TAXABLE MUNICIPALS

An Attractive Option for Long Credit Investors

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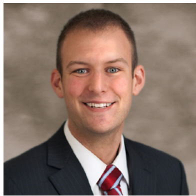

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Galliard Capital Management is a wholly owned, independently operated investment management subsidiary of Wells Fargo Bank, N.A. Founded in 1995, Galliard specializes in architecting fixed income and stable value investment solutions for institutions nationwide. The firm's deeply rooted client-centric culture and in-depth level of expertise in every critical area of the investment solution are the key differentiating characteristics of Galliard. As of August 31, 2015 Galliard manages more than $84.6 billion in assets for more than 240 institutional clients nationwide.

RECENTLY, TAXABLE MUNICIPAL BONDS have seen growing interest in the marketplace. This makes sense, as the sector presents attractive investment opportunities given its yield advantage over US Treasuries and its history of low default and high recovery rates. Galliard has been an investor in the taxable municipal bond market for over 20 years — since firm inception — seeing it as a viable alternative to the corporate bond market and an attractive option for core bond portfolios, particularly long credit mandates. As of August 31, 2015 we manage nearly $3 billion in taxable municipal bonds from over 400 different issuers across the maturity curve. In this issue of *Fixed Income Analyst Insights*, Galliard's Chief Investment Strategist, Richard Merriam, and Taxable Municipal specialists, Brandon Kanz and Will Moeller, discuss Galliard's perspective and differentiators in the municipal space.

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Taxable municipal markets now exhibit size, liquidity and trading volume levels absent several decades ago.

Market Opportunity

BACKGROUND

The taxable municipal sector of the bond market has historically offered an opportunity to add value to a portfolio without sacrificing quality. Municipal bonds, or "munis," issued by states, cities and other governmental entities raise money to fund public projects such as schools, highways, hospitals, and other public service infrastructure. Munis are an attractive option for those seeking tax-advantaged income due to the fact that the income on these bonds is tax-exempt at both the federal and state level. Today, however, the universe of taxable municipal bonds has emerged as an attractive institutional investment opportunity thanks to a confluence of factors that have built on the sector's superior yield and low-default track record.

As a result, the market opportunity today in taxable municipals is vastly different from what it has been historically. Taxable municipal markets now exhibit size, liquidity, and trading volume levels absent several decades ago. Moreover, the recent sharp decline in the percentage of monoline-insured, AAA-rated muni bond issuance allows investors to be paid appropriately for the risks they choose to take. As an investor who has participated in this muni market for the past 20 years, we believe the market as a whole has not fully recognized this value proposition.

The net result is a market which has become a viable alternative to the corporate bond market as well as an attractive option for long credit investors.

RULEMAKING EVENTS SPUR GROWTH

The United States taxable municipal bond market currently has about $623 billion of bonds outstanding.[1] In 1985, the market had $2.6 billion of bonds outstanding.[2] Two rulemaking events spurred this growth. The Tax Reform Act of 1986 (The Reform Act) introduced more stringent rules surrounding tax-exempt muni bond issuance, after which the taxable municipal market grew at an average rate of 26% per year through 2008. In 2009, the American Recovery and Reinvestment Act introduced the Build America Bonds (BABs) program, and the market grew by over 50%.[1,2]

Tax Reform Act of 1986

How did the taxable muni market size increase 240 times between 1985 and 2015?[1,2] Municipalities found it more challenging to issue tax-exempt bonds due to the tax reform work surrounding muni bonds in the 1980s. The Reform Act laid the groundwork for taxable municipal market growth, and instituted rules still shaping the market today. Specifically, the

1,2 Endnotes are located on page 20

Reform Act established rules to discourage municipal arbitrage and to supplement existing rules limiting the number of entities that could issue or benefit from the issuance of tax-exempt bonds.

Before the Reform Act, municipalities could take advantage of a significant arbitrage opportunity by issuing tax-exempt bonds and investing proceeds in US Treasuries. For example, if a municipality could issue tax-exempt debt at 9% and invest the proceeds in US Treasuries yielding 10%, then the municipality could collect 10% interest on its investment, pay just 9% on its newly-issued debt due to its exempt status, and keep the remainder as profit. The Reform Act introduced provisions to tax away profits earned by municipalities in this way.

Similarly, the Reform Act solidified rules surrounding who is allowed to issue or benefit from tax-exempt bond issuance. At a high level, tax-exempt issuers are limited to states and political subdivisions. The introduction of private activity bond rules sought to curtail beneficiaries of tax-exempt issuance. For instance, prior to the Reform Act, the tax code was vague enough so that a municipality could issue tax-exempt bonds and then lend those proceeds to entities other than states or political entities. Thus, a municipality seeking to attract private business could borrow at tax-exempt rates and lend to a private business for capital expenditures. The Reform Act put provisions and tests in place to limit these liberties in the tax code.

Build America Bonds and the American Recovery and Reinvestment Act

In 2009, at a time when most credit markets were seizing up, taxable municipal bond markets proved to be one of the more liquid credit subsectors and experienced another surge in growth. This came thanks to the Build America Bonds (BABs) program introduced through the American Recovery and Reinvestment Act of 2009. The program, which permitted municipalities to issue taxable bonds and receive a federal reimbursement for incremental interest costs, expanded the available supply of the taxable municipal bond universe by over 50% ($182 billion) in 2009 and 2010.[1,2] As a result, the program aligned borrowers and savers by pairing municipal debt issuers seeking funding during the economic downturn with taxable bond investors seeking credit diversification.

The BABs program not only introduced significant supply to the muni market, it also introduced a supply of long-term muni bonds, which is particularly notable for long credit investors. In fact, as of June 30, 2015, the Wells Fargo Build America Bond Index had an average maturity of over 24 years.[1] Thus, while the two-year BABs program was relatively short-lived in comparison to the long-lasting impact of the Tax Reform Act of 1986, the term structure of the bonds issued under the program created a credit investment opportunity for many years to come.

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1,2 Endnotes are located on page 20

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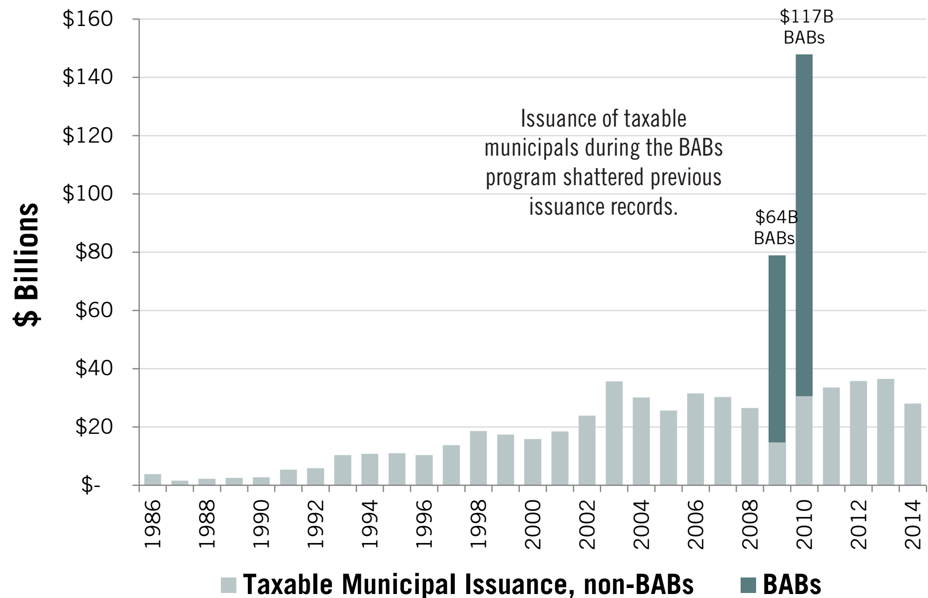
ISSUANCE HAS RISEN

Not surprisingly, taxable municipal bond issuance in the years following these two rulemaking events showed marked increase. Between 1970 and 1986, no individual year witnessed more than $830 million of issuance. In the decade following the Reform Act however, an average of $6.3 billion of taxable municipal bonds was issued annually.[2] Meanwhile, 2009 and 2010 were banner years for issuance, as shown in *Figure 1*. 2011 to the present has also witnessed fairly solid supply, with over $30 billion of average annual new issuance. Much of this issuance has come from issuers taking advantage of low rates to advance refund older tax-exempt bonds.

FIGURE 1 TAXABLE MUNICIPAL BOND ISSUANCE BY YEAR[1, 2]



One interesting trait of taxable municipal issuance is that it offers long credit investors proportionally more opportunities for investment than some other bond market sectors. Since 1986, approximately two-thirds of all taxable municipal bonds issued each year were issued as 10-year or longer bonds (*Figure 2*).[2] Comparatively, corporate bonds typically offer a much lower percentage of 10+-year maturities. Since 2006, for example, about 17% of all corporate bonds have been issued as 10-year or longer bonds.[3]

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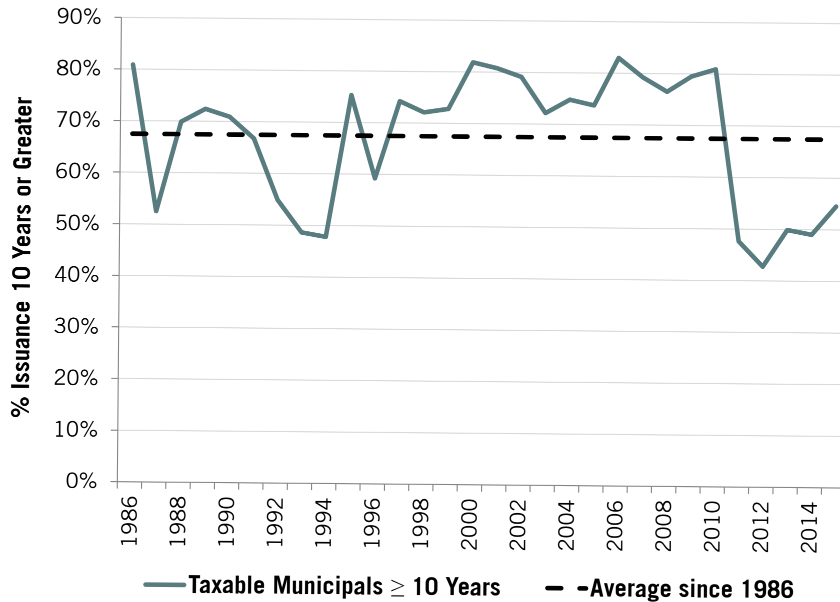
FIGURE 2 LONG BOND ISSUANCE[2]



TRADING VOLUME IS SIMILAR TO CORPORATES

Prior to 2009, the taxable municipal market was more of a "one-off" market with limited product, few active dealers, and marginal participation from institutional investors. The BABs program sparked a dramatic change in the market by bringing in a new group of institutional investors and encouraging dealers to increase their presence in the taxable muni market. Today, the taxable muni market has some of the liquidity characteristics of an institutional bond market.

One measure of liquidity, the average daily trading volume as a percentage of market size, compares reasonably well to the corporate market. In the four years following the end of the BABs program, daily trading volume for taxable munis was 0.16% of outstanding bonds versus corporate volume, which was 0.29% (*Figure 3*).[4] While the corporate market is much larger than the taxable muni market (*Figure 4*), liquidity based on market-size-adjusted trading volume is relatively comparable.

While liquidity is usually thought of as a singular characteristic, it is important to break it down into its two pieces: the ability to BUY or to SELL bonds at a market price. Generally, investors should be more concerned with being able to sell an investment at a fair price in a reasonable time frame. Fortunately, the post BABs world consists of an expanded dealer presence and substantial investor appetite. Sellers of taxable munis are generally able to solicit many bids at fair levels, especially for higher-quality securities (rated AA- or better).

While the corporate market is much larger than the taxable muni market, liquidity based on market-size-adjusted trading volume is relatively comparable.

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FIGURE 3 AVERAGE DAILY TRADE VOLUME VS. MARKET SIZE (2011–2014)[1,4]

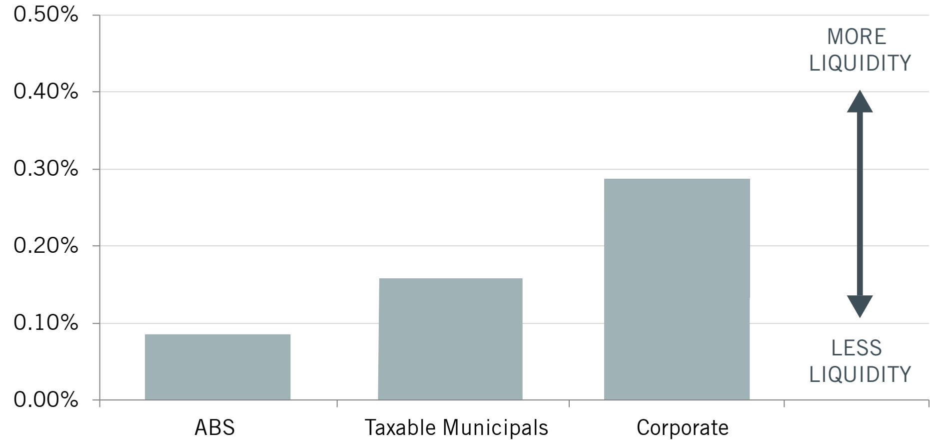
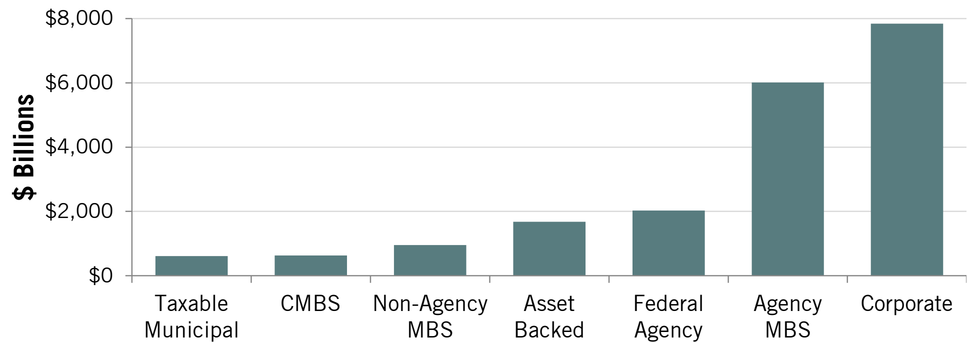


FIGURE 4 BOND MARKET SIZE OF SELECT SPREAD SECTORS—YEAR END 2014[1,2]



However, liquidity in the taxable muni market is not as robust as other institutional markets. The two options for purchasing taxable munis are either in the new issue market or from the secondary market. In the post-BABs world, primary market issuance has decreased to more historic levels, with an average of $34 billion issued annually from 2011 to 2014,[2] thereby reducing the opportunities for investors to buy new issue. As for secondary market activity, many investors are choosing to hold onto their current positions because of a desire to have exposure to the sector and because of a lack of alternative investments, whether new issue taxable munis or other attractively priced taxable fixed income securities. Given the challenges investors face in populating a diversified taxable muni portfolio, sourcing bonds becomes a critical component of the portfolio management process.

1,2,4 Endnotes are located on page 20

MONOLINE DEMISE MAKES MORE HETEROGENEOUS MUNI MARKET

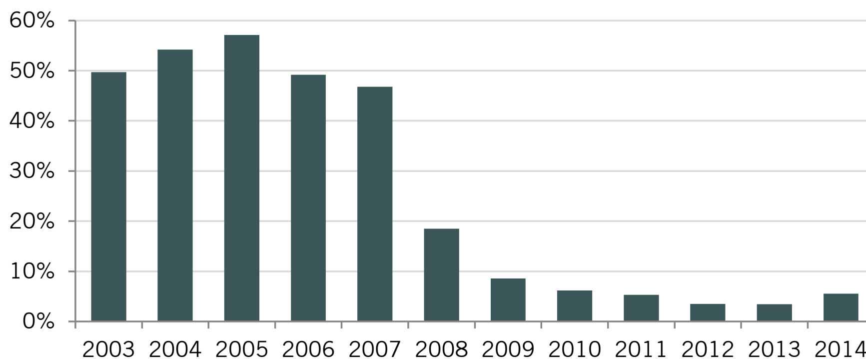
Monoline insurance, offered by firms such as MBIA, Ambac, FSA, FGIC and XLCA, was a common component of the municipal market until 2007. For an up-front fee, issuers or investors could purchase an insurance policy from a private insurance company which guaranteed timely payment of principal and interest on a municipal bond.

Historically, monoline insurance played a prominent role in the municipal market. Investors were drawn to monoline insurance because it allowed them to turn almost any municipal bond into a AAA-rated security for little cost while doing minimal credit research. From 2003 to 2007, monoline insurance was purchased on over half of all new-issue municipal bonds. We believe this large penetration of insurance made the municipal market less attractive for investors willing and able to do credit research because bonds were no longer priced to the underlying fundamentals but rather to the cost of insurance.

However, during the credit crisis, monoline insurers experienced dramatic credit deterioration as their large guaranty exposure to non-agency mortgages, collateralized debt obligations (CDOs), and other structured products came under significant pressure. Three of the five largest insurers were taken over by insurance regulators, while the remaining insurers experienced multi-notch downgrades. This experience nearly ended monoline insurance as it was no longer rated AAA, and the claims paying ability of insurers was severely diminished. Since 2009, less than 10% of municipal issuance has been insured(*Figure 5*).[5]

Fortunately, for investors capable of devoting the resources necessary to underwrite and monitor municipal credits, the municipal market now provides more opportunity to earn returns that would have otherwise been captured by monoline insurers or issuers.

FIGURE 5 INSURED PENETRATION RATE—UNITED STATES PUBLIC FINANCE ISSUERS[5]



Fortunately, for investors capable of devoting the resources necessary to underwrite and monitor municipal credits, the municipal market now provides more opportunity to earn returns that would have otherwise been captured by monoline insurers or issuers.

5 Endnote is located on page 20

Due to the way index rules are written, the vast majority of muni issuers are outside of the index.

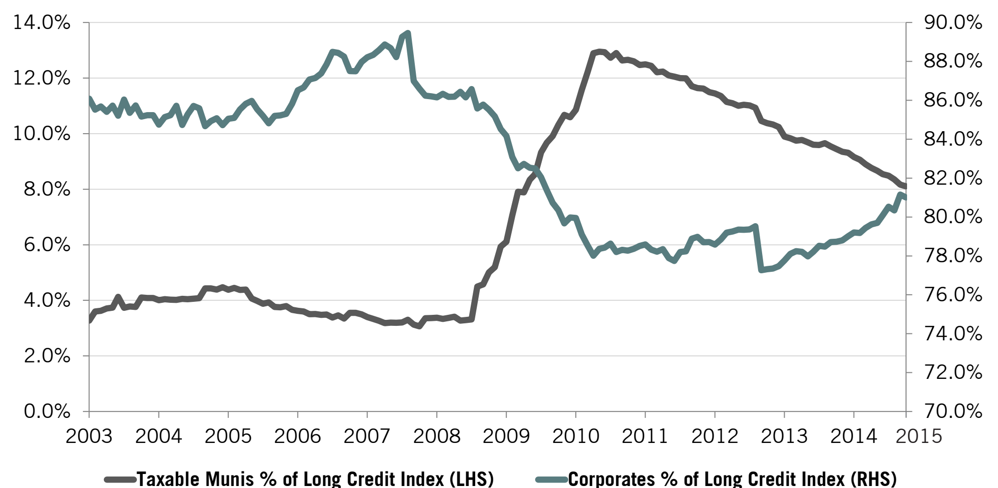
The Index: A Starting Point for Credit Investors

The index is often a good starting point for understanding the opportunity set for bond investment. But munis work differently. Thus, investors in mandates benchmarked by the Barclays U.S. Long Credit Index should be aware of two index-related factors. First, particularly since the BABs era of muni bonds began, muni index presence has grown significantly. Second, due to the way index rules are written, the vast majority of muni issuers are outside of the index. The net result is a muni market that offers credit investors opportunity to add value.

INDEX INCREASES IN TAXABLE MUNICIPAL BONDS

Taxable municipals have become an increasingly sizeable part of credit indices. This is no surprise considering the magnitude of the BABs program in 2009 and 2010. For instance, munis went from about 3% of the Barclays U.S. Long Credit Index to nearly 13% between the beginning of 2009 and the end of 2010 (*Figure* 6). Now, they account for about 8%[6] of the index. Thus, a larger index presence today means that taxable municipals now play a more significant role in performance numbers. Corporates, meanwhile, continue to constitute

FIGURE 6 BARCLAYS U.S. LONG CREDIT INDEX COMPOSITION[6]



6 Endnote is located on page 20

the majority of the index. Nonetheless, their decrease from nearly 90% of the index to approximately 80%[6] currently suggests that corporates are not the only option for high-quality credit investors.

VALUE IN NON-INDEX BONDS

Even with this increase in index-eligible taxable municipals, the majority of the investable muni universe lies outside the index. Herein lies the opportunity to add value to a bond portfolio. In fact, about 64% — or over $350 billion — of the taxable municipal bonds that meet the minimum 10-year maturity requirement for inclusion in the Barclays U.S. Long Credit Index are *not* in the index.[2,7] Part of the reason for this is strict index inclusion criteria, primarily the $250 million minimum issue size (*Figure 7*). Thus, while it may be helpful to use the index as a starting point for long credit investment, investors ought to realize that the index is generally less diversified and more concentrated in lower-quality issuers than it might otherwise be if it included smaller municipal bond issues.

FIGURE 7 KEY RULES FOR BARCLAYS U.S. LONG CREDIT INDEX INCLUSION

A logical question for any investor — what goes in the index? Index rules vary, but common criteria require that bonds are above a minimum size, have a certain maturity range, and meet minimum quality standards. For municipal bonds, we believe this favors issuers such as states and larger local governments with critical mass to meet the minimum size requirements, while it excludes high-quality, slightly smaller municipal issuers.

- $250 million minimum outstanding
- Rated investment grade according to middle rating of Moody's, S&P and Fitch
- At least 10 years until final maturity
- Fixed-rate and step-up coupons
- Denominated in US dollars
- SEC-registered or Rule 144A with registration rights
- Fully taxable

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2, 6, 7 Endnotes are located on page 20

The Galliard Muni Portfolio: Capturing Value

We believe our 20 years of experience investing in taxable municipals helps us to capture value by doing two things well — sourcing bonds and managing credit risk.

The taxable municipal market has grown, presenting credit investors with additional opportunity to add muni bonds to their portfolios. The index reflects this growth, and munis have become a larger portion of the index. However, since the majority of muni bonds lie outside of the index, the opportunity for investors to add value abounds. This is precisely the value that Galliard aims to capture.

We believe our 20 years of experience investing in taxable municipals helps us to capture value by doing two things well — sourcing bonds and managing credit risk. Our sourcing capability means we are able to leverage our widespread connections to purchase from a vast universe of bonds that best fit our investment philosophy. Meanwhile, managing credit risk means that we select and hold creditworthy names expected to pay in full, while avoiding deteriorating credits. We discuss these two important aspects of our strategy in the next two sections.

SOURCING

Galliard's ability to source bonds from across an expanse of issuers has become a meaningful differentiator in building high-quality, diversified taxable municipal portfolios. This means using our reach to select bonds that fit our investment profile, not simply purchasing the largest, most liquid, and often times riskiest bonds in the index. Our strength in sourcing allows us to build portfolios diversified by issuer, by geography, and by type.

Unlike the corporate bond market where issuers prefer to issue large index-eligible deals and only a few bond maturities are offered at any one time, municipal issuers tend to issue deals with bonds maturing annually for up to 30 years. The result is a market with many small bond issues outstanding compared to the corporate market which has fewer bonds outstanding but where each bond is much larger in size. As such, nearly 75% of the taxable municipal bond universe falls outside of the Barclays Capital U.S. Long Credit Index.[2, 6] This creates an opportunity for Galliard to add value through the sourcing of non-index bonds, which receive less attention from larger investors and dealers.

A critical component of sourcing smaller deals is strong relationships with the numerous and diverse set of broker-dealers that are involved in the municipal market. Galliard has developed long-term relationships with a large number of broker-dealers across the country, including not only the major Wall Street banks but also an extensive list of regional brokers and smaller, specialized brokers integral in the muni market. From 2009 to 2014, Galliard transacted with

2, 6 Endnotes are located on page 20

70 brokers in the municipal market. We believe sell-side firms view Galliard as an important counterparty in the taxable municipal market given our 20-year commitment, dedicated resources, and consistent participation in the market. This allows us to efficiently source the bonds that best fit our portfolio's objectives at favorable prices.

GALLIARD'S PROCESS TO MINIMIZE CREDIT RISK — UNDERWRITE AND MONITOR ISSUERS

The Galliard process for minimizing credit risk begins with applying what experience has taught us and what credit statistics support: an efficient way to reduce risk is to avoid speculative-grade issuers and to minimize exposure to the most troubled subsectors such as housing and hospitals.[8] Since this is relatively straightforward, the bulk of Galliard's credit underwriting and monitoring effort focuses on identifying high-quality, highly-rated, general obligation (GO) and revenue bond issuers.

Galliard's municipal research process is conducted in two steps: initial underwriting and ongoing monitoring. The initial underwriting analysis for a new issuer in the Galliard portfolio focuses on a breakdown of financial statements and an analysis of each bond's security, since each bond's security differs from other credit sectors of the bond market. The offering documents are the primary source of information during the underwriting phase, especially for an evaluation of the security. Financial statement analysis is based off of the issuer's Comprehensive Annual Financial Report (CAFR). This information is supplemented by data and analytics from a third-party vendor that standardizes and populates a database of issuers' financial statements. We also subscribe to a software provider that allows us to either perform in-depth analysis of individual issuers or comparative analysis across a broad segment of the market, including our entire portfolio of 400+ issuers. With information from all of these sources, the Galliard credit team discusses issuers during this initial underwriting phase which helps drive the purchase decision.

The second step, ongoing monitoring, is integral in retaining issuers which we believe are best suited for Galliard portfolios. In this step, we leverage information from our third-party vendors to monitor changes in an issuer's financial position, and in a similar fashion to the research process described above, perform more in-depth qualitative analysis on issuers in the portfolio where warranted. We believe that this two-step research process mitigates the formidable challenge posed to muni investors by the vast number of issuers and lack of centralized financial statements. While estimates differ, there are between 50,000 and 80,000 municipal securities issuers.[9, 10] This dwarfs the number of corporate issuers, which is closer to 3,000.[10] While the Municipal Securities Rulemaking Board has taken steps to centralize

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8, 9, 10 Endnotes are located on page 20

This strategy for municipal sector investment aligns with our firm's overall investment philosophy of maintaining diversified portfolios with high-quality bonds that allow us to earn the yield implied at the time of purchase.

this information, the usability, and comparability of the data is still challenging. As a result, being able to leverage vendors specializing in financial data enables us to streamline the muni research process and manage credit risk.

KEY TRAITS OF GALLIARD MUNI PORTFOLIOS: DIVERSIFICATION AND HIGH-QUALITY BIAS

By emphasizing sourcing bonds and managing credit risk, we strive to build well-diversified muni portfolios with high-quality issuers. This strategy for municipal sector investment aligns with our firm's overall investment philosophy of maintaining diversified portfolios with high-quality bonds that allow us to earn the yield implied at the time of purchase. We believe this allows us — in a Pareto optimal sense — to earn an appropriate risk-adjusted yield without taking on excessive credit risk (*Figure 8*).

FIGURE 8 THE GALLIARD TAXABLE MUNICIPAL PORTFOLIO

How Galliard Captures Value

- Ability to source — find value opportunities beyond most common and prolific municipal bond issuers
- Resources to underwrite and monitor — avoid credit deterioration of portfolio in order to earn yield implied at the time of purchase

Key Traits of the Galliard Taxable Municipal Portfolio

- Diversification and less concentration across issuers — diversification by issuer limits idiosyncratic risks from any one credit
- High-quality bias — achieve attractive yield relative to credit risk

The emphasis on diversification translates into a larger number of holdings, as evidenced by the 400+ issuers we hold in the firmwide muni portfolio (*Figure 9*). In client portfolios, credit position sizes are typically between 0.3% and 0.5% of any given portfolio's market value. This helps to limit the portfolio's overall risk by limiting the idiosyncratic risk of any individual issuer.

Galliard's high-quality muni bias is a result of our process to minimize credit risk. We believe this allows us to earn the yield implied at the time of purchase, as the likelihood of a credit event for the most creditworthy issuers is lower. For example, the five largest positions in the Galliard portfolio are typically AAA- or AA-rated, while the top five US municipal issuers in the Barclays Capital U.S. Long Credit Index are AA- or A-rated (*Figure 9*).

Galliard's high-quality muni bias is a result of our process to minimize credit risk.

FIGURE 9 HIGH-QUALITY, DIVERSIFIED HOLDINGS: GALLIARD VS. BARCLAYS U.S. LONG CREDIT INDEX MUNICIPALS AS OF 6/30/2015[6]

	Index Eligible Taxable Munis	Galliard
Bonds	251	1,484
Issuers	124	425

BARCLAYS U.S. LONG CREDIT INDEX

Top 5 Issuers	% of Munis in the Index	Ratings (Moody's, S&P, Fitch)
State of California	12%	Aa3/A+/A+
State of Illinois	6%	A3/A-/A-
Port Authority of New York & New Jersey	4%	Aa3/AA-/A2
New Jersey Turnpike Authority	3%	A3/A+/NR
Bay Area Toll Authority	3%	A1/AA-/A-
Top 10 Issuers	**39%**	

GALLIARD

Top 5 Issuers	% of Holdings	Ratings (Moody's, S&P, Fitch)
State of Wisconsin	5%	Aa2/AA/AA
Arizona School Facilities Board	4%	Aaa/AAA/AAA
State of Hawaii	3%	Aa2/AA/AA
Chippewa Valley Schools	3%	Aa1/AA-/N.A.
State of Georgia	3%	Aaa/AAA/AAA
Top 10 Issuers	**27%**	

6 Endnote is located on page 20

From a credit risk perspective, municipal issuers are very attractive relative to corporations.

Risk and Rewards

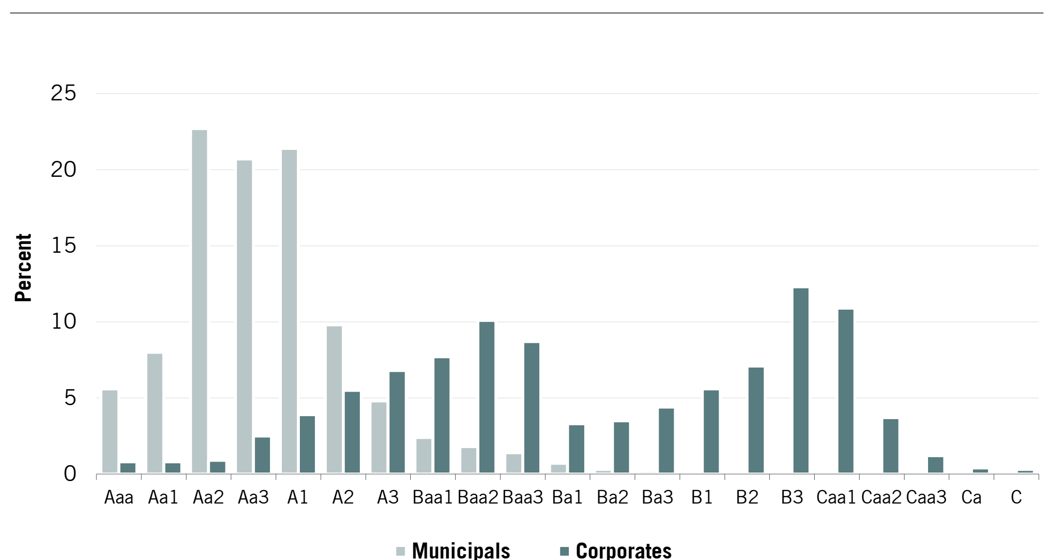
To be a source of value, the rewards of investing in taxable municipals should be attractive relative to the risk. In this section, we broadly examine the rewards and risks of taxable municipal investment. Then, we discuss how taxable municipals can be particularly effective as a substitute for corporates.

MUNICIPAL RISK

From a credit risk perspective, municipal issuers are very attractive relative to corporations. While there are several credit-related reasons for this, the most compelling may be that municipal bonds in the investment grade universe are typically backed by the taxing power of the municipality (GO bonds) or a specific revenue stream (revenue bonds).

To evaluate municipal credit risk, defaults and bankruptcies are helpful in assessing the potential downside of the investment. Despite what recent headlines about Puerto Rico, Stockton, or Detroit might suggest, these instances are relatively uncommon.[11] In fact, most municipalities have an outstanding track record when it comes to meeting their obligations — exhibiting lower default rates, higher recoveries when defaults occur, and fewer instances of bankruptcy — relative to corporations. Municipalities also avoid many of the event risks that

FIGURE 10 MOODY'S RATING DISTRIBUTIONS: MUNICIPALS VS CORPORATES[12] AS OF 12/31/2014



11, 12 Endnotes are located on page 20

are typical in the corporate market, such as leveraged buyouts, acquisitions and other hot-button issues. Perhaps as a result of their track record and some inherent advantages, munis typically skew higher on credit rating agency scales as well (*Figure 10*).

Muni Defaults Substantially Lower Than Corporates

Moody's, which has conducted an ongoing survey of municipal bond defaults since 1970, recently released a study covering 1970-2014[12]. The survey results show that default rates for all *Moody's-rated municipal issuers* (which is only part of the investable bond universe) were substantially lower than rated corporate issuers. In fact, average 10-year cumulative default rates — which is the percentage sum of all defaults in the rated universe for a 10-year period — for investment-grade muni bonds totaled just 0.08% compared with 2.81% for investment-grade corporate bonds (*Figure 11*). Furthermore, the average recovery rate on defaulted muni bonds was higher —nearly 64% of par, compared to 53% of par for corporate issuers.[12]

In particular, the stability of investment-grade and GO municipal bonds is evident. Over the 45-year period of the study, there were only nine investment-grade defaults from Moody's-rated issuers. Similarly, only eight GO issuers defaulted during this time.[12] This equates to a 0.02% cumulative 10-year default rate.

Looking ahead, we expect muni bonds to continue exhibiting lower default rates than corporate bonds. Furthermore, we believe that munis will continue to exhibit relative stability, despite the possibility that muni defaults may increase and that recovery rates may fall from their nearly impeccable historical levels.

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FIGURE 11 MOODY'S MUNICIPAL BOND DEFAULT SURVEY 1970-2014[12]
(CUMULATIVE 10-YEAR DEFAULT RATE PERCENTAGES)

Rating	GO Municipal Bonds	All Municipal Bonds (including GO bonds)	Corporate Bonds
Investment Grade	0.02	0.08	2.81
Speculative Grade	0.74	7.52	32.41
All Rated	0.02	0.14	11.58

12 Endnote is located on page 20

Bankruptcy does not necessarily spell impairment for bondholders.

Bankruptcy

Bankruptcy has become an unavoidable topic in the municipal sector since both Stockton and Detroit made the largest-city-to-file-for-bankruptcy assertion in 2013.[11] Though it differs from default, investors may think of bankruptcy along similar lines. Furthermore, while there is much uncertainty surrounding the current muni bankruptcy process, what is clear is that bankruptcy is still a developing process for municipalities. These bankruptcy proceedings, especially for Detroit, may set precedents which could either incent or discourage other municipalities from pursuing similar paths.

Unlike corporate entities, which use Chapter 7 and Chapter 11 of the bankruptcy code, municipalities file for bankruptcy under Chapter 9. The goal of a Chapter 9 proceeding is to adjust debt and keep municipal bodies operating as debt disputes are settled.[13] The primary difference in corporate versus municipal bankruptcies is that municipalities cannot simply liquidate and dissolve. They need to continue to operate in order to provide services to the local community. Despite this subtle but important difference, from a credit risk management perspective, avoiding bankruptcies, just like avoiding defaults, is imperative.

Perhaps explaining recent bankruptcy trepidation for municipal bond investors is the relative increase in municipal bankruptcy filings. Of the entire universe of municipal issuers (a broader subset than the Moody's-rated issuers discussed in the previous section), 51 municipal entities have filed for bankruptcy since January 2010.[11] Of these, nine filings came from local governments. In addition, some Puerto Rican entities will almost certainly undergo some form of restructuring in the not-too-distant future.

Importantly, however, bankruptcy does not necessarily spell impairment for bondholders. In 2012, Central Falls, Rhode Island was able to emerge from bankruptcy without going into default, in spite of its pension cost burden. This was partially due to state legislation, which placed priority liens on tax revenues, protecting GO bondholders, and partially due to concessions from pensioners.[14]

Nonetheless, new bankruptcy cases will be scrutinized for the precedents they set on certain issues such as pension and other post-retirement employment benefit (OPEB) claims. Therefore, these bankruptcy developments underscore the importance of financial statement and security analysis in Galliard's research process, and in particular, Galliard's evaluation of how pension and OPEB costs affect a municipality's fiscal health.

11, 13, 14 Endnotes are located on page 20

A VIABLE ALTERNATIVE TO CORPORATE BONDS

To make a relative value comparison between investment grade taxable municipals and corporates, it is important to remember these favorable, low historical default and low bankruptcy incident traits of municipal issuers versus those of corporate issuers. Munis also make a case for investment based on their excess returns and attractive spreads over US Treasuries in the BABs era since 2009.

The first step in making a relative value comparison is to start with a comparable investment universe. In our view, the crux of finding relative value in the muni sector comparable to investment grade corporates means looking at subsets of both sectors that are highly investable, attractively yielding and creditworthy. Thus, Galliard compares the universe of AA- and better-rated taxable municipals to the universe of A- and better-rated corporates.

Excess Returns

From an excess return standpoint, Barclays U.S. Long Credit Index-eligible taxable municipals in the BABs era outperformed like-duration Treasuries for the calendar years of 2009, 2011, 2012, 2013, and 2014 despite trailing in 2010 (*Figure 12*). Importantly, the excess return compares each subsector's return to like-duration US Treasuries, minimizing any "noise" a duration effect has on performance.

In our view, the crux of finding relative value in the muni sector comparable to investment grade corporates means looking at subsets of both sectors that are highly investable, attractively yielding and creditworthy.

FIGURE 12 EXCESS RETURNS OVER US TREASURIES[6]
(BARCLAYS U.S. LONG CREDIT INDEX SECTOR PERFORMANCE)

	2009	2010	2011	2012	2013	2014
U.S. Only Local Authorities: AA- or Better (Munis)	16.87	(2.36)	1.53	7.49	2.12	2.46
Corporates: A- or Better	27.36	1.61	(7.03)	7.46	4.57	(4.05)

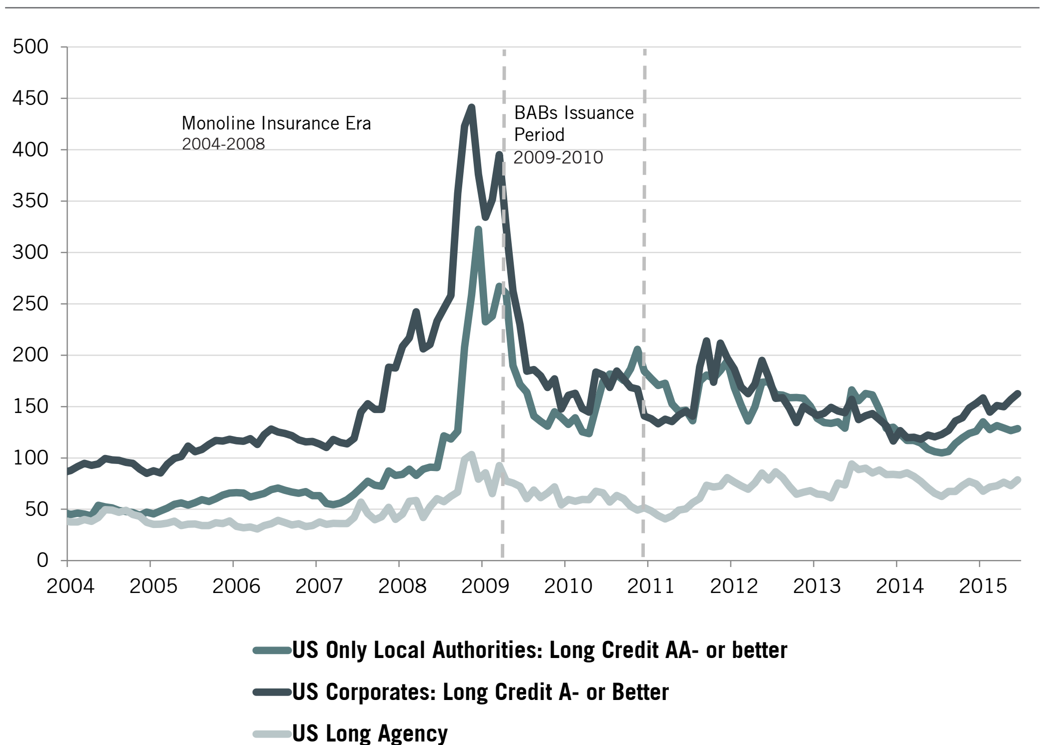
6 Endnote is located on page 20

Muni spreads have shown a paradigm shift over the past decade.

Yields and Spreads

Investors like Galliard make relative value investment decisions on a forward-looking basis. Therefore, looking at spreads over US Treasuries for taxable municipals and corporates may be more important than looking at performance history. Muni spreads have shown a paradigm shift over the past decade. From 2004 until 2008, during the era when nearly half of the newly-issued muni bonds had a monoline insurance wrap, spreads on thirty-year, AA- or better-rated taxable municipal bonds closely tracked those of thirty-year US Agencies. After this point, including the 2009 and 2010 BABs issuance period, muni spreads have closely tracked those of 30-year, A- or better-rated corporate spreads (*Figure 13*). Therefore, the prospect of investing in comparably yielding munis with higher projected credit quality is compelling.

FIGURE 13 30-YEAR SPREADS: MUNIS VS CORPORATES[15] (LONG CREDIT INDEX ELIGIBLE)



15 Endnote is located on page 20

Summary

Galliard has come to view taxable municipals as a viable alternative to corporate bonds. Still, corporate bonds are often thought of as the de facto credit sector investment. Perhaps this is because their $8 trillion investment universe[1] commands attention. But to institutional bond investors, we pose the question, why not use taxable municipals in addition to corporates to capitalize on the attractive risk/return tradeoff and diversification opportunity?

The value proposition for taxable municipal bonds is generally well understood: attractive yields and low default rates. The market opportunity to capitalize on this value has emerged thanks to the muni market having developed the size, issuance and liquidity necessary for institutional accounts. Investors seeking to take advantage of this opportunity need to keep several key points in mind. First, ample opportunity exists outside of the most common taxable municipal names, but building a diversified portfolio of taxable municipals requires the ability to source bonds and use robust underwriting and monitoring practices. Additionally, taxable municipal bonds offer value as high-quality, comparably yielding substitutes for corporate bonds. This opportunity is magnified for long credit mandates. While many investors understand this, our opinion is that the market as a whole does not fully recognize the value proposition. This is why we continue to see taxable municipals as an attractive option for long credit investors.

Ample opportunity exists outside of the most common taxable municipal names, but building a diversified portfolio of taxable municipals requires the ability to source bonds and use robust underwriting and monitoring practices.

1 Endnote is located on page 20

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[1] Securities Industry Financial Markets Association (SIFMA). Municipal Bond Credit Report Second Quarter 2015. Retrieved from http://www.sifma.org/research/item.aspx?id=8589955747 on June 18, 2015

[2] Bloomberg MSRC search for federally taxable bonds issued 1/1/1970 through 4/30/2015.

[3] Bank of America Research

[4] Municipal Securities Rulemaking Board (MSRB). 2014 Fact Book . Retrieved from http://www.msrb.org/msrb1/pdfs/MSRB-Fact-Book-2014.pdf

[5] The Bond Buyer. Retrieved from http://www.bondbuyer.com/news/markets-sell-side/insured-muni-volume-sees-616-growth-penetration-up-to-55-1070645-1.html on October 1, 2015

[6] Barclays Capital POINT

[7] Fitch. (2010. February) Top 10 Differences Between Municipal Bonds and Corporate Bonds

[8] For more information, read this Galliard publication about Taxable Municipal issuers: Recent Headlines Bring Municipal Market to the Forefront of Investors' Minds

[9] Doty, Robert. (2012) The Diversity of Municipal Bonds and what You Need to Know about Risks. Retrieved from http://www.aaii.com/journal/article/the-diversity-of-municipal-bonds-and-what-you-need-to-knowabout-risks on October 1, 2015

[10] Fitch. (2010. February) Top 10 Differences between Municipal Bonds and Corporate Bonds

[11] Bankrupt Cities List and Map. (2013). Retrieved from http://www.governing.com/gov-data/municipal-cities-counties-bankruptcies-and-defaults.html# on November 7, 2014

[12] Moody's (2015 May) U.S. Municipal Bond Defaults and Recoveries 1970-2014

[13] Feldstein, Sylvan G., Fabozzi, Frank J. (2008). The Hankdbook of Municipal Bonds. Hoboken, NJ: Wiley & Sons, Inc.

[14] Bidgood, J. (2012, September 6). Plan to End Bankruptcy in Rhode Island City Gains Approval. New York Times. Retrieved from: http://www.nytimes.com/2012/09/07/us/central-falls-ri-to-emerge-from-bankruptcy.html on August 19, 2013

[15] Barclays Capital POINT, index-eligible 20-30 year maturities, Agency OAS from U.S. Long Agency Index

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