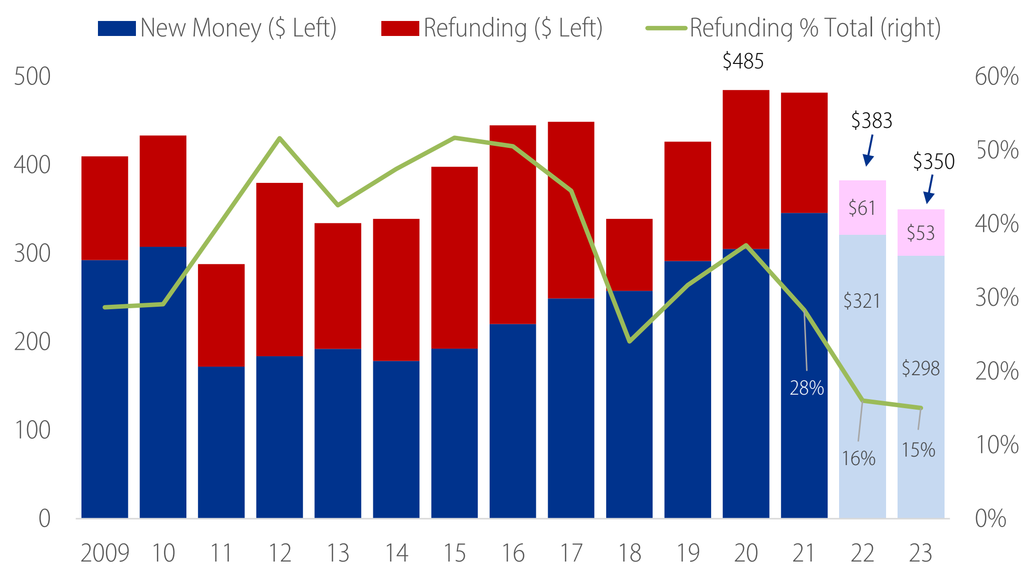
- We expect only $350 billion of total municipal bond market issuance in 2023.
- Economic growth will be lower next year whether the economy goes into a recession or not, and this will drag new money issuance down. Higher interest rates will reduce refunding activity. We outline our specific U.S. GDP and interest rate base case inside.
- Total issuance for 2022 is going to be about $383 billion (or lower). This is even worse than our June 2022 revised forecast of $410 billion. Issuance came in less than expected because the Federal Reserve raised rates at a higher pace than we anticipated.
- The Golden Age of Public Finance will continue into 2023 mostly because the significant amount of Rescue Plan Act stimulus will prop up balance sheets and credit quality. The Golden Age cannot manufacture an increase in bond issuance, however. The federal funds cover too short a time-horizon to meaningfully increase bond issuance.
- We did not expect, we have not seen, and still do not anticipate other fiscal policy such as the Infrastructure Investment and Jobs Act of 2021 or the Inflation Reduction Act of 2022 to MEANINGFULLY add to municipal issuance in 2023 or in the near-term.

U.S. Infrastructure Underinvestment

Economic growth will be lower next year whether the economy goes into a recession or not, and this will drag new money issuance down.

America's infrastructure leadership has been weak for some time now. One commonly cited statistic that illustrates the country's failure to invest in public works is the Infrastructure Report Card, published every four years by the American Society of Civil

Municipal Issuance Likely to Retreat in 2023, Along With U.S. Economy



Source: Refinitiv, The Bond Buyer and HilltopSecurities. Actual issuance through end of Oct. 2022. $ in billions.

Engineers. The good news is the overall grade for the U.S. was a tad improved in 2021. For the first time in 20 years the overall infrastructure report card grade was higher, at a "C-" compared to the "D+" earned in 2017. This most recent reading is still below average and illustrates that infrastructure related spending remains well below where it should be in the U.S. A key reason for U.S. infrastructure underinvestment is because a lack of resources exists that can be reliably allocated on an annual basis.

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One of the key financing options that state and local governments and other public finance entities do use to fund infrastructure investment has been tax-exempt and taxable municipal bonds. Over the last decade or more we have regularly been asked about the factors that could drive U.S. municipal bond issuance higher. The answer has been consistently the same.

A key catalyst of new money municipal bond issuance has always been and will continue to be above average and rising economic growth. When economic growth is above average and rising, then issuance usually perks up. Another fabricator of new money issuance is more within the direct control of public finance entities themselves, but only sometimes utilized. New money issuance could rise if state and local governments and other public finance entities began to collectively and in a meaningful way raise taxes or fees and then reinvest those proceeds on an ongoing basis into paying debt service used to fund infrastructure investment. The key influence for refunding issuance is of course interest rates. When interest rates are lower compared to five to 10 years prior to the issuance of bonds, then refunding issuance is likely going to be consequential.

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The problem is, as we close out 2022 and enter 2023 none of these three key factors—1) economic growth, 2) higher taxes or fees, 3) a favorable interest rate environment—are trending in a direction that would support even a neutral level, much less an increased amount of issuance for 2023 compared to 2022.

Key Assumptions Driving Our 2023 Municipal Bond Issuance Forecast

Indicator	2019	2020	2021	2022	2023
	Actual	Actual	Actual	Est	Est
Real U.S. GDP	2.3%	-2.8%	5.9%	1.5%	0.5%
Fed Funds Target Rate	0.25%	0.25%	0.25%	2.50%	4.75%

Source: U.S. Dept. of Commerce, Federal Reserve Board, The Economist Intelligence Unit and HilltopSecurities.

Economic growth forecasts for the U.S. in 2023 range from just under -1% to just about 1%. We are assuming that U.S. GDP is likely to be just positive in 2023. But, most important is that issuance is likely to be muted overall because growth is going to be weak. We do not think that public finance entities are likely to increase taxes and/or fees to be used for bond debt service in a meaningful way either. The interest rate outlook is much higher, not lower for all of 2023. Even in an aggressive case where the Fed begins to pivot lower mid-year, we do not think much refunding issuance materializes above what we saw in 2022.

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The HilltopSecurities 2023 Municipal Bond Issuance Forecast

We expect a total of $350 billion of municipal bond issuance in 2023. New money activity is going to drop to just under $300 billion. This should not seem too surprising, especially because new money has hovered between about $290 billion and $345 billion going back to 2019. The amount of refunding issuance in 2023 will drop slightly also. Overall, we expect refundings to make up about 15% of total issuance and come in at about $53 billion. From a near to medium-term historical perspective this level of refundings as a percentage of issuance is rare. This interest rate environment is also rare. Back in 2018 refundings fell to about 24% of overall issuance. To find a percentage closer to what we expect next year we need to travel all the way back to 2000, when refundings were 14% of overall issuance.

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Detailed Analysis for HTS 2023 Municipal Bond Issuance Forecast

Nine Year Avg. '13 - '21	Month	2020 Actual	2021 Actual	Likely Total in 2022	Iss. Required for $495B in 2023	HTS Initial 2023 Forecast
$27	January	$33	$28	$26	$42	$25
28	February	42	37	31	42	25
34	March	20	48	45	42	30
33	April	32	37	40	42	30
34	May	31	35	36	42	25
40	June	52	50	37	42	40
32	July	48	38	28	42	30
36	August	43	44	42	42	30
33	September	54	45	26	42	30
45	October	73	42	25	42	35
32	November	21	37	20	42	25
35	December	35	41	25	33	25
$411	**Total**	**$485**	**$482**	**$383**	**$495**	**$350**

Source: Refinitiv, The Bond Buyer and HilltopSecurities. Actual through end of Oct. 2022. $ in billions.

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To get to a total of $350 billion of issuance in 2023 we expect there will be just over $29 billion of monthly issuance. In the recent past, months that include $40-plus billion of issuance were much more common that they were in 2022 and are likely to be in 2023. 2020 and 2021 saw six months and five months where monthly issuance topped $40 billion. In 2022 we are likely going to see only three months where issuance tops $40 billion. It is not likely that issuance tops $40 billion more than once next year. It might not happen at all. There is just not enough momentum to propel issuance back to the market peaks we saw in 2020 and 2021 on a monthly or overall basis.

Why Didn't We See Record Issuance in 2022? We Initially Forecast $495 billion

In fall 2021 we forecast a total of $495 billion of overall issuance for 2022. However, the backdrop was much different in the fall of 2021 compared to what the backdrop is now. Overall U.S. economic growth was set to slow in 2022 compared to 2021, but it was

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It was clear after four to five months into 2022 that what was likely to happen was not what we expected back in our original forecast. Therefore, in June we revised our 2022 forecast lower to $410 billion.

It was clear after four to five months into 2022 that what was likely to happen was not what we expected back in our original forecast. Therefore, in June we revised our 2022 forecast lower to $410 billion. However, we underestimated how far the Fed would raise rates even in this revision—the Fed's actions are the leading reason why issuance is likely to be sub-$400 billion this year. For months, public finance was experiencing sticker-shock and hoped more favorable interest rates would return. Now the interest rate situation could very well act as a deterrent to financings. It is very possible that we begin to see an increased use of variable rate or other products in situations where entities need to begin projects. On the refunding side it is likely that the higher interest rate environment does not allow many refinancings to experience cost savings.

Summary of HilltopSecurities Municipal Bond Issuance Forecasts & Revisions

For Year	New/ Revision	Amount	Actual	Date	Title	Notes
2022	Revised	$410B	TBD	6/13/2022	REVISED: Our 2022 Municipal Bond Issuance Forecast	Fed Reserve raised rates, much lower than expected economic growth
2022	New	$495B	TBD	11/22/2021	Our 2022 Municipal Bond Issuance Forecast	We expected record issuance b/c of elevated economic growth expectations, low int. rates
2021	Revised	$460B	$482B	7/15/2021	Our Revised 2021 Municipal Issuance Forecast: $460 Billion	Substantial fiscal policy, municipal credit did not deteriorate
2021	New	$375B	$482B	11/19/2020	Infrastructure Gap Barely Dented by Record 2020 Bond Sales- We Expect Lower Issuance in 2021	Forecast was made before almost $3 trillion of fiscal policy bolstered balance sheets
2020	New	$450B	$485B	12/11/2019	2020 Volume Forecast Preview	Our expectation was that interest rates would remain lower than the market consensus

Source: Refinitiv, The Bond Buyer and HilltopSecurities.

Federal Stimulus, Infrastructure and IRA Funds Will Not Move the Needle Either

There has been a significant amount of fiscal policy that has been approved under the Biden administration. Some of it included spending directed to state and local government entities. About $650 billion of stimulus was direct aid for public finance sectors included in the 2021 American Rescue Plan Act. These are the funds that influenced us to write that a Golden Age of Public Finance was possible. These funds are still propping up balance sheets, but they mostly have not and will not meaningfully add to municipal bond issuance. These funds must be spent in the next year or two. Therefore, they will not match up with debt service structures that last 20 or 30 years. The Golden Age of Public Finance still carries on, it just is not going to result in an increase of debt to fund infrastructure. The Golden Age is likely to continue until we see clear evidence that public finance downgrades will outpace upgrades. Overall, the federal money will support balance sheets and prop up credit, but it will not be a meaningful driver of issuance in 2023 or in the near-term.

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Select Meaningful Legislation Passed Since Biden Became President

Amount ($ in billions)	Title of Legislation	Note	Status
$738	Inflation Reduction Act of 2022	Via budget reconcilation (no bi-partisan support)	Signed into law Aug. 16, 2022
$280	Chips and Science Act of 2022	-	Signed into law Aug 9, 2022
$550	Infrastructure Investment and Jobs Act of 2021	-	Signed into law Nov. 15, 2021
$1,900	American Rescue Plan Act of 2021	Via budget reconcilation (no bi-partisan support)	Signed into law March 11, 2021
$3,468	**Total**		

Source: HilltopSecurities.

The majority of municipal bond issuance is sold by state and local governments and education-related (emphasis on school districts) issuers. In fact, of the $4 trillion of municipal bonds that have been sold over the last 10 years, almost 60% of them were for general government and education. Therefore, to move the needle on overall issuance we believe that federal programs would have to include incentives that would influence numbers at this level and to really move the needle be focused on the areas where issuance has historically been concentrated.

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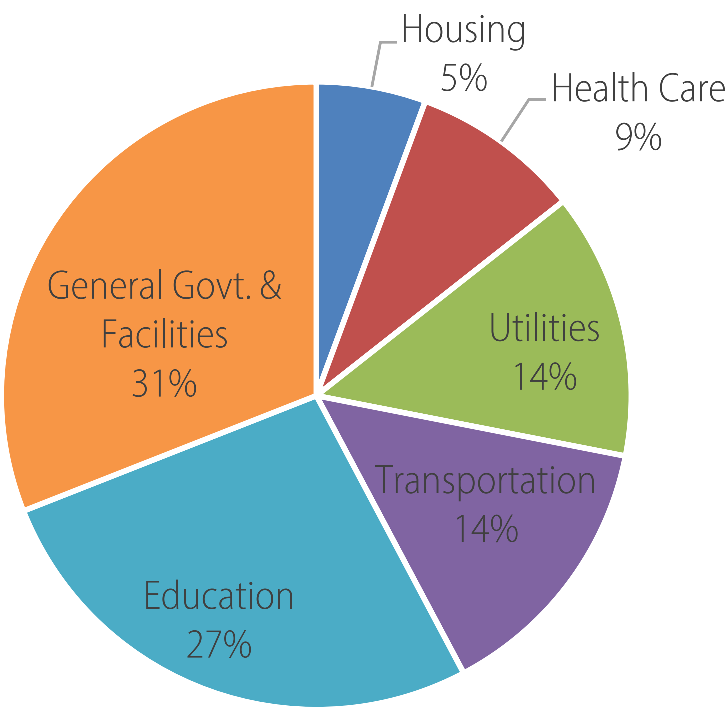
Breakdown of the $4 Trillion of Municipal Bonds Sold in Last 10 Years By Sector



Source: Refinitiv, The Bond Buyer and HilltopSecurities.

The bipartisan Infrastructure Investment and Jobs Act alone was a minor legislative achievement. There is only $550 billion of new spending that will be spent over about 10 years. $110 billion will be spent on road, bridges and major federal projects. $40 billion will be spent on mass transit and $25 billion will be spent on airports. Please see House Passes $1.2 Trillion Infrastructure Plan on Friday, Boosting What We Deemed (in March) as the Golden Age of Public Finance, Nov. 8, 2022) for more detail. All these line-items (and more) have connections to the municipal market but again, these amounts will be spent

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over a 10-year period. This federal money is also most likely going to be direct or grant related spending. These funds are not necessarily going to be directly tied to municipal bond issuance.

The Inflation Reduction Act (IRA) of 2022 is another piece of federal legislation haphazardly thrown together. The components of the IRA were focused on energy, climate and health care and amounted to about $485 billion that will be spent over about eight years. Almost none of the spending in the IRA directly translates to municipal bond issuance. Please see page seven of What the Inflation Reduction Act of 2022 Means for U.S. Public Finance, Aug. 12, 2022 for a breakdown of the policy spending in the IRA. Again, this federal money is also most likely going to be direct or grant related spending. These funds are not necessarily going to be directly tied to municipal bond issuance.

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Recent HilltopSecurities Municipal Commentary

- Our 2022 Mid-Term Election Preview, Oct. 20, 2022
- Another Prime Chance to Swing At - and connect with - U.S. Municipal Bonds, Sept. 26, 2022
- The Financial Data Transparency Act, A Potential Burden & Technological Upgrade for Public Finance if it Becomes Law, Sept. 14, 2022
- The Next Big Risk, Sept. 8 2022

Readers may view all of the HilltopSecurities Municipal Commentary here.