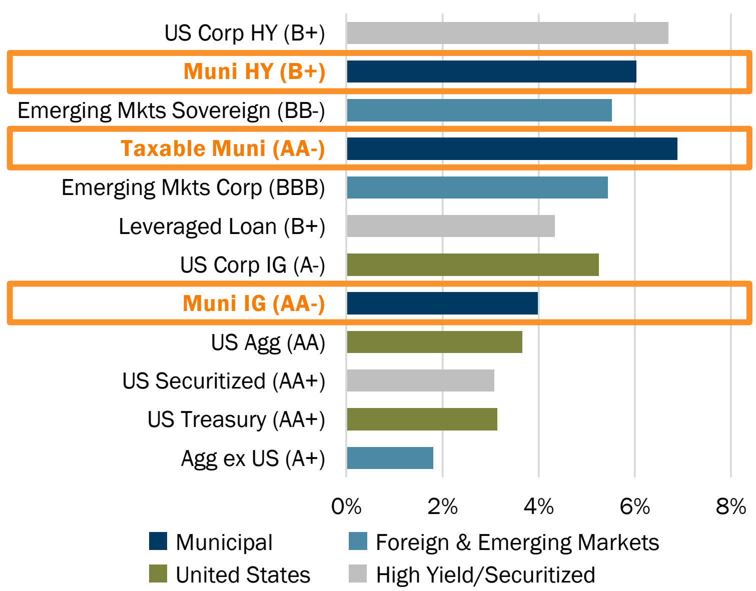
US Taxable Municipal Bonds: Beyond the Basics

Preferential capital treatment, low correlations, stable ratings, and ESG friendly credits, have renewed interest in the asset class.

Many white papers have explained US municipal bonds to institutional investors in recent years. This paper focuses on why taxable municipal bonds have attracted foreign institutional investors in particular, and why appetite for these bonds remains keen, fueled by strong issuance and low FX hedging costs.

US retail investors have long dominated the US municipal bond market, but over the last decade, institutional interest in the sector has soared, particularly outside the US. So far, these non-traditional investors have been rewarded. Over the last 10 years, municipal bonds have performed well (Figure 1). Consequently, the taxable municipal sector's 6.9% annualized total return for the period handily outperformed the 5.2% return on US corporate investment-grade bonds, a staple in most institutional portfolios (see Figure 1). But strong returns are just one of many reasons that non-traditional investors have ventured into the asset class. Taxable municipal bonds are also garnering interest due to their high quality ratings, longer durations, inefficient pricing and low correlations and diversification to other asset classes.

FIGURE 1: MUNICIPAL BONDS HAVE HISTORICALLY PERFORMED WELL
10-YEAR ANNUALIZED TOTAL RETURN (%)



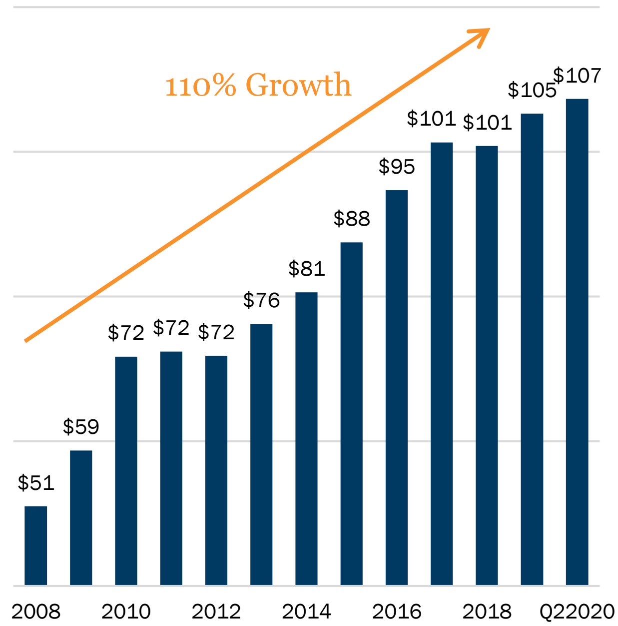
December 31, 2009-August 31, 2020
Please see disclosures in the Appendix for additional information including index descriptions. The above returns represent those of certain indices; MacKay Shields' portfolios are actively managed and would vary from any applicable index. Actual portfolios would be subject to fees and expenses. No fees or expenses were included in the above results. **It is not possible to invest directly into an index. Past performance is not indicative of future results.**

New Interest in an Old Sector

Non-traditional appetite for US municipal bonds was whetted in 2009, when the Obama Administration created the Build America Bond (BAB) program to stimulate an economic recovery from the Great Recession. At the time, many states and cities were having difficulty tapping the traditional, tax-exempt municipal bond market to fund capital projects. As a solution, BABs subsidized the interest cost on taxable municipal bonds to make them affordable to issuers and broaden their potential investor base. Over the two years the program was in effect, issuance of taxable municipal bonds surged from $24 billion in 2008 to $85 billion in 2009 and $152 billion in 2010. (SIFMA.org; US Municipal Issuance)

Supply piqued demand. Non-traditional investors learned that taxable municipals offered an array of structural benefits and can offer incremental returns due to inefficient pricing in a fragmented market. Simply stated, what municipals lack in liquidity they make up for in higher yield spreads and total return potential. Diversification benefits and the possibility of lower capital charges have resulted in increased foreign demand of taxable municipals. Foreign ownership has more than doubled from $51 billion in 2008 to nearly $107 billion as of June 30, 2020. (Figure 2).

FIGURE 2: FOREIGN OWNERSHIP: 110% GROWTH
$US Billions



Source: Federal Reserve Z.1 Statistical Release, Q2 2020 Report

MUNICIPALS—A PRIMER

US municipal bonds are the primary funding source for US infrastructure. State, county and local governments and agencies issue these tradeable debt instruments to build highways, airports, water and sewer plants, and other structures that provide essential services to the public. With nearly $3.85 trillion in outstanding bonds, municipal bonds make up nearly 10% of the value of the $43.1 trillion U.S. bond market. (Source: US Federal Reserve Z.1 Statistical Release as of Q4 2019)

Interest income from most municipal bonds is not subject to federal income tax, so individual US investors have long dominated the market; today, individuals own about two-thirds of the municipal bonds outstanding. (Source: 1Q 2020 SIFMA) Some taxable US institutions, such as nuclear decommissioning trusts, have also invested in the asset class for decades. Tax-exempt US entities and non-US investors that aren't subject to US taxation have generally stayed away, because the yields on tax-exempt municipals are generally lower than yields on other bonds with similar duration.

But not all muni bonds are tax-exempt: The US tax code strictly limits the volume of tax-exempt municipal bonds for each of the thousands of issuers, and restricts the eligible purposes for issuing them. Issuers that need to issue more debt than allowed, or to fund a non-permitted purpose, tap the taxable municipal bond market. Institutional investors' recent increased appetite for municipal bonds is focused on the taxable category, which generally offers higher yields because their interest payments aren't tax exempt. $651 billion in taxable municipal bonds were outstanding as of 9/22/2020. (Source: Bloomberg)

Municipals can also be categorized by their security features. About 40% of municipal bond issuance through August 2020 are "general obligation bonds," supported by the full faith and credit of the issuer. The rest are "revenue bonds," supported by a dedicated revenue stream, such as highway tolls or municipal water charges.

There has been a surge in taxable municipal supply over the last 12 months expanding the opportunity set for investors. We believe this trend will continue as cash strapped municipalities will look to re-finance higher coupon tax-exempt debt to achieve savings, which should keep taxable municipal issuance at elevated levels for the foreseeable future.

Today, many institutional investors see taxable municipals as an attractive diversifier for their fixed income portfolio. Many of these investors welcome the higher credit quality and more reliable ratings stability of municipals versus other fixed income sectors.

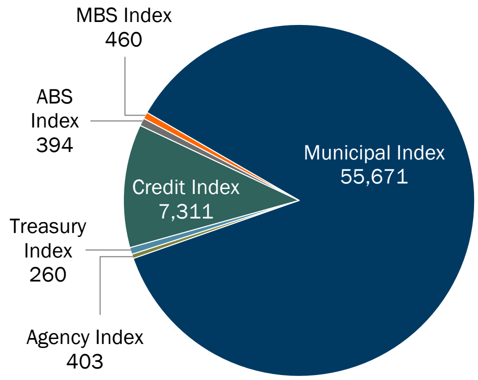
In addition, non-US insurance and reinsurance firms like the potential for reduced capital charges. The European Union's Solvency II Directive could potentially reduce the capital charges on investments in bonds designated as "infrastructure corporates" by up to 25% relative to corporate bonds.[1] While the regulatory scheme applies only to EU-based insurers, it is becoming the de-facto risk framework throughout the world. For instance, many companies and regulators in Asia are closely following the development, with a view to obtaining similar regulatory treatment (e.g., Japan) or adopting elements of Solvency II in their own risk-management initiatives.[2]

An allocation to taxable municipal bonds that meets Solvency II criteria could improve the capital efficiency of these insurers' portfolios.

While many investors have been focusing on the corporate bond and equity markets for their Environmental, Social and Governance (ESG) investment strategies, we believe that the municipal bond market is a natural fit for strategies with ESG considerations. Municipal bonds are the primary funding source for infrastructure projects in the United States. Many of these projects address environmental and social considerations and are also aligned with the sustainable development goals, including conservation projects for water and wastewater systems, wind farms, public education, non-profit hospitals, public transport and affordable housing. Our fundamental municipal credit analysis regularly takes ESG considerations into account when determining the underlying strength of a municipal credit (see "Environmental, Social and Governance (ESG) Investing" in the Appendix for additional information).

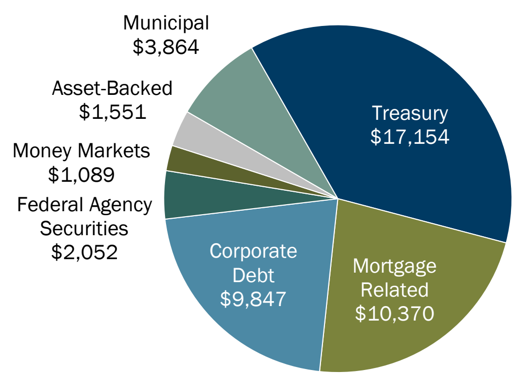
FIGURE 3: US$45+ TRILLION U.S. BOND MARKET

Indices by Number of Issues



Source: Bloomberg Barclays. Data as of August 31, 2020.

Outstanding U.S. Bond Debt | $US Billions



Source: The Securities Industry and Financial Markets Association (SIFMA), Data to 1Q2020.

Pricing Inefficiency Creates Opportunity

The municipal bond market is highly fragmented, and most issues are small; many are too tiny to be included in a market index. Yet the municipal bond index still includes approximately 55,000 issuers, over 80% of all issuers in the total US bond index (Figure 3). In contrast, the corporate bond market, with more than twice as much value, has far fewer issuers: the corporate credit index includes less than 8,000. The Treasury market is huge, with over $15 trillion in value, but the index includes just 260 issues.

[1] 14th September 2017 the treatment for infrastructure corporates was published in the Official Journal of the EU, June 8, 2017.
[2] Solvency II Implications for Asian Life Insurers, Ernst & Young, Copyright 2011 EYGM Ltd. Please see first section in the Appendix "Municipals as Liquid Infrastructure Investments Under Solvency II" for additional information.

Market fragmentation, limited sell-side research and the prevalence of buy and hold investors often times leads to inefficient pricing. Pricing inefficiencies create opportunity for active investors with an edge in credit research and trading to extract greater yield and total return than the sector's typical buy-and-hold investors reap.

Competitive Yields and Long Durations

Institutional appetite for yield has also driven the sector's rapid growth over the last decade. With central banks around the world using quantitative easing programs to stimulate the global economy for much of this period, interest rates declined to historic lows. Yields on many sovereign bonds eventually fell into negative territory. Many investors have sought to enhance yields by increasing corporate or emerging-market credit risk. Taxable municipal bonds provided an alternative source of incremental yield, though spreads varied over time. In June 2020, yields on double-A (AA) rated taxable municipal bond of eight years or longer were 193 basis points higher than yields on comparable Treasuries (Figure 4). Also evident is the yield advantage of Taxable Municipals over comparably rated US Corporates.

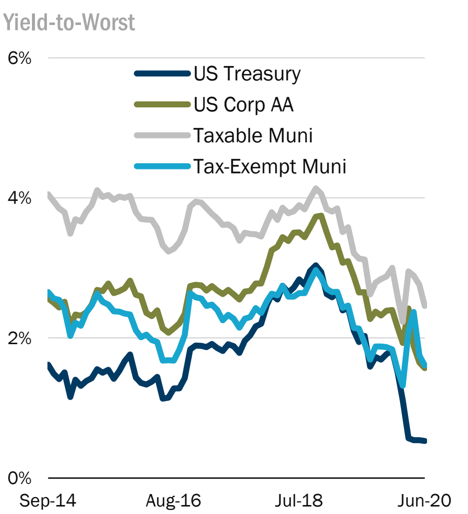
Duration is another key driver of growth. Because capital projects financed with taxable municipal bonds generally last for decades, they are typically financed with longer maturing bonds. Over 50% of taxable municipals outstanding have maturities of 10 to 25 years; another 17% are even longer (Figure 5). Corporate bonds, by contrast, are distributed fairly evenly across the maturity range. Institutions seeking to immunize their long-dated obligations have welcomed this source of long-duration assets to match their long-term liabilities.

Low Correlations and Broad Diversification

Municipal bonds also provide significant risk-reduction benefits. An allocation to municipal bonds may reduce fixed-income portfolio volatility because municipal bond returns generally have a low correlation to other fixed-income sectors (Figure 6). That's been true over decades for traditional tax-exempt municipals. It was also true for taxable municipals, although to a lesser extent.

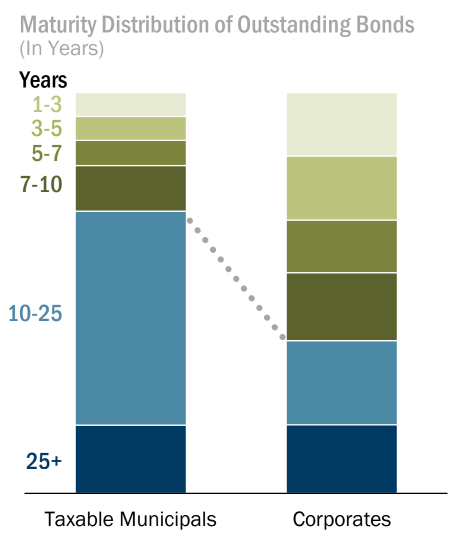
The taxable municipal market has far fewer issuers than the tax-exempt market, but is well-diversified in purpose. They fund toll roads, bridges, light rail lines, airports, university and government buildings, water and sewer systems, fiber-optic telecom lines and electric supply and distribution systems. The issuers are also diversified by region, credit rating and security structure (e.g., callable vs non-callable bonds). As a comparison, the Bloomberg Barclays taxable municipal index (ticker: BTMNTR) has 13 distinct investable sub-sectors; in contrast, the Bloomberg Barclays US Corporate bond master (ticker: LUACTRUU) has only three.

FIGURE 4: MUNICIPALS CAN PROVIDE ATTRACTIVE YIELDS



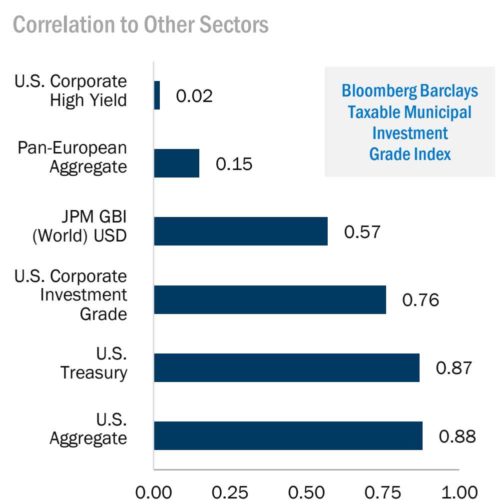
It is not possible to invest direct into an index.
Source: ICE BofA & Bloomberg Barclays indices September 30, 2014 –June 30, 2020. See Appendix for additional information, including index descriptions.

FIGURE 5: MOST TAXABLE MUNICIPALS ARE LONG BONDS



As of August 31, 2020
Source: Bloomberg, Bloomberg Barclays Municipal Index – Taxable Bonds, Bloomberg Barclays US Corporate Bond Index

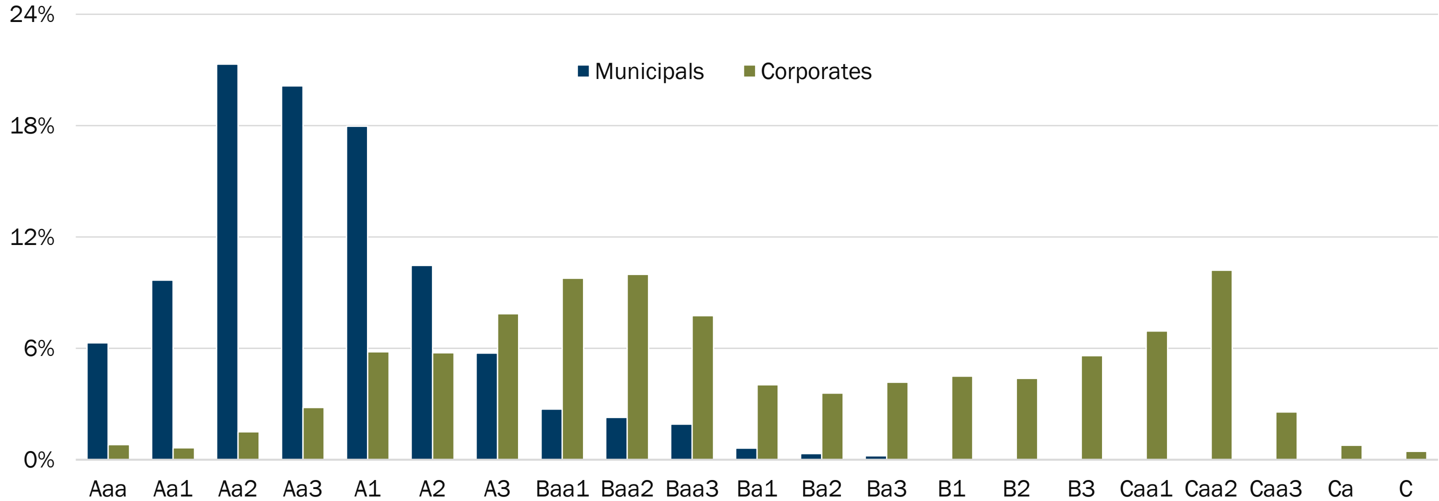
FIGURE 6: TAXABLE MUNIS DIVERSIFY OTHER BOND SECTORS



December 31, 2009 to December 31, 2019
It is not possible to invest direct into an index.
Source: Bloomberg Barclays Indices.
See Appendix for additional information, including index descriptions.

FIGURE 7: MOST TAXABLE MUNIS ARE HIGH QUALITY

Ratings Distributions of Moody's Rated Bonds



Source: Moody's Investors Service.US Municipal Bond Defaults and Recoveries 1970-2019

High Quality Asset Class and Stable Ratings

The relative high-quality nature of municipal bonds is also attractive for risk-conscious investors and insurers seeking to meet their capital requirements most efficiently. Over 76% of US municipal bonds outstanding are A+ rated or better; only a tiny portion are below investment-grade. In contrast, only about 10% of the global corporate bond market is double-A rated, and nearly half is below-investment grade (Figure 7, above).

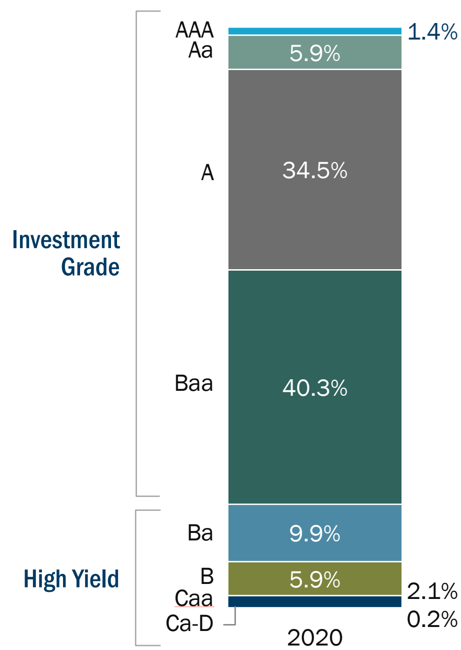
Municipal default rates have been significantly lower over time, even compared to corporates with higher ratings. Since 1986, the average default rate for municipals that Standard & Poor's rated BAA was 0.81%, less than the 0.84% default rate for AAA-rated corporates.

By the end August 2020, the share of investment-grade corporates with a triple-B rating was 40%, up from 26% ten years earlier (Figure 8, to the right). We believe these bonds are vulnerable to being re-rated below-investment grade during the next economic downturn. Investors that can't own below-investment grade debt would be forced to liquidate their holdings at inopportune times, pushing prices down further.

Historically, municipal bond ratings have been far more stable than corporate bond ratings, as Figure 9 shows. Why should this be? Some corporations are vulnerable to event risks, such as leveraged buyouts, that rarely affect municipal bonds. More generally, corporations have fewer options to cover their debt in times of stress. Municipal bond issuers have more latitude.

FIGURE 8: CORPORATE CREDIT MARKET HAS CHANGED

Ratings Distribution | Bloomberg Barclays U.S. Corporate Aggregate and U.S. High Yield



Source: High Yield: Bloomberg Barclays U.S. High Yield Index; Investment Grade: Bloomberg Barclays U.S. Corporate Aggregate

As of 8/31/2020

It is not possible to invest directly into an index. Please see Disclosures in the Appendix for additional information, including index descriptions. Due to rounding the sum of items may not equal 100%.

State and local governments can raise taxes, if necessary, to support the general obligation bonds which are backed by the issuer's full faith and credit. Revenue bonds, on the other hand, are backed by dedicated cash flow streams from tolls or other user fees for essential services. In many cases, these public enterprises are virtual monopolies. An airport or water/sewer system, for example, can often raise prices without losing customers.

Infrastructure Issuance and Opportunities

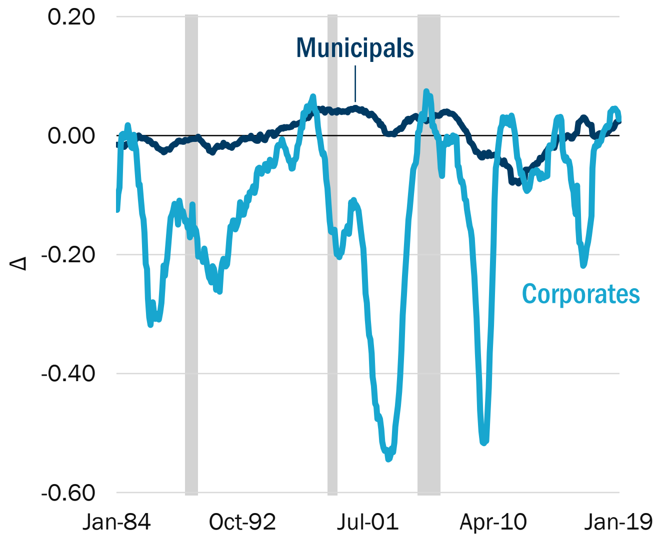
We expect strong issuance of taxable municipal bonds in the future. After decades of neglect, US infrastructure earned a D+ on The American Society of Civil Engineers (ASCE)'s 2017 Infrastructure Report Card. Bringing US infrastructure to a state of good repair would cost $4 trillion, the ASCE estimates. Although the federal government and some states have stepped up infrastructure investments in recent years, only 55% of the funds needed have been committed. Another $2 trillion in funding is needed over the next 10 years.

We believe the longstanding need to upgrade infrastructure in the United States, coupled with the added financial pressures of COVID-19 to states and local governments, will expand bi-partisan support for an infrastructure bill after the November election. While still in early days with much negotiation ahead, some of the proposals circulating through Congress include programs similar to the "Build America Bonds (BABs)" program introduced after the 2008 financial crisis.

One recent bill that has been put forth is the "The American Infrastructure Bonds Act of 2020" (AIBs) by Senator Roger F. Wicker (R-MS) and Senator Michael Bennet (D-CO). Some aspects of the AIBs program resemble the BABs program with some added flexibility. For example, under the AIBs program, eligible issuers would be expanded, taxable bonds could be used for any public purpose expenditure eligible to be financed with tax-exempt bonds, and 28% of issuers' interest costs would be covered by the Treasury Department. Unlike the BABs program, AIBs would be revenue-neutral, exempt from sequestration, and used not only for capital improvements but also refinancing debt.

If such a bill is implemented in the future, it comes at an interesting cross-road as taxable municipal bond issuance has increased from approximately 10% in annual municipal issuance in years' past to more than 30% in municipal issuance thus far in 2020. (Source: SIFMA August 2020) This significant increase stems from changes to municipal bond advance refundings in the

FIGURE 9: MUNI RATINGS HAVE BEEN RELATIVELY STABLE MOODY'S RATING DRIFT 1984-2017 FOR U.S. MUNICIPALS AND GLOBAL CORPORATES



Indicates US recessions as determined by the National Bureau of Economic Research (NBER)
Rating drift measures the net average number of notches a credit changes over the study period. It is defined as the average upgraded notches per issuer minus the average downgraded notches per issuer.
Source: As of January 1, 2019. Moody's US Municipal Bond Defaults and Recoveries, Moody's Trends in Global Corporates Rating Transitions

Tax Cuts and Jobs Act of 2017, going from tax-exempt financing to taxable, as well as select issuers seeking financing flexibility and alternate customer bases that accompany issuance of taxable municipal bonds. We believe a new infrastructure program resulting in an additional stream of taxable municipal bond issuance will further enhance the viability and liquidity profile of this market segment as the buyer base continues to expand. It also presents opportunities for professional municipal managers to capture value within unique structures and nuanced financings that may accompany a new infrastructure program.

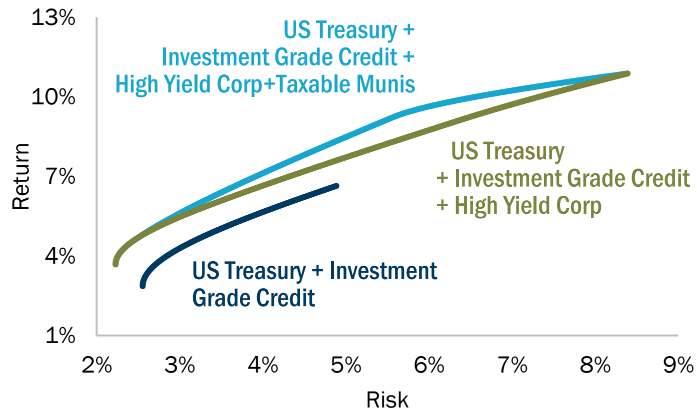
Because the US Internal Revenue Service limits the amount of tax-exempt debt state and local governments can issue (see primer, page 2), it is our belief that taxable municipal bonds would provide the majority of this new financing. This expected spike in issuance likely cannot be absorbed by traditional municipal investors, so new sources of funding/demand are needed. As such, overseas investors seeking to invest in infrastructure assets in what may be a potentially capital efficient manner, or other types of domestic investors looking to diversify their holdings into a high quality asset class, may help fill the void.

Making a Strategic Allocation to US Municipal Bonds

In conclusion, the addition of taxable municipal bonds may improve the risk/return profile of a diversified fixed income portfolio. Lower correlations, incremental yields and the potential to generate alpha in a highly fragmented asset class all contribute positively to a portfolio's risk/return trade off. Over the last ten years, an allocation to taxable municipal bonds has improved the return per unit of risk on a portfolio of diversified US bonds. We believe taxable-bond yields remain competitive and credit quality remains high; there are good fundamental reasons both to expect credit ratings to remain relatively stable, and correlations to other fixed income sectors to remain low.

FIGURE 10: HYPOTHETICAL ALLOCATION ADDING MUNICIPALS MAY IMPROVE PORTFOLIO RETURN ON RISK | GROSS OF FEES

January 2009-July 2020



Source: eVestment

Hypothetical index-based example, for illustrative purposes only. The above hypothetical returns are represent those of certain indices; MacKay Shields' portfolios are actively managed and would vary from any applicable index. Actual portfolios would be subject to fees and expenses. No fees or expenses were included in the above results. Please see Hypothetical Performance Disclosures in the Appendix for important information. No representation is made as to the accuracy and completeness of information contained in this presentation that has been obtained from third parties. It is not possible to invest direct into an index. **Past performance is not indicative of future results.**

Appendix

Municipals as Liquid Infrastructure Investments Under Solvency II

In 2009, the European Union introduced its Solvency II Directive, which takes a risk-based approach for calculating the capital adequacy of insurance and insurance firms. It gave insurers until January 2016 to meet its capital requirements. Solvency II allows insurers to calculate their capital requirements using a standard model, or via use of an internal model. The standard solvency capital requirement (SCR) formula takes a modular approach: Overall risk is broken down into sub-components, and diversification benefits (correlation matrix) are applied to derive the overall solvency capital requirement. The subcomponents include life underwriting risk, non-life underwriting risk, operational risk, as well as market risk.

The market risk subcomponent includes interest rate, equity, real estate, concentration, currency, and spread risk. For spread risk, the model assigns capital charges by multiplying the market value of the instrument by a risk factor, which incorporates both spread duration and aggregated rating class criteria. Risk factors are also sector specific. For example, European sovereign bonds have a risk factor of zero, regardless of rating, and thus are subject to a 0% spread risk capital charge. Highly-rated covered bonds have lower charges for spread risk than plain vanilla corporate bonds or loans, while credit derivatives and securitized debt have higher risk charges.

The spread charges for infrastructure investments are also favorable. Regulators correctly recognize that such debt is "typically characterized by higher recovery rates and low correlation of default and recovery relative to corporate bonds and loans". [1] To qualify for favorable spread charges, infrastructure debt must "support essential public services" [2] and be located within a developed nation, as defined by the Organisation for Economic and Community Development. In addition, the insurer has to show its ability to hold the asset to maturity, and the debt must provide holders with the right to seize the project's assets and that the "equity is (completely) provided to debt providers" in the event of bankruptcy.

In June 2017, additional amendments were made to the regulations for infrastructure investments, which created a new category called "infrastructure corporates".[2] Why? There's a good case to believe that infrastructure linked companies should display less volatility and lower default properties than a standard corporate given their long term nature. As such, policy makers saw fit to broaden the definition beyond the very specific project criteria from the initial regulation. The EU removed the requirement that infrastructure investments be made through special purpose entities (SPEs) to gain favorable charges. They also took a more expansive view of security and pledged collateral arrangements. For example, investments where "pledge (of assets) prior to default is not permissible under the national law"[2] was broadened to allow additional security pledges (like maximum indebtedness) that benefit debt holders.

Furthermore, published reports[3] and our own observations suggest that infrastructure investments in the Eurozone are scarce, and that insurers are broadly under-invested in such debt. The US taxable municipal infrastructure market may help fill the void, as $ 3.85 trillion of outstanding bonds creates an "availability of assets ....with an attractive yield, which match the liability profile and risk appetite of insurers[4] . It is our belief that taxable U.S. municipal revenue bonds, the focus of this paper, should meet the new criteria and be eligible for reduced capital charges of potentially 25% compared to corporate bonds.

We would like to thank Ernst & Young for their advice and expertise in compiling information on Solvency II, specifically for application to infrastructure investments. Please direct further inquiries on Solvency II to:

Gareth Mee, Partner
Ernst & Young LLP
EMEIA Insurance-Risk and Actuarial Services
gmee@uk.ey.com
Office: +44 207 951 9018

[1] Solvency II Implications for Asian Life Insurers, Ernst & Young, Copyright 2011 EYGM Ltd.
[2] 14th September 2017 the treatment for infrastructure corporates was published in the Official Journal of the EU.
[3] GLIO Journal Issue 02 (page 11-17 Mission Critical and Complementary).
[4] US Federal Reserve Z.1 Statistical Release as of Q4 2019. GLIO Journal Issue 01 (page 9 Listed Infrastructure- a natural choice for insurers).

Quote from a Feature Story from The World Bank:
Risk and Capital Requirements for Infrastructure Investment in EM and Developing Economies[1]

"Infrastructure is a natural match for insurers' long-term liabilities. Long-term fixed income instruments fit well with the long-dated liabilities of insurance companies, especially for those offering life insurance and annuity products. Infrastructure projects tend to yield long-term, predictable cash flows, with low correlation to other assets and relatively high recovery value in case of repayment arrears. This match is so significant that some regulators provide special treatment for insurers that hold them to maturity."

Environmental, Social and Governance (ESG) Investing

While environmental, social and governance factors have often been part of credit analysis, increasing ESG accountability by clients has led many investors to consider ESG factors independently based on a rubric of criteria. Often the factors consider the use of bond proceeds for environmental, renewable and or sustainable purposes as well as governance considerations, including strong financial reporting, transparency and social consciousness. Below is an example of some of the key elements taken into account by MacKay Municipal Managers™ when identifying material ESG risks across potential investments.

ESG Sample Risk Considerations

ENVIRONMENTAL	SOCIAL	GOVERNANCE
▪ Climate Change	▪ Job Creation/Employee Relations	▪ Transparency/Disclosures
▪ Sustainability	▪ Human Rights	▪ Audit Practices
▪ Carbon Emissions	▪ Community Relations	▪ Board Expertise
▪ Biodiveristy	▪ Product Responsibility	▪ Independent Directors
▪ Energy Resources & Management	▪ Health and Safety	▪ Financial Policy
▪ Biocapacity and ecosystem quality	▪ Diversity	▪ Business Integrity
▪ Air/water/physical pollution	▪ Consumer Relations	▪ Transparency & Accountability
▪ Renewals & Non renewables natural resources	▪ Access to skilled labor	▪ Shareholder Rights
		▪ Incentive Structure

The chart of ESG risk considerations presented above is provided for illustrative purposes only and is not intended to represent a fixed or complete set of guidelines or requirements.

Disclosures

ADDITIONAL INFORMATION FOR FIGURE 1

US Corp HY: ICE BoA US High Yield Index; Taxable Muni: ICE BoA Taxable Municipal Index; Muni HY: Bloomberg Barclays Municipal High Yield Index; Emerging Mkts Sovereign: ICE BoA Emerging Markets BBB & Lower Sovereign; Emerging Mkts Corp: ICE BoA Emerging Markets Corporate Plus Index; US Corp IG: Bloomberg Barclays US Corp. Investment Grade; Leveraged Loan: S&P/LSTA Leveraged Loan Index; Muni IG: Bloomberg Barclays Municipal Bond Index; US Agg: Bloomberg Barclays US Aggregate Bond Index; US Securitized: Bloomberg Barclays U.S. Securitized MBS/ABS/CMBS Index; US Treasury: Bloomberg Barclays US Treasury Index; Agg ex US: Bloomberg Barclays Global Aggregate ex USD Index.

ADDITIONAL INFORMATION FOR FIGURE 4

US Treasury: ICE BofA US Treasury Index

US Corp AA: ICE BofA AA US Corporate Index

Taxable Muni: ICE BofA Broad US Taxable Municipal Securities Index

Tax-Exempt Muni: ICE BofA US Municipal Securities Index

[1] Risk and Capital Requirements for Infrastructure Investment in Emerging Market and Developing Economies, The World Bank, December 22, 2017.

ADDITIONAL INFORMATION FOR FIGURE 6

U.S. Corporate HY: Bloomberg Barclays U.S. High Yield Index;

Pan-European Aggregate: Bloomberg Barclays Pan-European Aggregate Index;

JPM GBI (World) USD: JPM GBI (World) USD Index;

U.S. Corporate Investment Grade: Bloomberg Barclays U.S. Corporate Investment Grade Index;

U.S. Treasury: Bloomberg Barclays U.S. Treasury Index;

U.S. Aggregate: Bloomberg Barclays U.S. Aggregate Index;

Taxable Municipal Investment Grade Index: Bloomberg Barclays U.S. Taxable Municipal Index

ADDITIONAL INFORMATION FOR FIGURE 10

US Treasury: Bloomberg Barclays U.S. Intermediate Treasury Index;

Investment Grade Credit: Bloomberg Barclays U.S. Credit Index;

HY Corp: Bloomberg Barclays US Corporate High Yield Index;

Taxable Munis: Bloomberg Barclays U.S. Taxable Municipal Index

COMPARISONS TO AN INDEX

Comparisons to a financial index are provided for illustrative purposes only. Comparisons to the index are subject to limitations because portfolio holdings, volatility and other portfolio characteristics may differ materially from the index. Unlike the index, portfolios within the composite are actively managed and may also include derivatives. There is no guarantee that any of the securities in the index are contained in the portfolio. The performance of the index assumes reinvestment of dividends but does not reflect the impact of fees, applicable taxes or trading costs which, unlike the index, may reduce the returns of the portfolio. Investors cannot invest in an index. Because of these differences, the performance of the index should not be relied upon as an accurate measure of comparison. It is not possible to invest directly in an index.

The following benchmarks may be referred to in this document:

ICE BOFA U.S. HIGH YIELD INDEX

ICE BofA U.S. High Yield Index tracks the performance of U.S. dollar denominated below investment grade corporate debt publicly issued in the U.S. domestic market. Qualifying securities must have a below investment grade rating (based on an average of Moody’s, S&P and Fitch), at least 18 months to final maturity at the time of issuance, at least one year remaining term to final maturity as of the rebalancing date, a fixed coupon schedule and a minimum amount outstanding of $250 million. In addition, qualifying securities must have risk exposure to countries that are members of the FX-G10, Western Europe or territories of the U.S. and Western Europe. The FX-G10 includes all Euro members, the U.S., Japan, the U.K., Canada, Australia, New Zealand, Switzerland, Norway and Sweden. Original issue zero coupon bonds, 144a securities (both with and without registration rights), and pay-in-kind securities (including toggle notes) are included in the index. Callable perpetual securities are included provided they are at least one year from the first call date. Fixed-to floating rate securities are included provided they are callable within the fixed rate period and are at least one year from the last call prior to the date the bond transitions from a fixed to a floating rate security. Contingent capital securities ("cocos") are excluded, but capital securities where conversion can be mandated by a regulatory authority, but which have no specified trigger, are included. Other hybrid capital securities, such as those issues that potentially convert into preference shares, those with both cumulative and non-cumulative coupon deferral provisions, and those with alternative coupon satisfaction mechanisms, are also included in the index. Securities issued or marketed primarily to retail investors, equity-linked securities, securities in legal default, hybrid securitized corporates, eurodollar bonds (USD securities not issued in the U.S. domestic market), taxable and tax-exempt U.S. municipal securities and DRD-eligible securities are excluded from the index. Index constituents are market capitalization weighted. Accrued interest is calculated assuming next-day settlement. Cash flows from bond payments that are received during the month are retained in the index until the end of the month and then are removed as part of the rebalancing. Cash does not earn any reinvestment income while it is held in the index.

ICE BOFA TAXABLE MUNICIPAL INDEX

ICE BofA U.S. Taxable Municipal Securities Index tracks the performance of U.S. dollar denominated investment grade taxable municipal securities publicly issued in the U.S. domestic market. Qualifying securities must have an investment grade rating (based on an average of Moody's, S&P and Fitch). In addition, qualifying securities must have at least one-year remaining term to final maturity, at least 18 months to maturity at point of issuance, a fixed coupon schedule and a minimum amount outstanding of $250 million. Callable perpetual securities qualify provided they are at least one year from the first call date. Fixed-to-floating rate securities also qualify provided they are callable within the fixed rate period and are at least one year from the last call prior to the date the bond transitions from a fixed to a floating rate security. Original issue zero coupon bonds and ""global"" securities (debt issued simultaneously in the eurobond and U.S. domestic markets) qualify for inclusion in the Index. Tax-exempt U.S. municipal, 144a and securities in legal default are excluded from the Index. Index constituents are market capitalization weighted. Accrued interest is calculated assuming next-day settlement. Cash flows from bond payments that are received during the month are retained in the index until the end of the month and then are removed as part of the rebalancing. Cash does not earn any reinvestment income while it is held in the index.

BLOOMBERG BARCLAYS MUNICIPAL HIGH YIELD INDEX

An unmanaged index of municipal bonds with the following characteristics: fixed coupon rate, credit rating of Ba1 or lower or non-rated using the middle rating of Moody's, S&P, and Fitch, outstanding par value of at least $3 million, and issued as part of a transaction of at least $20 million. In addition, the bonds must have a dated-date after December 31, 1990 and must be at least one year from their maturity date.

ICE BOFA EMERGING MARKETS BBB & LOWER SOVEREIGN

ICE BofA BBB & Lower Sovereign USD External Debt Index tracks the performance of U.S. dollar denominated emerging market and cross-over sovereign debt publicly issued in the eurobond or U.S. domestic market. Qualifying countries must have a BBB1 or lower foreign currency long-term sovereign debt rating (based on an average of Moody's, S&P and Fitch). Countries that are not rated, or that are rated "D" or "SD" by one or several rating agencies qualify for inclusion in the index but individual non-performing securities are removed. Qualifying securities must have at least one year remaining term to final maturity, at least 18 months to maturity at point of issuance, a fixed or floating coupon and a minimum amount outstanding of $250 million. Local currency debt is excluded from the Index. Index constituents are market capitalization weighted. Accrued interest is calculated assuming next-day settlement. Cash flows from bond payments that are received during the month are retained in the index until the end of the month and then are removed as part of the rebalancing. Cash does not earn any reinvestment income while it is held in the index.

ICE BOFA EMERGING MARKETS CORPORATE PLUS INDEX

ICE BofA Emerging Markets Corporate Plus Index tracks the performance of U.S. dollar and euro denominated emerging markets non-sovereign debt publicly issued in the major domestic and eurobond markets. In order to qualify for inclusion in the Index an issuer must have risk exposure to countries other than members of the FX G10, all Western European countries, and territories of the U.S. and Western European countries. The FX-G10 includes all Euro members, the U.S., Japan, the U.K., Canada, Australia, New Zealand, Switzerland, Norway and Sweden. Individual securities of qualifying issuers must be denominated in U.S. dollars or euro, must have at least one year remaining term to final maturity, at least 18 months to final maturity at point of issuance, and a fixed coupon. In addition, bonds of qualifying issuers must have at least 250 million (EUR or USD) in outstanding face value. The index includes corporate and quasigovernment debt of qualifying countries, but excludes sovereign and supranational debt. Original issue zero coupon bonds, ""global"" securities (debt issued simultaneously in the eurobond and U.S. domestic bond markets), 144a securities and pay-in-kind securities, including toggle notes, qualify for inclusion in the Index. Contingent capital securities ("cocos") are excluded, but capital securities where conversion can be mandated by a regulatory authority, but which have no specified trigger, are included. Other hybrid capital securities, such as those issues that potentially convert into preference shares, those with both cumulative and non-cumulative coupon deferral provisions, and those with alternative coupon satisfaction mechanisms, are also included in the index. Callable perpetual securities qualify provided they are at least one year from the first call date. Fixed-to-floating rate securities also qualify provided they are callable within the fixed rate period and are at least one year from the last call prior to the date the bond transitions from a fixed to a floating rate security. Central bank issued, equity-linked and legally defaulted securities are excluded from the index. Index constituents are market capitalization weighted. Accrued interest is calculated assuming next-day settlement. Cash flows from bond payments that are received during the month are retained in the index until the end of the month and then are removed as part of the rebalancing. Cash does not earn any reinvestment income while it is held in the index.

BLOOMBERG BARCLAYS U.S. CORPORATE INVESTMENT GRADE INDEX

The Bloomberg Barclays U.S. Corporate Bond Index measures the investment grade, fixed-rate, taxable corporate bond market. It includes USD denominated securities publicly issued by U.S. and non-U.S. industrial, utility and financial issuers.

S&P/LSTA LEVERAGED LOAN INDEX

The S&P/LSTA Leveraged Loan Index (the Index) is a market value-weighted index designed to measure the performance of the U.S. leveraged loan market based upon market weightings, spreads and interest payments.

BLOOMBERG BARCLAYS MUNICIPAL BOND INDEX

A rules-based, market-value-weighted index engineered for the long-term tax-exempt bond market. To be included in the index, bonds must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following agencies: Moody's, S&P, Fitch. If only two of the three agencies rate the security, the lower rating is used to determine index eligibility. If only one of the three agencies rates a security, the rating must be investment-grade. They must have an outstanding par value of at least $7 million and be issued as part of a transaction of at least $75 million. The bonds must be fixed rate, have a date-date after December 31, 1990, and must be at least one year from their maturity date. Remarketed issues, taxable municipal bonds, bonds with floating rates, and derivatives, are excluded from the benchmark. The index has four main sectors: general obligation bonds, revenue bonds, insured bonds (including all insured bonds with a Aaa/AAA rating), and prerefunded bonds. Most of the index has historical data to January 1980. In addition, sub-indices have been created based on maturity, state, sector, quality, and revenue source, with inception dates later than January 1980.

BLOOMBERG BARCLAYS U.S. AGGREGATE BOND INDEX

The Bloomberg Barclays U.S. Aggregate Index represents securities that are SEC-registered, taxable, and dollar denominated. Must have at least one year to final maturity regardless of call features. Must have at least $300 million par amount outstanding. Must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following ratings agencies: Moody's, S&P, Fitch. Must be dollar-denominated and non-convertible.

BLOOMBERG BARCLAYS U.S. SECURITIZED MBS/ABS/CMBS INDEX

The Bloomberg Barclays Securitized MBS/ABS/CMBs Index tracks agency mortgage backed pass-through securities (both fixed-rate and hybrid ARM) guaranteed by Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC); investment grade debt asset backed securities; and investment grade commercial mortgage backed securities. The index is constructed by grouping individual pools into aggregates or generics based on program, coupon, and vintage.

BLOOMBERG BARCLAYS U.S. TREASURY INDEX

Public obligations of the U.S. Treasury with a remaining maturity of one year or more. Must be a U.S. Treasury security. Must have at least $300 million par amount outstanding. Must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following ratings agencies: Moody's, S&P, Fitch. Must be fixed rate. Must be dollar-denominated and non-convertible.

BLOOMBERG BARCLAYS GLOBAL AGGREGATE EX USD INDEX

The Bloomberg Barclays Global Aggregate ex USD Index is a measure of global investment grade debt from 24 local currency markets. This multi- currency benchmark includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging markets issuers. Bond issued in USD are excluded.

ICE BOFA U.S. TREASURY INDEX

ICE BofA U.S. Treasury Index tracks the performance of U.S. dollar denominated sovereign debt publicly issued by the U.S. government in its domestic market. Qualifying securities must have at least one year remaining term to final maturity, a fixed coupon schedule and a minimum amount outstanding of $1 billion. Qualifying securities must have at least 18 months to final maturity at the time of issuance. Callable perpetual securities qualify provided they are at least one year from the first call date. Fixed-to-floating rate securities also qualify provided they are callable within the fixed rate period and are at least one year from the last call prior to the date the bond transitions from a fixed to a floating rate security. Bills, inflation-linked debt and strips are excluded from the Index; however, original issue zero coupon bonds are included in the index and the amounts outstanding of qualifying coupon securities are not reduced by any portions that have been stripped. Securities issued or marketed primarily to retail investors do not qualify for inclusion in the index. Index constituents are market capitalization weighted. Accrued interest is calculated assuming next-day settlement. Cash flows from bond payments that are received during the month are retained in the index until the end of the month and then are removed as part of the rebalancing. Cash does not earn any reinvestment income while it is held in the index.

ICE BOFA AA U.S. CORPORATE INDEX

ICE BofA U.S. Corporate Index tracks the performance of U.S. dollar denominated investment grade corporate debt publicly issued in the U.S. domestic market. Qualifying securities must have an investment grade rating (based on an average of Moody's, S&P and Fitch), at least 18 months to final maturity at the time of issuance, at least one year remaining term to final maturity as of the rebalancing date, a fixed coupon schedule and a minimum amount outstanding of $250 million. Original issue zero coupon bonds, 144a securities (with and without registration rights), and pay-in-kind securities (including toggle notes) are included in the index. Callable perpetual securities are included provided they are at least one year from the first call date. Fixed-to-floating rate securities are included provided they are callable within the fixed rate period and are at least one year from the last call prior to the date the bond transitions from a fixed to a floating rate security. Contingent capital securities ("cocos") are excluded, but capital securities where conversion can be mandated by a regulatory authority, but which have no specified trigger, are included. Other hybrid capital securities, such as those issues that potentially convert into preference shares, those with both cumulative and non-cumulative coupon deferral provisions, and those with alternative coupon satisfaction mechanisms, are also included in the index. Equity-linked securities, securities in legal default, hybrid securitized corporates, euro dollar bonds (USD securities not issued in the U.S. domestic market), taxable and tax-exempt U.S. municipal securities and DRD-eligible securities are excluded from the index. Index constituents are market capitalization weighted. Accrued interest is calculated assuming next-day settlement. Cash flows from bond payments that are received during the month are retained in the index until the end of the month and then are removed as part of the rebalancing. Cash does not earn any reinvestment income while it is held in the index.

ICE BOFA BROAD U.S. TAXABLE MUNICIPAL SECURITIES INDEX

ICE BofA Broad U.S. Taxable Municipal Securities Index tracks the performance of U.S. dollar denominated debt publicly issued by U.S. states and territories, and their political subdivisions, in the U.S. domestic market. Qualifying securities must be subject to U.S. federal taxes and must have at least 18 months to maturity at point of issuance, at least one year remaining term to final maturity to enter the index and one month remaining term to final maturity to remain in the index, a fixed coupon schedule (including zero coupon bonds) and an investment grade rating (based on an average of Moody's, S&P and Fitch). The call date on which a pre-refunded bond will be redeemed is used for purposes of determining qualification with respect to final maturity requirements. Minimum size requirements vary based on the initial term to final maturity at time of issuance. Securities with an initial term to final maturity greater than or equal to one year and less than five years must have a current amount outstanding of at least $10 million. Securities with an initial term to final maturity greater than or equal to five years and less than ten years must have a current amount outstanding of at least $15 million. Securities with an initial term to final maturity of ten years or more must have a current amount outstanding of at least $25 million. "Direct pay" Build America Bonds (i.e., a direct federal subsidy is paid to the issuer) qualify for inclusion in the index, but "tax-credit" Build America Bonds (i.e., where the investor receives a tax credit on the interest payments) do not. Local bonds issued by U.S. territories within their jurisdictions that are tax exempt within the U.S. territory but not elsewhere are excluded from the Index. All 144a securities, both with and without registration rights, and securities in legal default are excluded from the Index. Index constituents are market capitalization weighted. Accrued interest is calculated assuming next-day settlement. Cash flows from bond payments that are received during the month are retained in the index until the end of the month and then are removed as part of the rebalancing. Cash does not earn any reinvestment income while it is held in the index.

ICE BOFA U.S. MUNICIPAL SECURITIES INDEX

ICE BofA U.S. Municipal Securities Index tracks the performance of U.S. dollar denominated investment grade tax exempt debt publicly issued by U.S. states and territories, and their political subdivisions, in the U.S. domestic market. Qualifying securities must have at least one year remaining term to final maturity, at least 18 months to final maturity at the time of issuance, a fixed coupon schedule and an investment grade rating (based on an average of Moody's, S&P and Fitch). Minimum size requirements vary based on the initial term to final maturity at time of issuance. Securities with an initial term to final maturity greater than or equal to one year and less than five years must have a current amount outstanding of at least $10 million. Securities with an initial term to final maturity greater than or equal to five years and less than ten years must have a current amount outstanding of at least $15 million. Securities with an initial term to final maturity of ten years or more must have a current amount outstanding of at least $25 million. The call date on which a pre-refunded bond will be redeemed is used for purposes of determining qualification with respect to final maturity requirements. Original issue zero coupon bonds are included in the Index. Taxable municipal securities, 144a securities and securities in legal default are excluded from the Index. Index constituents are market capitalization weighted. Accrued interest is calculated assuming next-day settlement. Cash flows from bond payments that are received during the month are retained in the index until the end of the month and then are removed as part of the rebalancing. Cash does not earn any reinvestment income while it is held in the index.

BLOOMBERG BARCLAYS U.S. HIGH YIELD INDEX

Covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included. Original issue zeroes, step-up coupon structures, 144-As and pay-in-kind bonds (PIKs, as of October 1, 2009) are also included.

BLOOMBERG BARCLAYS PAN-EUROPEAN AGGREGATE INDEX

Covers eligible investment grade securities from the entire European continent. The primary component is the Bloomberg Barclays Euro-Aggregate Index. In addition, the Bloomberg Barclays Pan-European Aggregate Index includes eligible securities denominated in British pounds (GBP), Swedish krona (SEK), Danish krone (DKK), Norwegian krone (NOK), Czech koruna (CZK), Hungarian forint (HUF), Polish zloty (PLN), Slovenian Tolar (SIT), Slovakian koruna (SKK), and Swiss franc (CHF). Apart from the currency constraint, the inclusion rules for the Pan-European Index are identical to those of the Bloomberg Barclays Euro-Aggregate Index.

JPM GBI (WORLD) USD

The J.P. Morgan GBI series provides a comprehensive measure of local currency denominated fixed rate government debt consists of five core index products covering developed markets. The broadest series tracks 27 countries.

BLOOMBERG BARCLAYS U.S. TAXABLE MUNICIPAL INDEX

The Bloomberg Barclays U.S. Taxable Municipal Bond Index is a rules-based, market-value-weighted index engineered for the long-term taxable bond market. To be included in the index, bonds must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following ratings agencies if all three rate the bond: Moody's, S&P, Fitch. If only two of the three agencies rate the security, the lower rating is used to determine index eligibility. If only one of the three agencies rates a security, the rating must be investment-grade. They must have an outstanding par value of at least $7 million and be issued as part of a transaction of at least $75 million. The bonds must be fixed rate and must be at least one year from their maturity date. Remarketed issues (unless converted to fixed rate), bonds with floating rates, and derivatives, are excluded from the benchmark.

BLOOMBERG BARCLAYS US TREASURY: INTERMEDIATE INDEX

The Bloomberg Barclays US Treasury: Intermediate Index measures US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury with maturities of 1 to 9.9999 years to maturity.

BLOOMBERG BARCLAYS U.S. CREDIT INDEX

Publicly issued U.S. corporate and specified foreign debentures and secured notes. Must be an investment grade credit security. Must have at least one year to final maturity regardless of call features. Must have at least $300 million par amount outstanding. Must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following ratings agencies: Moody's, S&P, Fitch. Must be fixed rate. Must be dollar-denominated and non-convertible.

BLOOMBERG BARCLAYS U.S. CORPORATE HIGH YIELD INDEX

The Bloomberg Barclays U.S. High Yield Index covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included. Original issue zeroes, step-up coupon structures, 144-As and pay-in-kind bonds (PIKs, as of October 1, 2009) are also included. Must have at least one year to final maturity regardless of call features. Must have at least $150 million par amount outstanding. Must be rated high-yield (Ba1/BB+ or lower) by at least two of the following ratings agencies: Moody's, S&P, Fitch. Must be fixed rate, although it can carry a coupon that steps up or changes according to a predetermined schedule. Must be dollar-denominated and non-convertible. Must be publicly issued.

BLOOMBERG BARCLAYS U.S. TAXABLE MUNICIPAL INDEX

The Bloomberg Barclays U.S. Taxable Municipal Bond Index is a rules-based, market-value-weighted index engineered for the long-term taxable bond market. To be included in the index, bonds must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following ratings agencies if all three rate the bond: Moody's, S&P, Fitch. If only two of the three agencies rate the security, the lower rating is used to determine index eligibility. If only one of the three agencies rates a security, the rating must be investment-grade. They must have an outstanding par value of at least $7 million and be issued as part of a transaction of at least $75 million. The bonds must be fixed rate and must be at least one year from their maturity date. Remarketed issues (unless converted to fixed rate), bonds with floating rates, and derivatives, are excluded from the benchmark.

Hypothetical Performance Disclosures

This material contains hypothetical analysis based on the stated indices. The index returns identified in Figure 10 reflect a backward looking analysis of the returns for each of the indices stated, with their stated weights, for the identified time period. The illustration does not consider portfolio rebalancing, does not take into consideration any fees or expenses, is based on historical data for the stated time period ending on July 31, 2020, assumes denomination in US dollar currency and is based on indices in which it is not possible to invest. Actual portfolios would be subject to fees and expenses, which were not included in the hypothetical results. MacKay Shields makes no representations that the identified hypothetical allocation will actually reflect future results or that any investment will actually achieve results similar to those shown. These techniques do not predict future actual performance and are limited by assumptions that future market events will behave similarly to historical time periods or theoretical models. The hypothetical returns shown do not represent the returns of any client portfolio or strategy actually managed by MacKay Shields and should not be construed as such. The hypothetical returns shown are index-based; MacKay Shields' portfolios are actively managed and would vary from any applicable index. Therefore, the hypothetical returns are not indicative of investment skill.

NOTE TO EUROPEAN READERS

This document is intended for the use of professional and qualifying investors (as defined in the Alternative Investment Fund Manager's Directive) only. Where applicable, this document has been issued by MacKay Shields UK LLP, 200 Aldersgate Street, 13th Floor, London EC1A 4HD, which is authorized and regulated by the UK Financial Conduct Authority (FRN594166) and/or MacKay Shields Europe Investment Management Limited, Hamilton House, 28 Fitzwilliam Place, Dublin 2 Ireland, which is authorized and regulated by the Central Bank of Ireland.

Past performance is not indicative of future results.

Certain investments described herein are speculative and include a high degree of risk. Investors could lose all or a substan tia l amount of their investment. Such investments are suitable only for eligible, long term investors who are willing to forgo liquidity and put capital at risk for a n indefinite period of time. These investments may be highly illiquid, can engage in leverage and other speculative practices that may increase the volatility a nd risk of loss, and typically have higher fees than traditional investments. Investors should carefully review and consider potential risks before investing. Certain of these risks may include but are not limited to:

- Loss of all or a substantial portion of the investment due to leveraging or other speculative practices;
- Lack of liquidity;
- Volatility of returns;
- Potential lack of diversification and resulting higher risk due to concentration of trading authority when a single advisor i s u tilized;
- Absence of information regarding valuations and pricing;
- Complex tax structures and delays in tax reporting;
- Complex rules regarding risk-based capital requirements and uncertainties of capital treatment under rule regimes such as Solvency II;
- Less regulation and higher fees than mutual funds; and
- Risks associated with the operations, personnel, and processes of the manager.

Madeleine Fulst
Managing Director, D-A-CH and Nordics Distribution
T: +44 (0) 20 3178 7444
M: +44 (0) 7766 478 137
E: Madeleine.Fulst@mackayshields.co.uk