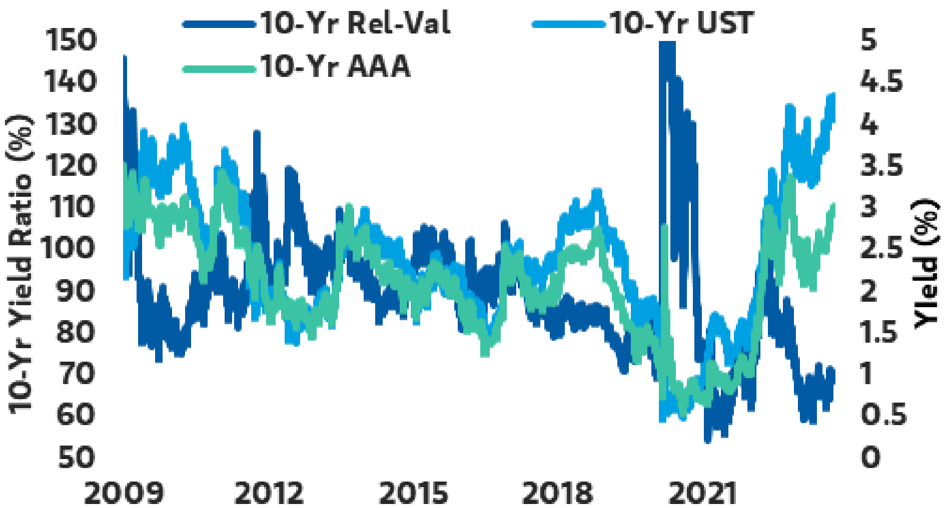
Municipal Research | October 25, 2023

Municipal Bond Monthly

A New Normal

One reality we cannot deny is that financial markets are eventful. Considering the developments we've managed throughout the last 14 years together, our discussions have included the post-2008 economic recovery, "too big to fail," Grexit, Frexit, Brexit, three elections, two inverted yield-curves, one fiscal cliff, a taper tantrum, and the COVID-19 pandemic. Turning to the present juncture, higher interest rates and increased volatility have encouraged us to further combine our fixed income strategies and release a comprehensive weekly publication. Consequently, we thought investors might benefit from a very brief review of the ten integral developments that have reshaped our municipal market since 2008. In our final section, we will coordinate strategies for this potential "new normal."

Higher Rates, Lower Ratios Bolster Post-2008 "New Normal" Debate



Source: Morgan Stanley Wealth Management Municipal Research, Refinitiv as of 10/25/23

Matthew Gastall
Investment Strategist
Matthew.Gastall@morganstanley.com

Daryl Helsing, CFA
Investment Strategist
Daryl.Helsing@morganstanley.com

Investment Strategy:

- "Count Stars" with Core Entry Points
  - **Core Yield-Curve**: Ladder 1-6 Year Final Maturities
  - **Alpha Yield-Curve**: Please See Our Strategy Section
- Continue 2023 Strategies
  - Consider Both Taxable and Tax-Exempt Value Propositions
  - Stay Selective with Entry Points and Investment Structures
  - Growth and Inflationary Outlooks Uncertain; Maintain Some Dry Powder with Cash
- Stay Close to Professional Guidance

Credit Quality: Please See Our Sector Outlooks Table

Coupon Structure: Premium-Priced, Above-Market + 4.75% Coupon Securities

"Progress lies not in enhancing what is, but in advancing toward what will be." We lead such busy lives that it's often easy for us to dismiss the past so that we may dedicate more time focusing on the future; however, we're often better prepared for "what may come" once we grant the proper time toward fully understanding what has happened. Noting the aforementioned quote from Lebanese writer Khalil Gibran, the post-2008 era has been a seminal one in the evolution of the municipal bond market. Though the events below have already occurred, we believe that comprehensively mastering their impacts may help investors to better navigate our market's "new normal" moving forward. We will then coordinate our positioning thoughts in our Investment Strategy section.

10) US Elections, "Grexit, Frexit, and Brexit" …

Placing the spirited existential debates and political repercussions aside, it's undeniable that myriad public policy influences have been formidable market forces throughout the last 15 years. The seemingly ubiquitous headlines gravitated toward Grexit in 2011, Frexit in 2016, and then Brexit, among others, throughout the second half of the last decade.

Though not solely a financial-market development, the 2016 US elections also had profound impacts on municipal price action. The resurfacing of the "reflation trade" helped equity prices advance, inflationary expectations transition, and all fixed-income yield-levels (interest-rates) to aggressively rise.

Both the "EU exits" and 2016 elections provided us with helpful examples that we should always embrace yield-curve positioning toward where we believe fixed-income markets may move … but still prudently prepare for alternative, surprise outcomes in the case that they do not.

Grexit, Frexit, and Brexit reminded markets that both economic and political uncertainties can incite aggressive flight-to-quality trades. Here, risk-off sentiments may drive participants toward investments traditionally viewed as "safe-haven" harbors, such as US Treasuries (USTs) and municipal bonds. Conversely, the rate volatility that followed the 2016 elections greatly impacted the duration profiles of those accounts that were unprepared for the development. Once moving past the front-end inversion, investors should recall the current risk/reward balance that over 70% of the AA-rated yield-curve is now captured by the six-year final maturity.

9) Build America Bonds

For many years to come, Build America Bonds (BABs) will likely serve as a highly important case study of investor sentiment, technological advancement, and capital mobility. Though optically additive to the deficit, the initiative encouraged public entities to consider issuing taxable, instead of tax-exempt, debt, and then receive a federal subsidy to help compensate for higher borrowing costs. Importantly, the taxable yield-levels offered by BABs illustrated how unique forms of financing might help the asset class to increase its appeal—not only to non-traditional US investors, but the entire world.

The 2010 expiration of BABs reminded us that policy decisions play an important role in influencing the financial markets. BABs also exhibited the promise of a system that embraced, and may someday once again support, a novel fiscal method that can be utilized to bolster public finance. Stay tuned …

8) Taper Tantrum

The Taper Tantrum was denoted as a "fire drill" by some participants, but the event helped many investors realize that, whether or not monetary policy anxieties seem justified, the markets may still respond anyways … What began in 2013 as a seemingly harmless statement that the Fed intended to gradually "taper asset purchases," quickly became a dramatic event where most fixed-income yield-levels rose sharply on concerns that the bond markets would soon lose an important technical buyer.

As we've discussed often since 2008, municipal fixed income, particularly when utilized as a buy-and-hold position, often plays an invaluable role in preserving wealth, maximizing tax-efficiencies, and earning a generally safe and reliable income stream. When concerned about rising interest rates, participants should simply tailor the way by which they invest and focus on bonds with low-to-neutral durations of shorter final maturities. With higher nominal interest rates and the current yield-curve inversion, we believe those positions are now particularly appealing to investors.

7) 2010 Credit Predictions

Many of us remember this period as one of the most eventful in "muni history." Though 2010's prognostications never came to fruition, investors still pulled over $35 billion out of open-ended mutual funds. The subsequent "comeback" helped municipals to post 2011 performance that has thus far, been almost unrivaled throughout history.

6) The COVID-19 Pandemic

Speaking to our focus, the pandemic was an extraordinary period for public finance that was met with remarkable federal, state, and local government assistance. This stability was firmly bolstered by Federal Reserve monetary policy, three comprehensive stimulus packages, the temporary establishment of the Municipal Liquidity Facility, and myriad actions taken by state and local government leaders to control both the virus and its many economic impacts.

Our "come together" dynamic may have been one of the most important public finance takeaways of the pandemic. As the municipal bond market has long functioned as the financing conduit through which the development, maintenance, and management of many of our important public initiatives are funded, many coterminous issuers often provide essential, symbiotic services that, ultimately, benefit each other. Consequently, when/if certain areas encounter fiscal or economic impediments, competitors are not only generally absent, but issuers often seek to "come together" to **support** each other. This is a unique benefit (for an already highly creditworthy asset class) in the financial markets.

The two preceding credit developments helped to, once again, reinforce both the resilience and strength of state and local government bond creditworthiness; however, diversification, credit-quality selection, and professional investment guidance were, and continue to be, highly important. Those investors with notable exposures to highly-rated GOs and essential-service revenue structures—such as water, sewer, and public power—likely found that their bond values were comparatively more stable throughout the pandemic versus those securities supported by more volatile operating-revenue streams.

Additionally, recall that presently "tight" credit spreads suggest that investors should look to avoid lower-rated issuers susceptible to credit challenges. This advocacy is predicated upon the fact that: (1) investors are currently being less compensated for taking credit risk; and (2) participants run the risk of spread widening, or interim price depreciation, if the economy confronts recession risks in 2024.

5) The 28% Cap

Though the proposal didn't garner enough traction for passage, the 2011 threat to limit the value of the tax-exemption pressured our asset class to trade "weaker" to USTs and other fixed-income asset classes for most of the last decade. Years later, it appeared as if the "blue skies" dynamic of outperformance began when former US Treasury Secretary Steve Mnuchin affirmed the intention to preserve the exemption during the Tax Cuts and Jobs Act of 2017 (TCJA). This subsequently brings us to …

4) The "Blue Skies" Dynamic

Municipals were bolstered by a highly constructive backdrop that helped the structures to strongly outperform USTs between 2017 and 2019. We first described this occurrence as the "Blue Skies" dynamic in April 2018. Overall, nominal municipal yields breached all-time records, relative-value ratios pierced 32-year lows, and credit spreads tightened aggressively as the result of: (1) the preservation of the tax-exemption during TCJA; (2) the passage of income tax-reductions that were notable, but not significant enough to have a considerable impact on demand; (3) supply limitations placed on issuer-abilities to advance-refund debt; (4) benign credit conditions; and (5) the limitation of the state and local tax (SALT) deduction. This constructive setting was further supported by a buoyant UST market backdrop. Yield levels were lower, but the performance of many municipal accounts was very strong. The confluence of both monetary policy and the "blue skies" dynamic helped to intensify the next development on our list.

3) Total Issuance for the Common Benefit

Our market endured 2008's challenges and, once again, continued its productive advance toward "what will be." Gross primary data exhibit that monies raised to support the public benefit throughout the last 13 years now stand at over $1 trillion each for both educational and general public initiatives, nearly $500 billion for public utility systems and healthcare, and roughly $200 billion for housing and economic development, among various other sectors, as of last month. These metrics include proceeds raised for both new-money and refunding purposes, which are two efforts that support state and local government fiscal operations and provide services that seek to support the common good.

As we discussed in our Building the Nation Primer, the municipal bond market has long functioned as the financing conduit through which states and local governments fund our nation's prodigious infrastructure network. Many participants invest in the securities not only for the bonds' investor benefits, but because the market supports an important facet of the nation's financial system.

2) A New Interest-Rate Normal?

One of this year's most ubiquitous debates has centered on whether recent interest rate movements are short-term developments influenced predominantly by the current economic cycle … or if the transition represents what many have discussed throughout the last decade as "interest rate normalization." Simply put, will the current environment change, or have we emerged into a new normal where nominal rates will reside closer to modern averages and, thus, possibly trade within a range where entities can effectively borrow, but investors will earn better real returns after accounting for inflation.

Overall, economic developments and transitioning monetary policy have created an environment where investors are now earning notably more for lending their monies, which is a setting that we believe represents a new era for the fixed income markets.

1) A New Credit Normal

Though 2008 feels like yesterday to many of us, it's amazing how the "new credit normal" has become more commonplace as time has progressed. As first noted in 2010 by former Morgan Stanley Wealth Management Chief Municipal Strategist John Dillon, our market has gradually evolved from a homogeneous, interest-rate sensitive environment, where nearly 60% of new-issue volume utilized bond insurance, into a credit-sensitive, idiosyncratic setting that is comparable to the corporate bond market. Though we believe that bond insurance offered by the stronger entities now provides notable value with enhancing creditworthiness, the broader public-finance arena is now quite different than it was before 2008.

As we wrote about at the onset of the last decade, increased responsibility to monitor creditworthiness also provided us with opportunities, as yield/credit-spreads widened to multi-decade highs. Consequently, taking prudent credit risks proved beneficial at the time due to the market's temporary period of dislocation. Most credit spreads compressed, myriad bonds matured, and the aforementioned period concluded. The last decade ultimately represented the end of a new beginning. Here, professional guidance for both credit and yield-curve selection helped many accounts to outperform.

Our Current Investment Strategy

Considering current market dynamics, we recommend that investors focus on three strategies at this time: (1) once stability ensues, continue to "count the stars" of bearish technicals and dollar-cost average autumn exposure into our core municipal range; (2) continue our 2023 investment strategies; and (3) stay close to professional guidance.

Speaking to our first objective, it's important to note that higher supply, lower reinvestment demand, laggard fund outflows, and higher nominal rates are now coinciding to offer what we believe are compelling entry points to dollar-cost average fall exposure into our core municipal range. This weakness may soon be further exacerbated by year-end tax-loss selling. Interestingly enough, the aforementioned dynamics may recede if year-end seasonals transition and/or interest rates stabilize or decline; the latter may occur if current policy efforts control inflation, tighter financial conditions moderate growth, or if the Fed begins to transition its monetary policy.

Second, our 2023 investment strategies remain unchanged at this time. For credit-quality positioning, we recommend that clients consider employing a diversified approach to the sectors and credit-rating parameters listed in our Sector Outlooks Table. For yield-curve positioning, our core advocacy favors a laddered exposure to 1-6 year final maturities. With current rate volatility and an inverted yield curve, we believe this section helps investors to earn compelling yields without taking excessive interest-rate risk. The 1s/10s section of the AA-rated curve is still inverted but, moving within this range, nearly 70% of all offering yields can be fully locked by the six-year maturity.

High-bracket, risk-averse investors may also note that adding modest "alpha yield" allocations to 10-16 year A-rated paper and/or 1-2 year BBB-rated paper may provide the extra steps necessary for earning TEYs of above 8%. To remain defensive, we recommend that investors take these positions by utilizing callable, above-market coupon, 5% or higher, structures that are either GOs or essential-service revenue issuers.

Strongly valued relative relationships suggest that low-to-mid-tier federal bracket clients should also consider exposures to high-quality taxable bonds. Currently elevated short-end yields and the continued possibility for higher interest rates further support our advocacy that clients maintain some "dry powder" in cash.

Finally, we continue to advocate that both current and prospective clients stay close to their Morgan Stanley Wealth Management Financial Advisors. Though the current "new normal" may offer opportunities, we believe professional advisors can help clients to achieve the proper risk/reward balance with locking returns that are appropriate for risk tolerances. This autumn's entry points stand among the most compelling in over a decade, but healthy economic activity, higher energy prices, and still uncertain inflationary outlooks suggest that the current rate environment may remain volatile.

We look forward to further navigating our markets in a new, comprehensive weekly publication. As always, please let us know if we can be of assistance.

Best,

Matt and Daryl

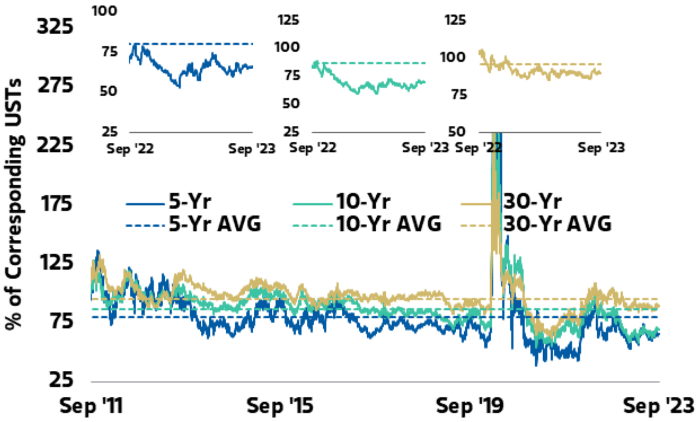
Sector Outlooks Table and Recommended Rating Parameters

Sector	Minimum Rating*	Commentary
State GO & State Appropriated	All	Stimulus support, better-than-anticipated revenue collections have bolstered reserves in many states; some pension (COLA) and economic migration challenges apparent. Volatility is possible, but states typically hold very strong authorities. Watch for overconcentration.
Local GO	A1/A+	Property taxes and state fiscal conditions may serve as a benefit to some localities. Monitor real-estate, pension (COLA), SALT, refinance, and economic migration repercussions (both positive and negative, depending on locality). We continue to advocate high credit quality.
Essential Service (Water & Sewer)	Baa1/BBB+	We recommend that investors searching for yield consider essential-service entities. Essential purpose and non-cyclicality of operating revenues are highly beneficial, if/where applicable. Essential entities may also benefit from exogenous support from coterminous municipalities, if assistance is necessary. Some capital needs may create select challenges.
US Public Power	Baa1/BBB+	We recommend that investors searching for yield consider IG public power. Non-cyclicality of operating revenues favorable, if/where applicable. Moving forward, investors should monitor credits as evolving power markets and regulation may create select challenges.
State Housing Finance Agencies	A1/A+	Exposed to housing market momentum, but business models are often diversified. Monitor SALT, real-estate, and economic migration risks, which may vary by geography.
Higher Education	A1/A+	Pandemic emergence, stimulus support, and select application recoveries are constructive. Closely monitor bond security and exercise caution with investments backed solely by dormitory/housing revenues. We recommend higher-rated, well-established institutions due to evolving educational practices, price sensitivity, and student selectivity.
Transportation	A1/A+	Pandemic emergence has been positive, but growth slowdown is possible. We advocate maintaining a focus on transportation essentiality. Energy and economic migration challenges are important to monitor. Focus on well-rated, stable, essential systems.
Not-for-Profit Hospitals	Aa3/AA-	We continue to advocate maintaining a focus on well-rated, established systems. Recovering elective and nonemergency procedures are positive, but risks may include labor shortages/costs, inflation, Medicare advance repayments, and Medicaid reviews.
Tax-Secured / Dedicated-Tax	A1/A+	Generally less political risk, but some inflation and economic slowdown challenges may surface. We prefer high-quality income and utility tax bonds where no commingling of revenues is apparent.

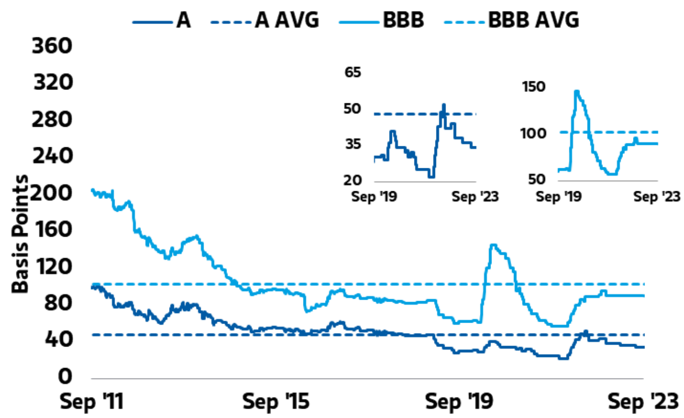
Source: Morgan Stanley Wealth Management Municipal Research
*Table lists minimum credit rating recommended for household accounts. (Alongside personal investment appropriateness, please consider the referenced rating with a stable outlook and/or higher rating.) Volatility and downgrade risks exist across most asset classes during the pandemic. We recommend households are not overexposed (+3%-5%) in any one particular credit, regardless of credit quality.

Municipal Market Data

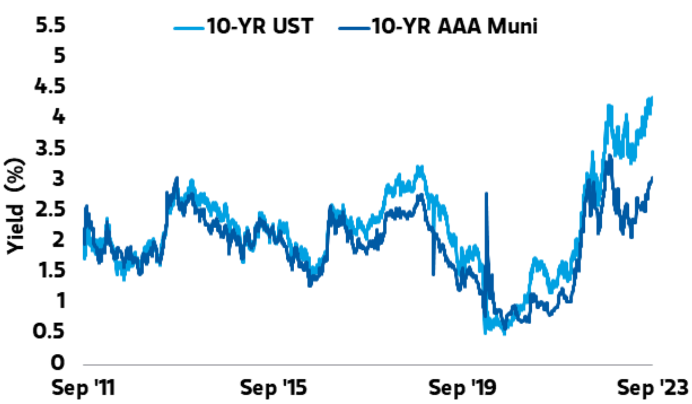
Muni/UST Ratios Remain Low on Supply/Demand Imbalances



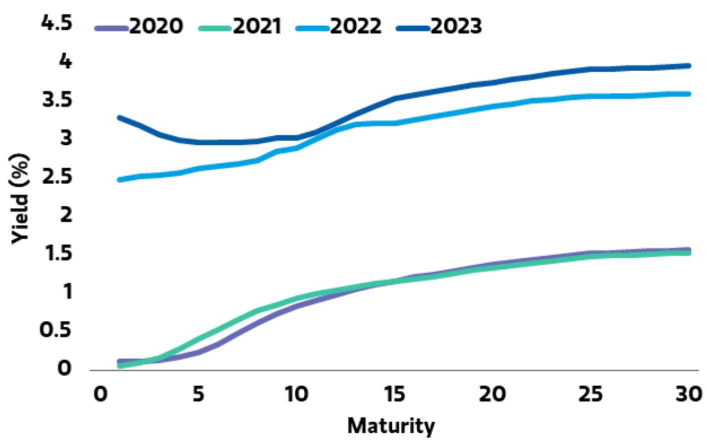
High-Quality Preference Predicated Upon Low/Tight Spreads and Recession Risks



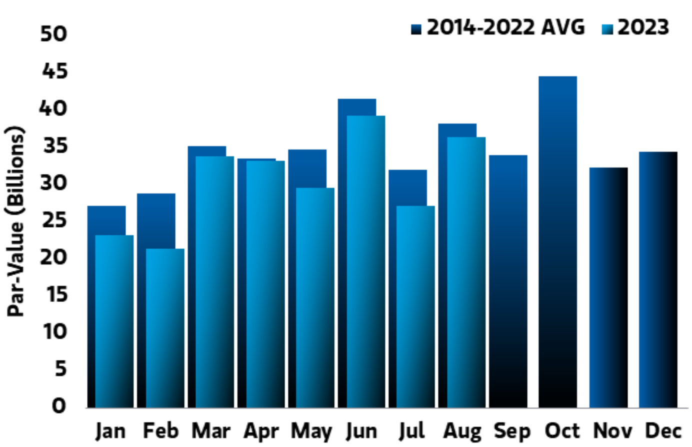
Rates Near Decade Highs—Slower Growth and Controlled Inflation May Support Declines



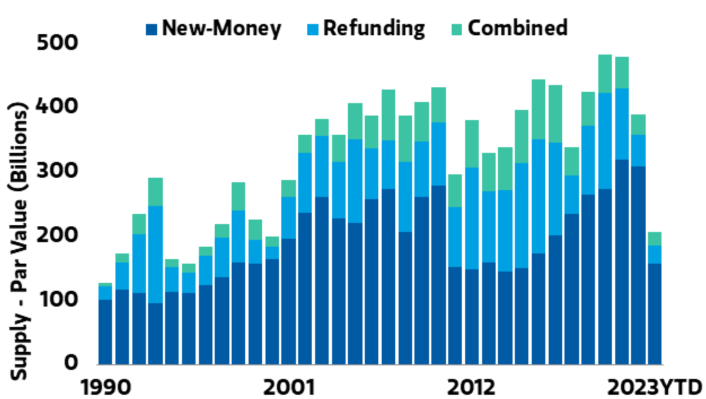
Inversion Supports Core and Alpha Yield-Curve Ranges; Maintain Dry Powder



Seasonal Supply Acceleration Underway



Outperformance Bolstered by Lower Supply



Source: Morgan Stanley Wealth Management Municipal Research, Refinitiv Municipal Market Data (MMD), Bloomberg, The Bond Buyer as of 10/25/2023.

Moody's and S&P Ratings Scale

	Moody's	S&P
Investment Grade	Aaa	AAA
	Aa1	AA+
	Aa2	AA
	Aa3	AA-
	A1	A+
	A2	A
	A3	A-
	Baa1	BBB+
	Baa2	BBB
	Baa3	BBB-
High Yield	Ba1	BB+
	Ba2	BB
	Ba3	BB-
	B1	B+
	B2	B
	B3	B-
	Caa1	CCC+
	Caa2	CCC
	Caa3	CCC-
	Ca	CC
	C	C
	WR	D
	NR	NR

Source: Bloomberg

Credit ratings throughout this report are cited from Standard & Poor's and Moody's given they are two of the most widely followed credit agencies in the fixed income markets. Credit quality is a measure of a bond issuer's creditworthiness, or ability to repay interest and principal to bondholders in a timely manner. The credit ratings shown throughout this report are based on each issuer's security rating as provided by Standard & Poor's and Moody's, as applicable. The credit quality of the issuers listed in this report does not represent the stability or safety of the bonds. Credit ratings shown range from AAA, being the highest, to D, being the lowest based on S&P's classification (the equivalent of Aaa and C, respectively, by Moody's). Ratings of BBB or higher by S&P (Baa or higher by Moody's) are considered to be investment grade-quality securities. Within Moody's classification, "WR" stands for "withdrawn rating." Reasons for withdrawals include: debt maturity, e.g., calls, puts, conversions, etc.; and business reasons, e.g., change in the size of a debt issue or the issuer defaults. "NR" stands for "not rated" by the agencies.

Disclosure Section

Risk Considerations

Bonds are subject to interest rate risk. When interest rates rise, bond prices fall; generally the longer a bond's maturity, the more sensitive it is to this risk. Bonds may also be subject to call risk, which is the risk that the issuer will redeem the debt at its option, fully or partially, before the scheduled maturity date. The market value of debt instruments may fluctuate, and proceeds from sales prior to maturity may be more or less than the amount originally invested or the maturity value due to changes in market conditions or changes in the credit quality of the issuer. Bonds are subject to the credit risk of the issuer. This is the risk that the issuer might be unable to make interest and/or principal payments on a timely basis. Bonds are also subject to reinvestment risk, which is the risk that principal and/or interest payments from a given investment may be reinvested at a lower interest rate.

Bonds rated below investment grade may have speculative characteristics and present significant risks beyond those of other securities, including greater credit risk and price volatility in the secondary market. Investors should be careful to consider these risks alongside their individual circumstances, objectives and risk tolerance before investing in high-yield bonds. High yield bonds should comprise only a limited portion of a balanced portfolio.

Build America Bonds described herein are backed by the credit quality of the issuer, and not the Federal Government. These Build America Bonds are structured as direct payment bonds, in which a direct Federal subsidy is paid to the state or local government issuer.

Interest on municipal bonds is generally exempt from federal income tax; however, some bonds may be subject to the alternative minimum tax (AMT). Also, municipal bonds acquired in the secondary market at a discount may be subject to the market discount tax provisions, and therefore could give rise to taxable income. Typically, state tax-exemption applies if securities are issued within one's state of residence and, if applicable, local tax-exemption applies if securities are issued within one's city of residence. The tax-exempt status of municipal securities may be changed by legislative process, which could affect their value and marketability.

Equity securities may fluctuate in response to news on companies, industries, market conditions and general economic environment.

Investing in foreign markets entails greater risks than those normally associated with domestic markets, such as political, currency, economic and market risks. **Investing in currency** involves additional special risks such as credit, interest rate fluctuations, derivative investment risk, and domestic and foreign inflation rates, which can be volatile and may be less liquid than other securities and more sensitive to the effect of varied economic conditions. In addition, international investing entails greater risk, as well as greater potential rewards compared to U.S. investing. These risks include political and economic uncertainties of foreign countries as well as the risk of currency fluctuations. These risks are magnified in countries with emerging markets, since these countries may have relatively unstable governments and less established markets and economies.

Treasury Inflation Protection Securities' (TIPS) coupon payments and underlying principal are automatically increased to compensate for inflation by tracking the consumer price index (CPI). While the real rate of return is guaranteed, TIPS tend to offer a low return. Because the return of TIPS is linked to inflation, TIPS may significantly underperform versus conventional U.S. Treasuries in times of low inflation.

Insurance does not pertain to market values which will fluctuate over the life of the bonds; it covers only the timely payment of interest and principal. Credit quality varies depending on the specific issuer and insurer.

REITs investing risks are similar to those associated with direct investments in real estate: property value fluctuations, lack of liquidity, limited diversification and sensitivity to economic factors such as interest rate changes and market recessions.

Because of their narrow focus, **sector investments** tend to be more volatile than investments that diversify across many sectors and companies. Risks applicable to companies in the **energy and natural resources sectors** include commodity pricing risk, supply and demand risk, depletion risk and exploration risk. **Health care sector stocks** are subject to government regulation, as well as government approval of products and services, which can significantly impact price and availability, and which can also be significantly affected by rapid obsolescence and patent expirations.

Any type of **continuous or periodic investment plan** does not assure a profit and does not protect against loss in declining markets. Since such a plan involves continuous investment in securities regardless of fluctuating price levels of such securities, the investor should consider his financial ability to continue his purchases through periods of low price levels.

Yields are subject to change with economic conditions. Yield is only one factor that should be considered when making an investment decision.

Credit ratings are subject to change.

Rebalancing does not protect against a loss in declining financial markets. There may be a potential tax implication with a rebalancing strategy. Investors should consult with their tax advisor before implementing such a strategy.

Asset allocation and diversification do not assure a profit or protect against loss in declining financial markets

Any type of **continuous or periodic investment plan** does not assure a profit and does not protect against loss in declining markets. Since such a plan involves continuous investment in securities regardless of fluctuating price levels of such securities, the investor should consider his financial ability to continue his purchases through periods of low price levels.

Active or frequent trading to effectuate a dynamic allocation strategy entails greater risk and is more speculative, but also entails the possibility for above-average returns, compared with a long-term investment strategy. It may also entail more costs and fees, as well as a larger and more immediate tax liability. The information and opinions in Morgan Stanley Wealth Management Research were prepared by Morgan Stanley Smith Barney LLC under its trade name Morgan Stanley Wealth Management.

The information and opinions in Morgan Stanley Wealth Management Research were prepared by Morgan Stanley Smith Barney LLC under its trade name Morgan Stanley Wealth Management.

The returns on a portfolio consisting primarily of **environmental, social, and governance-aware investments (ESG)** may be lower or higher than a portfolio that is more diversified or where decisions are based solely on investment considerations. Because ESG criteria exclude some investments, investors may not be able to take advantage of the same opportunities or market trends as investors that do not use such criteria. The companies identified and investment examples are for illustrative purposes only and should not be deemed a recommendation to purchase, hold or sell any securities or investment products. They are intended to demonstrate the approaches taken by managers who focus on ESG criteria in their investment strategy. There can be no guarantee that a client's account will be managed as described herein.

For important disclosures (including copies of historical disclosures) regarding the securities and/or companies that are the subject of this Morgan Stanley Wealth Management Research product, please contact Morgan Stanley Wealth Management Research, 522 Fifth Ave., New York, N.Y. 10036, Attention: Research Management. In addition, the same important disclosures, with the exception of the historical disclosures, are contained on the Firm's disclosure website at https://www.morganstanley.com/online/researchdisclosures. Historical disclosures will be provided upon request back to June 1, 2009.

Morgan Stanley Wealth Management Analyst Certification

The Morgan Stanley Wealth Management research analysts principally responsible for the preparation and content of all or any identified portion of this research report, hereby certify that their views about the securities and/or companies discussed in this report are accurately expressed and that they have not received and will not receive direct or indirect compensation in exchange for expressing specific recommendations or views in this report. Unless otherwise stated, the individuals listed on the cover page of this report are Morgan Stanley Wealth Management research analysts.

Global Research Conflict Management Policy

Morgan Stanley Wealth Management has a Conflict Management policy available at: https://www.morganstanley.com/online/researchconflictpolicies

Important US Regulatory Disclosures on Subject Issuers

The research analysts or strategists principally responsible for the preparation of Morgan Stanley Wealth Management Research have received compensation based upon various factors, including quality of research, investor client feedback, competitive factors, and firm profitability or revenues (which include fixed income trading and capital markets profitability or revenues). Research analysts' or strategists' compensation is not linked to the profitability or revenues of particular capital markets transactions performed by Morgan Stanley Wealth Management or the profitability or revenues of particular fixed income trading desks.

Morgan Stanley Wealth Management and its affiliates do business that relates to companies/instruments covered in Morgan Stanley Wealth Management Research. Morgan Stanley Wealth Management and/or its affiliates sells to and buys from customers the securities/instruments of issuers covered in this Morgan Stanley Wealth Management Research report on a principal basis.

Certain disclosures listed above are also for compliance with applicable regulations in non-US jurisdictions.

Closed-End Fund Rating System

Morgan Stanley Wealth Management only rates Closed-End Funds ("CEF"). For CEFs, Morgan Stanley Wealth Management uses a relative rating system using the terms Overweight, Equal-weight, Underweight, and Not Covered (see definitions below). Morgan Stanley Wealth Management does not assign ratings of Buy, Hold or Sell to the CEFs we cover. Overweight, Equal-weight, and Underweight are not the equivalent of buy, hold and sell. Investors should carefully read the definitions of all ratings used in Morgan Stanley Wealth Management Research. In addition, since Morgan Stanley Wealth Management Research contains more complete information concerning the analyst's view, investors should carefully read Morgan Stanley Wealth Management Research, in its entirety, and not infer the contents from the ratings alone. In any case, ratings (or research) should not be used or relied upon as investment advice. An investor's decision to buy or sell a security or fund should depend on individual circumstances (such as the investor's existing holdings) and other considerations.

Closed-End Fund Ratings Definitions

Overweight (O): The closed-end fund's total return is expected to exceed the average total return of the analyst's industry coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Equal-weight (E): The closed-end fund's total return is expected to be in line with the average total return of the analyst's industry coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Underweight (U): The closed end fund's total return is expected to be below the average total return of the analyst's industry coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Not Covered (NC): Indicates that the analyst does not cover the fund.

Closed-End Fund Ratings Distribution

(as of date **September 30, 2023**)

Morgan Stanley Wealth Management only rates CEFs. Thus, this Ratings Distribution table only displays the distribution data for the rated CEFs. For disclosure purposes only (in accordance with FINRA requirements), we include the category of Buy, Hold, and Sell alongside our ratings of Overweight, Equal-weight, and Underweight. Morgan Stanley Wealth Management does not assign ratings of Buy, Hold or Sell to the CEFs we cover. Overweight, Equal-weight, and Underweight are not the equivalent of buy, hold, and sell but represent recommended relative weightings (see definition below). To satisfy regulatory requirements, we correspond Overweight, our most positive stock rating, with a buy recommendation; we correspond Equal-weight to hold and Underweight to sell recommendations, respectively.

	CEF Coverage Universe		Investment Banking Clients (IBC)		
Closed-End Fund (CEF) Rating Category	Count	% of Total	Count	% of Total IBC	% of Rating Category
Overweight/Buy	28	36.4%	10	41.7%	35.7%
Equal-weight/Hold	35	45.4%	8	33.3%	22.9%
Underweight/Sell	14	18.2%	6	25.0%	42.9%
Total	77	100.0%	24	100.0%	

Data includes CEFs currently assigned ratings. An investor's decision to buy or sell a fund should depend on individual circumstances (such as an investor's existing holdings) and other considerations.

The Investment Banking Clients data above applies only to Morgan Stanley Wealth Management's CEF coverage universe. The data indicates those CEF investment managers for whom Morgan Stanley Wealth Management, provided investment banking services within the previous 12 months.

Other Important Disclosures

This Morgan Stanley Wealth Management Research does not provide individually tailored investment advice. Morgan Stanley Wealth Management Research has been prepared without regard to the individual financial circumstances and objectives of persons who receive it. Morgan Stanley Wealth Management recommends that investors independently evaluate particular investments and strategies, and encourages investors to seek the advice of a financial advisor. The appropriateness of a particular investment or strategy will depend on an investor's individual circumstances and objectives. The securities, instruments, or strategies discussed in Morgan Stanley Wealth Management Research may not be appropriate for all investors, and certain investors may not be eligible to purchase or participate in some or all of them.

Morgan Stanley Smith Barney LLC, its affiliates and Morgan Stanley Financial Advisors do not provide legal or tax advice. Each client should always consult his/her personal tax and/or legal advisor for information concerning his/her individual situation and to learn about any potential tax or other implications that may result from acting on a particular recommendation.

Morgan Stanley Wealth Management Research is not an offer to buy or sell or the solicitation of an offer to buy or sell any security/instrument or to participate in any particular trading strategy. The "Important US Regulatory Disclosures on Subject Issuers" section in Morgan Stanley Wealth Management Research reports or the "Listing of Important U.S. Regulatory Disclosures by security" section of the firm's disclosure website at https://www.morganstanley.com/online/researchdisclosures lists all issuers mentioned where Morgan Stanley Wealth Management or its affiliates own 1% or more of a class of common equity securities of the issuers. For all other issuers mentioned in Morgan Stanley Wealth Management Research, Morgan Stanley Wealth Management or its affiliates may have an investment of less than 1% in securities/instruments or derivatives of securities/instruments of companies and may trade them in ways different from those discussed in Morgan Stanley Wealth Management Research. Employees of Morgan Stanley Wealth Management Research are not involved in the preparation of Morgan Stanley Wealth Management Research, may have investments in securities/instruments or derivatives of securities/instruments of issuers mentioned and may trade them in ways different from those discussed in Morgan Stanley Wealth Management Research.

The summary at the beginning of the report may have been generated with the assistance of artificial intelligence (AI).

Morgan Stanley Wealth Management Research is based on public information. Morgan Stanley Wealth Management makes every effort to use reliable, comprehensive information, but we make no representation that it is accurate or complete. We have no obligation to tell you when opinions or information in Morgan Stanley Wealth Management Research change apart from when we intend to discontinue equity research coverage of a subject company. Facts and views presented in Morgan Stanley Wealth Management Research have not been reviewed by, and may not reflect information known to, professionals in other Morgan Stanley Wealth Management business areas, including investment banking personnel.

Morgan Stanley Wealth Management Research personnel conduct site visits from time to time but are prohibited from accepting payment or reimbursement by the company of travel expenses for such visits.

The value of and income from your investments may vary because of changes in interest rates, foreign exchange rates, default rates, prepayment rates, securities/instruments prices, market indexes, operational or financial conditions of companies or other factors. There may be time limitations on the exercise of options or other rights in securities/instruments transactions. Past performance is not necessarily a guide to future performance. Estimates of future performance are based on assumptions that may not be realized. If provided, and unless otherwise stated, the closing price on the cover page is that of the primary exchange for the subject company's securities/instruments.

Morgan Stanley Wealth Management may make investment decisions or take proprietary positions that are inconsistent with the recommendations or views in this report.

Investing in closed-end funds involves risks. These include the general risks associated with investing in securities, possible changes in market prices relative to net asset values and manager performance.

Besides the general risk of holding securities that may decline in value, closed-end funds have risks related to leverage and the potential for discounts to widen.

Morgan Stanley Wealth Management's Global Research Department produces and distributes research products for clients of Morgan Stanley Wealth Management.

This research is disseminated in Australia to "retail clients" within the meaning of the Australian Corporations Act by Morgan Stanley Wealth Management Australia Pty Ltd (A.B.N. 19 009 145 555, holder of Australian financial services license No. 240813).

Morgan Stanley Wealth Management is not incorporated under the People's Republic of China ("PRC") law and the research in relation to this report is conducted outside the PRC. In the PRC, this report will be distributed only upon request of a specific recipient. This report does not constitute an offer to sell or the solicitation of an offer to buy any securities in the PRC. PRC investors must have the relevant qualifications to invest in such securities and must be responsible for obtaining all relevant approvals, licenses, verifications and or registrations from PRC's relevant governmental authorities.

If your financial adviser is based in Australia, Switzerland or the United Kingdom, then please be aware that this report is being distributed by the Morgan Stanley entity where your financial adviser is located, as follows: Australia: Morgan Stanley Wealth Management Australia Pty Ltd (ABN 19 009 145 555, AFSL No. 240813); Switzerland: Morgan Stanley (Switzerland) AG regulated by the Swiss Financial Market Supervisory Authority; or United Kingdom: Morgan Stanley Private Wealth Management Ltd, authorized and regulated by the Financial Conduct Authority, approves for the purposes of section 21 of the Financial Services and Markets Act 2000 this research for distribution in the United Kingdom.

Morgan Stanley Wealth Management is not acting as a municipal advisor to any municipal entity or obligated person within the meaning of Section 15B of the Securities Exchange Act (the "Municipal Advisor Rule") and the opinions or views contained herein are not intended to be, and do not constitute, advice within the meaning of the Municipal Advisor Rule.

This material is disseminated in the United States of America by Morgan Stanley Wealth Management.

The trademarks and service marks contained in Morgan Stanley Wealth Management Research are the property of their respective owners. Third-party data providers make no warranties or representations of any kind relating to the accuracy, completeness, or timeliness of the data they provide and shall not have liability for any damages of any kind relating to such data.

Morgan Stanley Wealth Management Research, or any portion thereof may not be reprinted, sold or redistributed without the written consent of Morgan Stanley Smith Barney LLC.

Morgan Stanley Wealth Management Research is disseminated and available primarily electronically, and, in some cases, in printed form.

Additional information on recommended securities/instruments is available on request.

RSI1695246955149 09/2023