



Invesco Fixed Income Investment Insights

Municipal bond market recap and outlook

Third quarter 2018



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Highlights

- The municipal bond market weakened during the third quarter, as a change in supply and demand patterns made it more vulnerable to rising interest rates.
- While new issuance increased during the quarter, year-to-date it remained significantly below the same nine-month period in 2017.
- Demand softened as crossover buyers cut back on their tax-exempt bond purchases.

Market technicals, which supported municipal bond prices for most of 2018, shifted in September. Although new issuance ticked up slightly during the third quarter, soft demand made municipal bonds more vulnerable to rising interest rates. The investment grade municipal bond market returned -0.15%, while the high yield municipal market returned 0.76%.¹

US Treasury rates increased during the quarter, as bond markets favored strong US economic growth over the risk of a US-China trade war. As widely expected, the Federal Reserve (Fed) raised the federal funds rate by 25 basis points (bps) at its September meeting, reflecting policymakers' increased confidence in the US economy amid low unemployment, relatively stable inflation and overall robust economic growth.

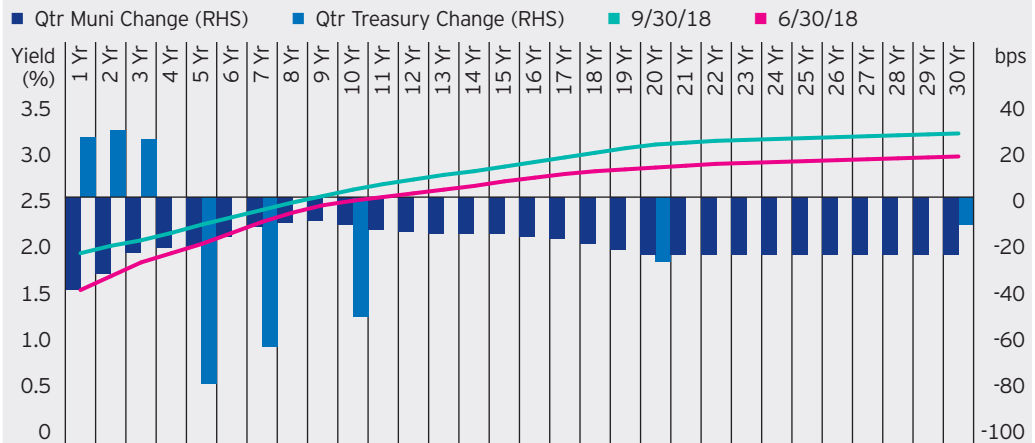
After staying rather range bound during July and August, municipal yields rose significantly in September. Short and long term municipal yields increased more than intermediate-term yields, driving further flattening in the municipal yield curve. (Figure 1.) The yield of a three-year AAA GO rose by 24 bps to 2.03%, while the yield of a five-year AAA GO increased 21 bps to 2.20%. Yields on 10-year AAA GO municipal bonds rose 12 bps to 2.58%, and yields on 30-year AAA GOs climbed 25 bps to 3.19%.

The US Treasury yield curve also continued to flatten during the third quarter. The yields of three-year, five-year, 10-year and 30-year US Treasury bonds rose 25 bps, 21 bps, 20 bps and 20 bps, respectively.



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Figure 1: Municipal and Treasury yield curves continued to flatten during the third quarter



Source: Thomson Reuters TM3.com as of Sept. 30, 2018; US Department of the Treasury as of Sept. 30, 2018.

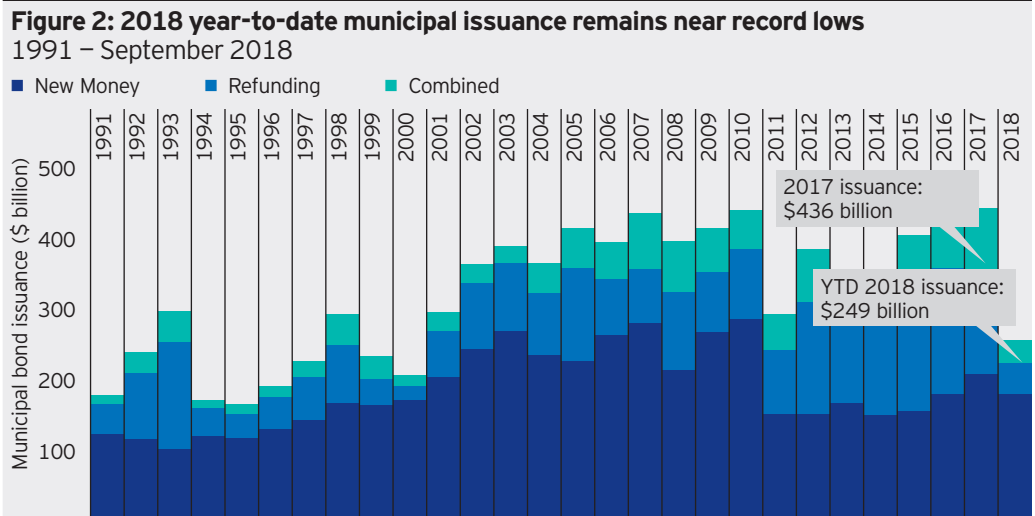
Over the third quarter, intermediate-term municipal bonds outpaced comparable duration US Treasuries. Short term and long term municipal securities performed in line with their Treasury counterparts.

Lower-rated municipal bonds outperformed higher-rated municipal bonds during the third quarter, as municipal spreads remained tight. Spreads were tight as low municipal bond issuance fueled investor demand for lower-rated municipal securities.

For the 2018 year-to-date period through September, the investment grade municipal bond market returned -0.40% and the high yield municipal market returned 4.45%, benefiting from the strength of tobacco credits and Puerto Rico municipal bonds.¹ Municipal bonds have outperformed both investment-grade corporate bonds and the broad fixed income market on a year-to-date basis.¹

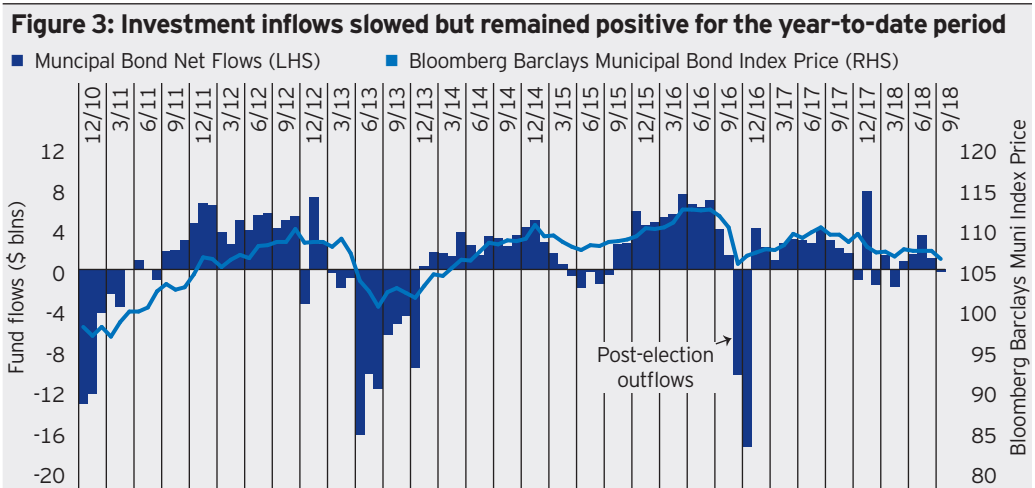
Market technicals were less supportive of municipal bond performance

With \$84 billion of new municipal bonds coming to market, third-quarter issuance was an improvement over the \$53 billion priced during the second quarter. However, year-to-date new issuance, at just \$249 billion, was 15% lower than issuance during the same nine-month period in 2017. (Figure 2.) The drop in 2018 supply was due in part to higher interest rates, which led states and municipalities to defer some of their borrowing. It was also related to the Tax Cuts and Jobs Act (TCJA), which took effect in January. The TCJA ended the tax-exemption for advance refunding bonds, which were issued by state and local governments seeking to refinance their debt at lower interest rates. The proceeds of the issuance were generally invested in government securities, with the income used to pay off debt on outstanding bonds until they mature or can be called. The elimination of tax-exempt advance refundings meant that state and local government had fewer ways to reduce the cost of refinancing existing municipal debt.



Source: SIFMA updated Sept. 30, 2018, Municipal Bond Issuance; The Bond Buyer, Investment Company Institute, through Sept. 30, 2018.

At the same time, demand for municipal securities softened. Municipal bond fund flows, which had been positive during July and August, turned slightly negative in September, as municipal yields rose and consequently bond prices fell. For the quarter total net inflows were approximately \$2.1 billion, considerably less than the approximately \$7.7 billion during the second quarter. For the 2018 year-to-date period, municipal bond fund flows slowed but remained positive, with total net inflows of approximately 12.5 billion. (Figure 3.)

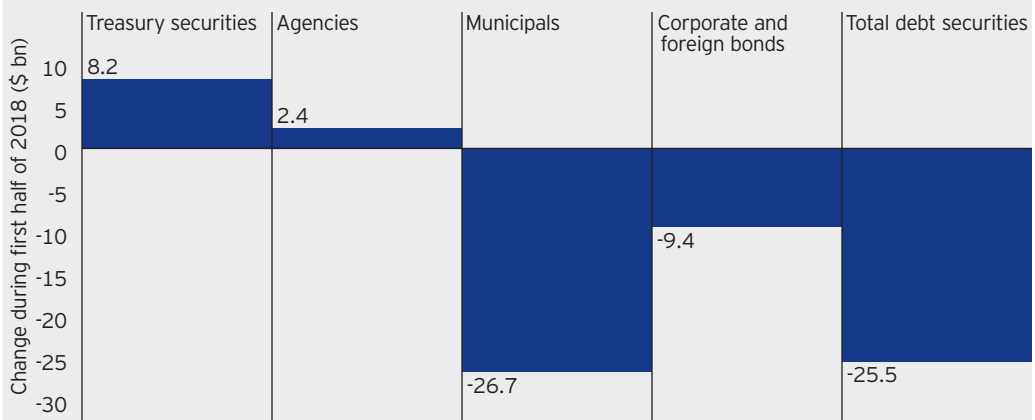


Source: Strategic Insight (SI), Bloomberg Barclays, as of Sept. 30, 2018.

Municipal bond buying patterns continued to shift

The character of the municipal bond market continued to change in the wake of the new tax law. Individual investors remained the largest holders of municipal securities, comprising 67% of the \$3.8 trillion municipal market either through direct ownership or through fund vehicles.² However, the number of crossover buyers, such as banks and insurance companies, appeared to be shrinking. Since the passage of TCJA, which cut the corporate tax rate from 35% to 21%, banks and insurance companies have had less incentive to invest in tax-exempt securities. Banks have even reduced their municipal bond holdings by \$25.5 billion during the first half of 2018.³ (Figure 4.)

Figure 4: Year-to-date US banks have decreased their holdings of debt securities by 25.5 billion



Source: Citi Research, Federal Reserve; Jan. 1, 2018 through June 30, 2018.

This shift in buying patterns may have long-term implications for the municipal bond market, given that crossover buyers have historically stepped in when municipal yields climbed. In the past, property and casualty (P&C) insurers generally focused on 15- to 22-year municipal securities, while banks tended to favor municipals with maturities of 20 years and longer.⁴ But in 2018, crossover investors were more opportunistic about their municipal bond purchases, appearing to prefer corporate bonds over longer-term municipal bonds.

Their lower participation could be seen in municipal-to-Treasury ratios, which compare the yields of municipal securities to those of US Treasury securities. When the municipal-to-Treasury ratio is above 100%, municipal yields are higher than Treasury yields, making municipal securities comparatively more attractive to taxable investors. As banks and insurance companies trimmed their purchases of longer-term municipal securities, the drop in demand pushed down municipal bond prices on the long end, driving up their yields and lowering municipal-to-Treasury ratios. At the end of third quarter, the 20-year municipal-to-Treasury ratio was 98%, while the 30-year municipal-to-Treasury ratio was 100%.

While it's true that changes in tax law have made tax-exempt municipal bonds less attractive for P&C insurers relative to corporate bonds, their low historical defaults and diversification benefits still offer P&C companies good reasons to hold them. And for those concerned about further rate increases, municipal bonds could be attractive on a tactical basis since they have historically performed well relative to other fixed income assets in past rate-hiking cycles.⁵

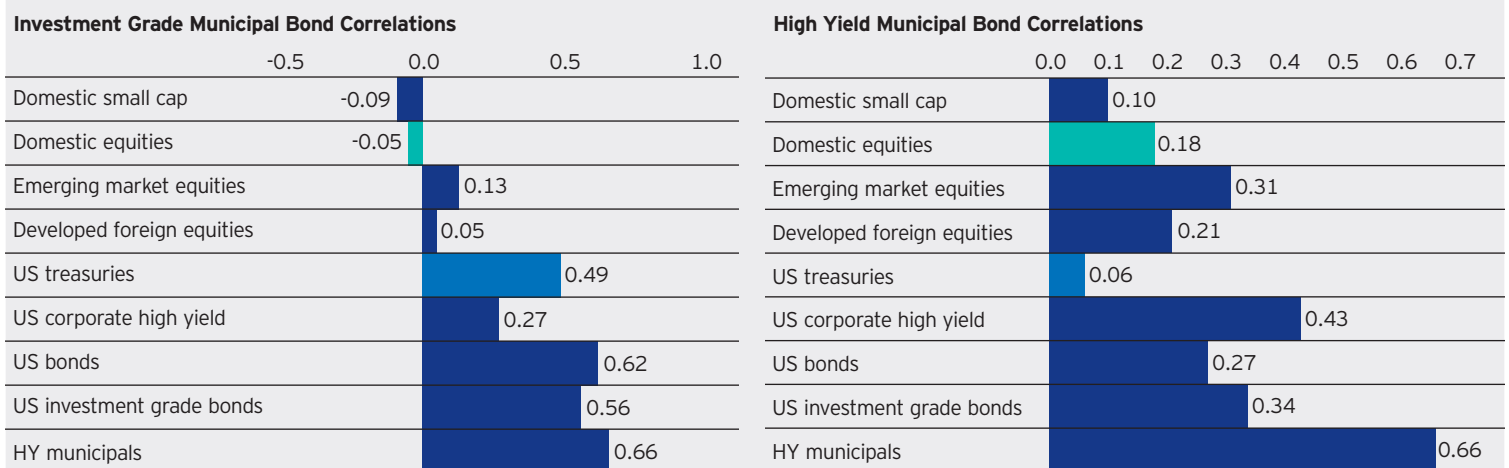
Outlook

Despite the third quarter's technical weakness, municipal bond market fundamentals remained strong, with state and local governments continuing to see an increase in tax receipts. Local property tax collections rose 2.9% year over year in the second quarter, while state tax revenues grew 7.8% year over year during the second quarter.⁶ Partly as a result, the municipal bond market continues to see more upgrades than downgrades in credit ratings, in our opinion.

Looking ahead, we think it is unclear whether our \$300 - \$330 target for 2018 new issuance, which we set earlier in the year, will materialize. Historically the fourth calendar quarter has typically been a time of light supply. However, issuance could pick up if state and local governments grow more concerned about the results of the November mid-term elections and ongoing Fed monetary policy action. Nevertheless, we expect total new issuance for 2018 to be substantially less than in years past.

As for demand, we expect individual investors to play an even larger role in the municipal market going forward. Indeed, their participation may increase as they begin working on their 2018 taxes and see the impact of TCJA's smaller-than-expected individual tax cuts. We think this may be especially true for investors in high tax states. In addition, municipal securities should continue to offer diversification benefits, as they historically exhibit little correlation with other asset classes, including equities, corporate bonds and US Treasury securities. (Figure 5.)

Figure 5: Municipal bonds have historically low correlations versus other asset classes
10 year municipal bond correlations



Source: Bloomberg Barclays, as of Sept. 30, 2018. Asset Classes are represented by the following Index returns: Bloomberg Barclays Municipal Bond Index represents IG Municipals, Bloomberg Barclays High Yield Municipal Bond Index represents High Yield Municipals, Bloomberg Barclays US Corporate Investment Grade Index represents US Investment Grade Bonds, Bloomberg Barclays US Aggregate Bond Index represents US Bonds, Bloomberg Barclays US Corporate High Yield Index represents US Corporate High Yield, Bloomberg Barclays US Government Index represents US Treasuries, MSCI EAFE Index represents Developed Foreign Equities, MSCI Emerging Markets Index represents Emerging Markets Equities, S&P 500 Index represents Domestic Equities, Russell 2000 Index represents Domestic Small Cap. Past performance cannot guarantee future results. An investment cannot be made directly in an index.

Invesco Municipal Bond Team

The Invesco Fixed Income Municipal Bond Team's investment philosophy is based on the belief that creating long-term value through comprehensive, forward looking research is the key to providing clients with diversified portfolios that aim to maximize risk-adjusted returns. Proprietary credit research and risk management are the foundations of our investment process, supported by a deep and experienced team of investment professionals with expertise that spans the entire municipal investment universe. We maintain an integrated, team-based investment process that combines the strength of our fundamental credit research analysts with the market knowledge and investment experience of our portfolio managers.

Our position among the top-10 municipal investment managers by assets in the US enables us to access preferred market opportunities and gain valuable market insight. Our team has established relationships with more than 120 national and regional municipal debt dealers in the US. We believe these established relationships, as well as our size, allow us to achieve fluid execution in daily transactions. Our ability to aggregate trades across multiple portfolios also enables us to obtain lower institutional pricing, which can contribute to portfolio performance.

About risk

Municipal securities are subject to the risk that legislative or economic conditions could affect an issuer's ability to make payments of principal and/or interest.

Junk bonds involve a greater risk of default or price changes due to changes in the issuer's credit quality. The values of junk bonds fluctuate more than those of high quality bonds and can decline significantly over short time periods.

All fixed income securities are subject to two types of risk: credit risk and interest rate risk. Credit risk refers to the possibility that the issuer of a security will be unable to make interest payments and/or repay the principal on its debt. Interest rate risk refers to the risk that bond prices generally fall as interest rates rise and vice versa.

Municipal bonds are issued by state and local government agencies to finance public projects and services. They typically pay interest that is a tax in their state of issuance. Because of their tax benefits, municipal bonds usually offer lower pre-tax yields than similar taxable bonds.

- 1 Source: Bloomberg L.P., as of Sept. 30, 2018. Investment grade municipal bonds represented by Bloomberg Barclays Municipal Bond Index. High yield municipal bonds represented by Bloomberg Barclays Municipal High Yield Bond Index. Corporate bonds represented by Bloomberg Barclays U.S. Corporate Investment Grade Index. Broad fixed income market represented by Bloomberg Barclays U.S. Aggregate Index.
- 2 Source: Federal Reserve, as of June 30, 2018 (data released Sept. 20, 2018).
- 3 Source: Federal Reserve, Citi_Muni Weekly_10.01.2018.pdf
- 4 Source: Citi Research; Citi Muni Weekly, as of Aug. 13, 2018. Citi_Muni Weekly_08.13.2018.pdf
- 5 Source: Barclays, Bloomberg L.P. for the period June 30, 2004 to June 29, 2006.
- 6 Source: Bloomberg L.P., latest data available as of Sept. 30, 2018.

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A credit rating is an assessment provided by a nationally recognized statistical rating organization (NRSRO) of the creditworthiness of an issuer with respect to debt obligations, including specific securities, money market instruments or other debts. Ratings are measured on a scale that generally ranges from AAA (highest) to D (lowest); ratings are subject to change without notice. If securities are rated differently by the rating agencies, the higher rating is applied. Not Rated indicates the debtor was not rated and should not be interpreted as indicating low quality. A negative in Cash indicates fund activity that has accrued or is pending settlement. Pre-Refunded / Escrowed to Maturity (Prerefunded / ETM) bonds are issues backed by an escrow account, invested in US Treasuries, which is used to pay bondholders. Other includes bonds rated below single B and bonds currently not paying a coupon. For more information on the rating methodology, please visit www.standardandpoors.com and select 'Understanding Ratings' under Rating Resources on the homepage; www.moodys.com and select 'Rating Methodologies' under Research and Ratings on the homepage; www.fitchratings.com and select 'Ratings Definitions' on the homepage.

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A basis point is a unit that is equal to one one-hundredth of a percent.

Bloomberg Barclays High Yield Municipal Bond Index is generally representative of bonds that are noninvestment grade, unrated or rated below Ba1. **Bloomberg Barclays Municipal Bond Index** is an unmanaged index considered representative of the tax-exempt bond market. **Bloomberg Barclays US Aggregate Bond Index** is an unmanaged index considered representative of the US investment-grade, fixed-rate bond market. **Bloomberg Barclays US Corporate 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 Barclays US Corporate High Yield Index** is an unmanaged index that is comprised of issues that meet the following criteria: at least \$150 million par value outstanding, maximum credit rating of Ba1 (including defaulted issues) and at least one year to maturity. **Bloomberg Barclays US Corporate Investment Grade Index** is the corporate component of Bloomberg Barclays US Credit Bond Index which is a market value-weighted index of investment-grade corporate fixed-rate debt issues with maturities of one year or more. **Bloomberg Barclays US Government Bond Index** is a market value weighted index of US government and government agency securities (other than mortgage securities) with maturities of one year or more. **MSCI EAFE Index** is an unmanaged index considered representative of stocks of Europe, Australasia and the Far East. **MSCI Emerging Markets Index** is an unmanaged index considered representative of stocks of developing countries. **S&P 500 Index** is an unmanaged index considered representative of the US stock market. **Russell 2000 Index** is an unmanaged index considered representative of small-cap stocks. The Russell 2000 Index is a trademark/service mark of the Frank Russell Co. **SIFMA Municipal Swap Index** is a 7-day high-grade market index comprised of tax-exempt Variable Rate Demand Obligations (VRDOs) with certain characteristics. The Index is calculated and published by Bloomberg. An investment cannot be made into an index.