

FixedIncomeQuarterly

MARKET PERSPECTIVES – FIXED INCOME SERVICES GROUP

Safeguarding Principal with Appropriate Asset Allocation

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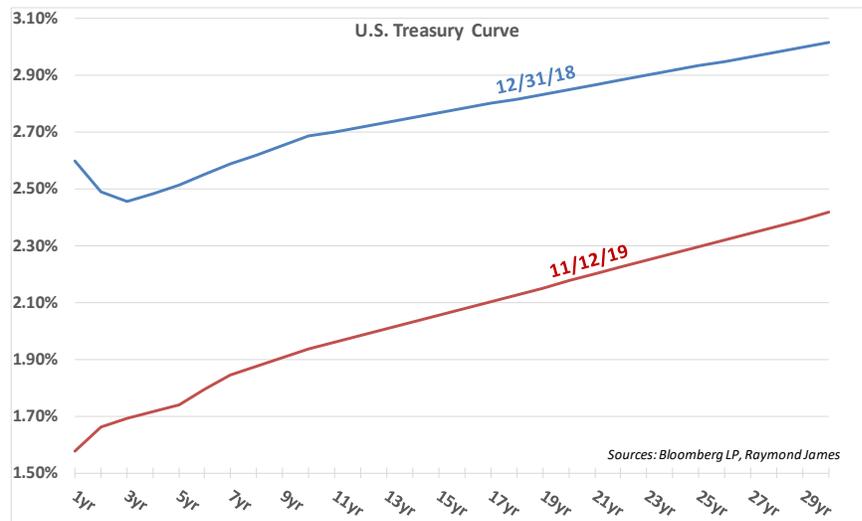
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Introduction - Safeguarding Principal with Appropriate Asset Allocation

This Fixed Income Quarterly seeks to emphasize the importance of maintaining appropriate asset allocation while preventing the reach for flawed substitutes. Appropriate asset allocation and safeguarding of principal are paramount disciplines at this point in the economic cycle.

Treasuries, despite some intra-year volatility, have rallied for the year, bringing interest rates down roughly 65bp to 100bp depending on specific curve location. The yield curve, inverted for more than 4.5 months, has regained a positive slope following the last 2 Fed interest rate cuts. Unemployment sits at a nearly 50 year low, inflation (PCE YOY) is *averaging* 1.6% (considerably under what used to be a Fed 2.0% target) over the last 10 years and the U.S. has maintained a 2.3% GDP (GDP CYOY) following the Great Recession of 2008-2009.

All of this despite: global central bank intervention, 3 consecutive Fed interest rate cuts, global rate



disparity, a manufacturing sector recession, BREXIT, recurrent US/China trade dialogue, mixed economic data and mixed corporate earnings.

In the face of market volatility and political mayhem both here and abroad, investments have fared better than most investors realize. Below is a chart showing total returns of various stock of and bond indices.

Sector Index Total Returns							
	¹ US Corporate Investment Grade Total Return	¹ U.S. Treasury 5-10 Yr Total Return	¹ U.S. Treasury 1-5 Yr Total Return	¹ US Corporate High Yield Total Return	¹ Municipal Bond Index Total Return	S&P 500 Total Return Index	Dow Jones Industrial Avg Total Return
1 year	15.08%	12.16%	5.80%	8.47%	9.65%	14.73%	10.64%
YTD	13.33%	7.94%	4.03%	12.10%	6.88%	24.83%	20.16%
6 months	7.38%	12.07%	6.40%	10.09%	9.34%	19.08%	17.40%
3 months	1.42%	11.34%	5.90%	8.23%	8.39%	11.13%	11.21%

¹ Bloomberg Barclays Indexes (defined at end of document)

Sources: Bloomberg LP, Raymond James; as of 11/05/2019

Yield and Its Various Forms

The word “yield” is frequently used in fixed income investing yet there are many variations and calculations of that same word. “Yield” can actually vary in meaning depending on context, product and application. Yield could refer to yield-to-maturity, current yield, SEC yield, yield to worst, distribution yield, TTM yield, after-tax yield, taxable equivalent yield, etc. Although these are all some form of yield, they can mean very different things and their values can vary greatly in reference to the exact same product or investment.

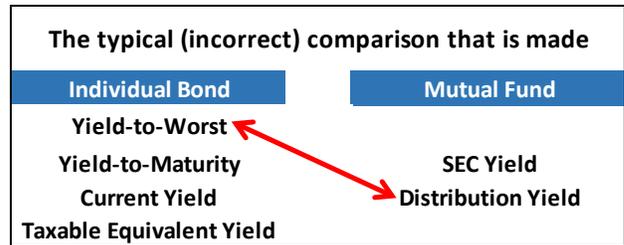
For example, a municipal bond with a 5.25% coupon that is callable in 2023, matures in 2031 and is priced at \$115.62 has “yields” of: 1.251%, 3.634%, 4.451%, and 1.985% (yield-to-worst, yield-to-maturity, current yield, and taxable-equivalent yield to worst, respectively). Any of these yields are legitimate, yet they each have their own meaning. In the same manner, a fixed income mutual fund (the specific fund is not the point) has yields of 3.05% and 1.40% (projected distribution yield and SEC-yield, respectively). Obviously, knowing the specific type of yield that is being quoted is a crucial piece of information for any type of comparison or analysis.

Different products reference different yields, some are comparable yet others are not. Bad comparisons can lead to flawed investment decisions. Comparing yields across product types can be like comparing apples-to-oranges.

Direct product-to-product yield comparisons are impossible to match exactly. Individual bonds have fixed coupons and stated maturities and/or call dates, and therefore a finite yield calculation. Funds have changing pools of securities which means changing cash flows, pricing and yields. In addition, they have no ultimate maturity creating only “best guess” yield calculations.

It is best not to compare different yield types but if a comparison must be made, there are more accurate methods to follow.

Generally, the typical yield that is quoted for a fixed income mutual fund is some version of a distribution yield. Distribution yield measures the cash flow distributed from the fund, roughly equivalent to the ‘current yield’ on an individual bond (except that it uses historical cash flows in the calculation, as future cash flows for a fund are unknown).



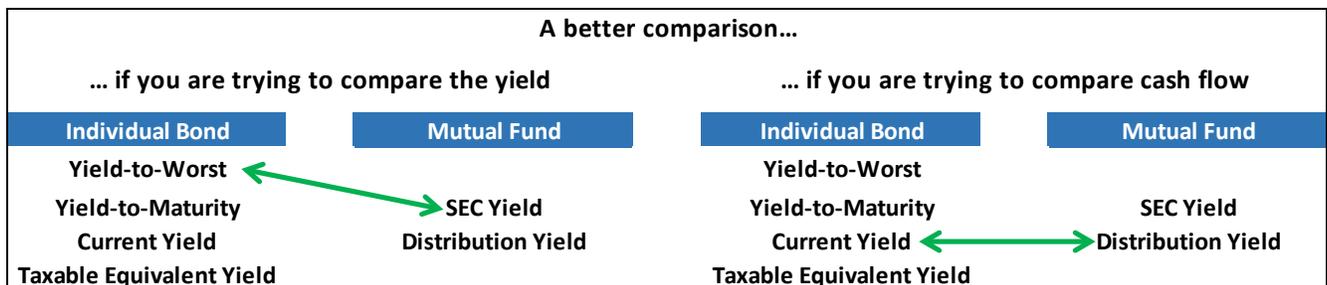
For an individual bond, the typical yield that is quoted is the yield-to-worst, which tells an investor the worst-case scenario for what their annual return will be (either to a call date or maturity). Yield-to-worst is roughly equivalent to an SEC yield on a mutual fund. The problem/confusion generally arises as investors compare the distribution yield on a fund to the yield-to-worst on a bond. This is comparing two completely different measurements and not likely to lead to an informed investment decision.

Typical Yields Quoted:

- Packaged Products quote Distribution Yield
- Individual Bonds quote Yield-to-Worst

Better comparisons to use:

- Fund SEC yield ~ Individual bond yield-to-worst
- Fund distribution yield ~ Individual bond current yield



Yield Definitions

Yield Type	Definition	Example
Yield to Maturity (YTM)	The overall interest rate earned by an investor who buys a bond at the market price and holds it until maturity. Mathematically, it is the discount rate at which the sum of all future cash flows (from coupons and principal repayment) equals the price of the bond. ¹	Price: 115.62 Coupon: 5.25% Maturity: 10/1/2031 Call: 11/1/2023 YTM = 3.634%
Yield to Call (YTC)	Figured the same way as YTM, except instead of plugging in the number of months until a bond matures, you use a call date and the bond's call price. This calculation takes into account the impact on a bond's yield if it is called prior to maturity and should be performed using the first date on which the issuer could call the bond. ¹	Price: 115.62 Coupon: 5.25% Maturity: 10/1/2031 Call: 11/1/2023 YTC = 1.251%
Yield to Worst (YTW)	The lower of a bond's YTM and YTC. ¹	YTC < YTM; therefore YTW = YTC YTW = 1.251%
Current Yield	The bond's coupon rate divided by its market price. ¹	For the above bond: $5.25 \div 115.62 = 4.54\%$
Taxable Equivalent Yield (TEY)	The interest rate that must be received on a taxable security to provide the bondholder the same after-tax return as that earned on a tax-exempt bond. Because interest earned on municipal securities generally is not subject to federal income taxation, a tax-exempt bond does not have to yield to a bondholder as much as a taxable security to produce an equivalent after-tax yield. ⁵	Tax-Exempt Yield \div (100% - Marginal Tax Bracket) $1.251\% \div (100\% - 37\%) = 1.985\%$
Distribution Yield	The sum of the trailing 12-month's income distributions and divided by the last month's ending NAV, plus any capital gains distributed over the same period. ⁴ Sometimes, the most recent distribution will just be annualized.	Prev month's distribution: \$0.0235 Annualized: $0.0235 \times 12 = \$0.282$ NAV: 9.27 Distribution Yield: $0.282 \div 9.27 = 3.05\%$
SEC Yield	The SEC yield is used to compare bond funds because it captures the effective rate of interest an investor may receive in the future. The resulting yield calculation shows investors what they would earn in yield over the course of a 12-month period if the fund continued earning the same rate for the rest of the year. It is mandatory for funds to calculate this yield. This yield differs from the distribution yield, which is typically displayed on a bond's website. ²	More complicated than a simple formula, but for the fund detailed above, the SEC yield is 1.40%.
SEC Yield (Money Market)	The SEC yield for a money market fund is calculated by annualizing its daily income distributions for the previous 7 days. ³	

¹ <https://www.finra.org/investors/learn-to-invest/types-investments/bonds/bond-yield-and-return>

² <https://www.investopedia.com/terms/s/secyield.asp>

³ <https://personal.vanguard.com/us/glossary/t/GlossaryThirtyDaySECYieldContent.jsp>

⁴ https://admainnew.morningstar.com/webhelp/glossary_definitions/mutual_fund/12-Month_Yield.htm

⁵ <http://www.msrb.org/Glossary/Definition/TAXABLE-EQUIVALENT-YIELD.aspx>

Direct product-to-product yield comparisons are impossible to match exactly. Individual bonds have fixed coupons and stated maturities and/or call dates, and therefore a finite yield

Market Noise – Fact? Speculation? Promise?

The stock and bond markets are sensitive to news headlines. Fundamental and technical analysis share influences with market psychology and sentiment. Today's market "noise" includes the U.S./China trade talks. Whether it is speculation, fact or ambitious promise doesn't matter if it is influencing the market. The following accounts, which have occurred over the past several months, highlight impactful moments:

May 5, 2019 President Trump Twitter:

Trump tweets that he will raise tariffs from 10% to 25% on \$200 billion of goods other than high tech.

- In reaction, the S&P 500 opened at 2,945.64 and closed at 2,932.47 (down ~ 0.45%). The 10 year Treasury price rallied from \$100.875 to \$101.375 (up ~ .5%).

June 18, 2019 ¹:

Trump and Xi agree by phone to rekindle trade talks.

- The S&P 500 opened at 2,889.67 and closed at 2,917.75 (up ~ 0.97%). The 10 year Treasury price rallied from \$104.625 to \$105.00 (up ~ .375%).

July 1, 2019 ¹:

US/China formally agree to resume trade talks and Trump agrees to no new tariffs. China agrees to new purchases of U.S. farm products.

- The S&P 500 opened at 2,941.76 and closed at 2,964.33 (up ~ .77%) and the 10 year Treasury fell from \$105.375 to \$105.25 (down ~ .125%)

August 1, 2019 ¹:

After 2 days of trade talks that were not fruitful, Trump announces 10% tariffs on \$300 billion worth of Chinese imports in addition to the 25% on \$250 billion of Chinese goods.

- The S&P 500 opened at 2,980.38 and closed at 2,953.56 (down ~ .90%). The 10 year Treasury rallied from \$105.25 to \$106.375 (up ~ 1.125%)

August 13, 2019 ¹:

Trump delays tariffs on more than half of the 10% of \$300 billion goods until December 15 to avoid pain for U.S. consumers and retailers during the Christmas season.

- The S&P 500 opened at 2,883.75 and closed at 2,926.32 (up ~ 1.5%) and the 10 year Treasury opened at \$108.75 and closed at \$108.125 (down ~ .625%)

October 11, 2019 (NPR: Trump Announces Phase One of Trade Deal with China):

Trump announced phase 1 of a larger deal with China with specifics still being ironed out.

- The S&P 500 opened at 2,938.13 and closed at 2,970.27 (up ~ 1.09%) and the 10 year Treasury opened at \$108.375 and closed at \$107.75 (down ~ .625%)

November 7, 2019 (Politico / China and U.S. 'agree to phased rollback' of extra trade war tariffs):

China and the U.S. have agreed to remove tariffs in phases once Trump and Xi sign an interim deal.

- The S&P 500 opened at 3,076.78 and closed at 3,085.18 (up ~ 0.27%) and the 10 year Treasury opened at \$99.3125 and closed at \$98.50 (down ~ .8125%)

Often times, such spirited market moves influence investors into a "momentary" strategy. That is, strategies that attempt to time the market or capture a momentary market swing. It is important to view fixed income investing as long term. For example, dividend paying stocks may enhance a growth strategy but are not structured appropriately to be substituted as fixed income.

Markets have been fixated and traded accordingly, concerning the US/China trade news. A deal may or may not play out, but the point is that if it's not this story, another market-influencing story may surface. As the quote says, "a rising tide lifts all boats". Many investors maintain a majority holdings in growth assets such as stocks, thus benefitting from market upswings. However, it is important that the sort of "herd mentality" associated with such momentary or fleeting comments do not alter long-term fixed income planning or strategy, the very assets dedicated to mitigating impulsive market swings that may or may not be sustainable. ■

¹ (Reuters, October 10: Timeline: Key dates in US-China trade war):

Why Do You Own Bonds?

For most investors, a well-balanced portfolio consists of a variety of asset classes, each serving a specific purpose in the portfolio. The two primary purposes are growth and wealth preservation. Growth assets are intended to be the driver of earnings (growth) in the portfolio. Wealth preservation assets are intended to protect the wealth that has been created/accumulated up to that point in an investor’s life.

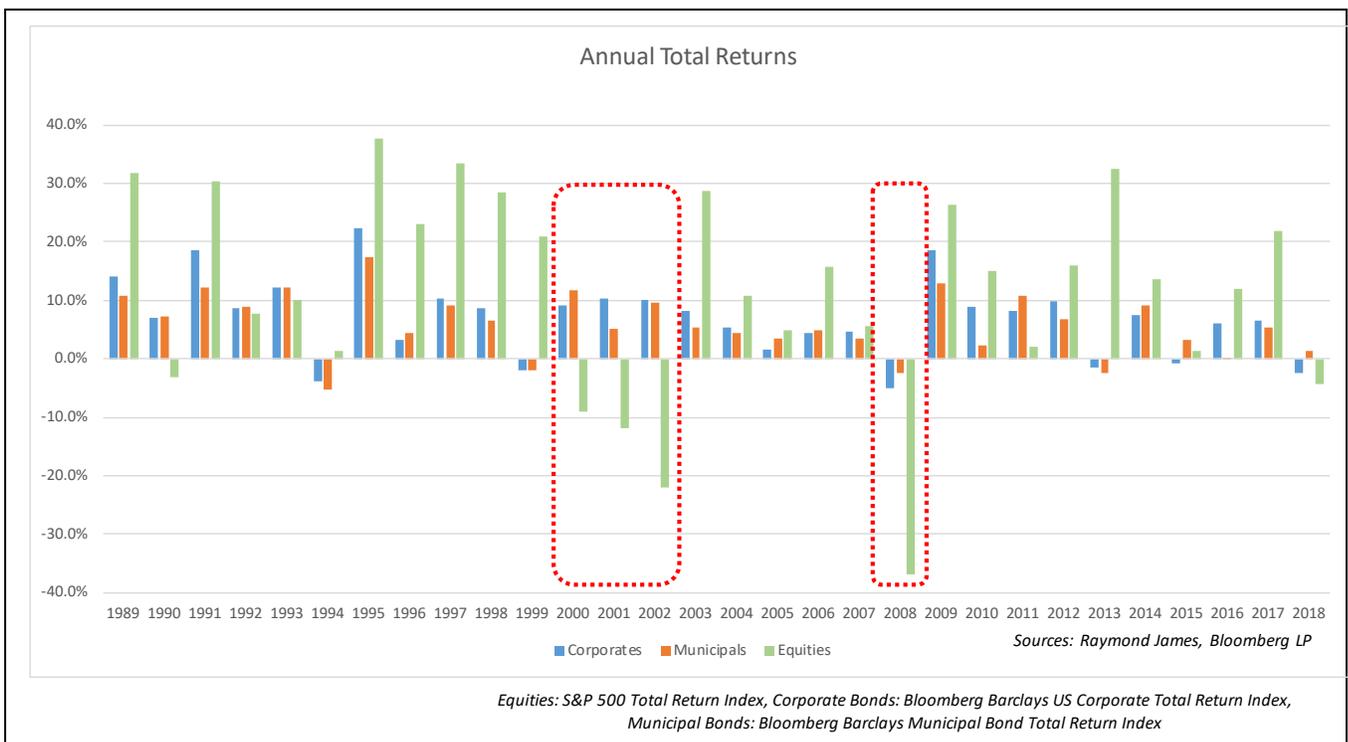
One of the primary purposes, wealth preservation or safeguarding of principal, can be achieved through the use of individual bonds appropriately allocated within the portfolio.

Individual bonds are generally going to have lower expected returns versus equities but on the flipside have historically had much lower losses. They are intended to be the stable, consistent portion of the portfolio. A bad year (negative returns) in individual bonds has historically not been nearly as financially damaging as a bad year for equities. The current expansionary period has reached record length, now 10 years and 5 months long. Although no one knows exactly when this economic cycle will end, one thing is for sure... we are closer to the next recession today than we were yesterday.

Low interest rates and an exuberant stock market tempt investors to over-allocate growth assets (for example, reassign fixed income dollars into dividend-paying equities to chase growth or dividends). The chart below shows annual returns on equities, corporate bonds, and municipal bonds.

Note that the green bars represent the S&P 500. The red-dotted ovals point to the last 2 recessionary time periods. Every expansionary and recessionary period are unique because of the extensive fundamental, technical and political variables; however, equities tend to have rather significant pullbacks during this phase of an economic cycle. It is during these periods that balanced asset allocations compensate investors by protecting against catastrophic blows. As charted, equities have experienced really lucrative stretches as well as large loss-making periods. Conversely, bonds tend to have less extreme movements (returns) and can act as a hedge against the vast negative tumbles.

Individual bonds and equities work together so that the portfolio is managed for both downside risk as well as upside potential. Balance through disciplined asset allocation can smooth overall portfolio returns. ■



Who Is Making “That” Decision?

Bloomberg’s US Corporate BBB+/BBB/BBB- 5 Year Yield Curve Index reports that we can expect ~2.55% yield for a corporate bond possessing these parameters. Given that, would a 4.2yr corporate bond yielding 3.59% (104bp wider) be appealing? What about a 4.7yr corporate bond yielding 3.27% (72bp wider)? Or one yielding 3.00%?

Perhaps these corporate yields are enticing, but what if it was revealed the first bond was a foreign issuer, the second bond is a small independent oil & gas exploration-company and the third bond’s issuer has been in the headlines for weeks? No problem? What if it is shown that the first bond is borderline investment/non-investment grade Baa3/BBB, the second bond is split rated Ba1/BBB and the third bond is rated the strongest (Baa1/BBB+) yet the issuer is facing employee strikes and accounting practice questions?

In this example, three acceptably rated bonds with above average yields fit the same general parameters yet carry very different associated risks. There are no *right* or *wrong* answers because the risks associated with any investment can be acceptable to some investors but not to others. More importantly, who is making those decisions? A fund manager? A money manager? You the investor?

Would you buy a New York State Dormitory municipal, a Baa3 State of Illinois municipal, a corporate engaged in a morally disputed product-line, a 30-year mortgage-backed security, highly leveraged oil & gas debt or a floating rate loan? Would you put your assets on margin in order to leverage your purchases? Would you take a below market yield in order to increase your odds of extra return by betting that inflation is about to rise? Maybe or maybe not to any of these questions but you could be invested in some or all of these situations without even knowing... even if you would not willfully make some of these decisions independently.

Managed money, where the decision-making is solely governed by a manager, applies such decisions all the time. The distinctive bonds and strategies cited above involve actual bond holdings within various popular ETFs and funds. As an investor, one way to better control the risks associated with investments, is by buying individual bonds. Regardless, a key takeaway is to know what you own.

*...know what you own,
and why you own it!*

There are other reasons to consider individual bonds besides controlling the issuer and product/service risks associated with your holdings. The most important may be holding an asset with a defined maturity. Having a defined maturity empowers an investor with true principal protection. Regardless of interest rate movement, barring default and held-to-maturity, during the holding period, the cash flow, income earned (yield) and return of face value on a specified date do not change for individual bonds. With the exception of market price, whose changes are eradicated when held-to-maturity, individual bonds are predictable.

Last, and certainly not least, selectively structured individual bonds can augment other asset allocations. This may be accomplished with tailor-made strategies that are designed to counterbalance riskier growth assets while providing predictable income and cash flow.

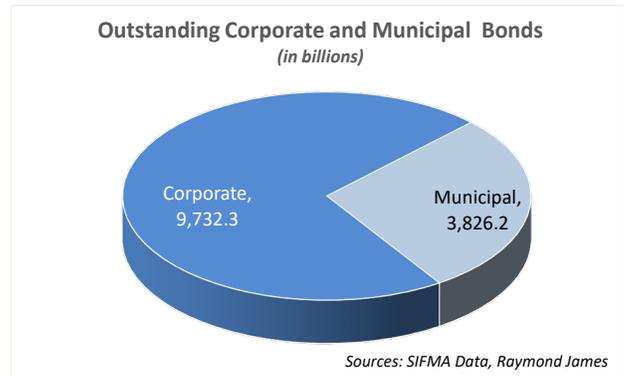
In summary, the flexibility and defined choices when building self-decided fixed income portfolios through individual bonds, provide investors with multiple advantages. By the way, this includes not diminishing net returns with management fees... a key advantage in an already low interest rate environment. ■

Window of Opportunity - Taxable Municipals

Supply is increasing... spreads are widening! An opportunity in the niche taxable municipal bond market?

The Tax Reform Act of 1986 revoked tax-exempt status for certain types of municipal bond financing. Issuers were pressed into the taxable municipal bond market where issues are secured by the same revenue streams and tax pledges funding tax-exempt municipal bonds but subject to Federal taxes. They could be viewed as a hybrid between tax-exempt municipal bonds and corporate bonds. Taxable municipal credits are typically rated very strong (like tax-exempt municipals) yet in a much more boutique market sector than corporate bonds which are also taxed.

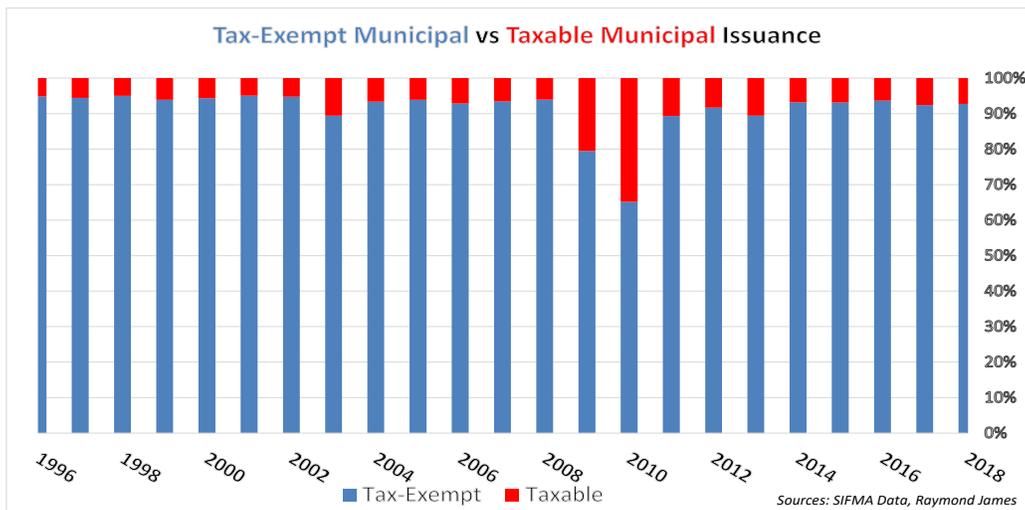
As depicted in the pie chart to the right, the more than \$9.7 trillion corporate bonds outstanding are more than 1.5 times the \$3.8 trillion municipal bonds (*both taxable and tax-exempt*) outstanding. Taxable bonds issued from 1996 through 2018, on average, represented 8.7% of the total municipal bond issues (*see chart below*). Taxable municipal bonds can allow for more diversification versus utilizing corporate issuers alone. Although taxable municipal bonds are federally taxed, many states (*see Appendix A*) do not tax the income generated on issues within their own states (*investors residing within the state of the issuance*). In addition, accretion on any discounted taxable bonds purchased in the secondary market are treated as capital gains, typically a more advantageous rate for investors versus ordinary



gains (*de minimis rules applied to discounted tax-exempt municipal bonds do not apply to taxable municipal bonds*).

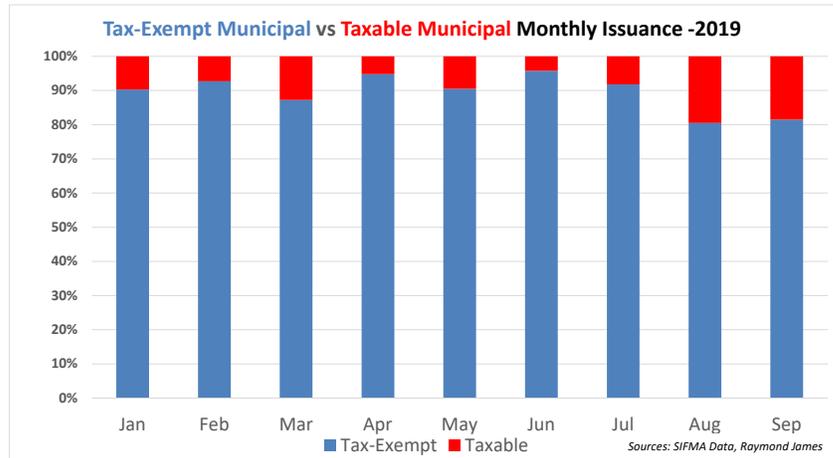
In 2009-2010, as a response to the Great Recession and in an attempt to create jobs and stimulate the economy, Build America Bonds (BABs) were introduced as part of the 2009 American Recovery and Reinvestment Act (ARRA). BABs are taxable municipal bonds that provide federal tax credits or subsidies to bondholders or state and local government bond issuers. They allowed municipalities the ability to raise capital during the recession. As shown in the chart, BABs spiked the percentage of taxable issuance in 2009 and 2010.

More recently, The Tax Cut and Jobs Act of 2017, once again changed the municipal landscape by disallowing tax-exempt status for advance refunding of municipal



issues. Debt refinancing by municipalities has been a huge part of the \$3.8 trillion municipal bond market. Municipalities often used advanced refunding to lower their borrowing costs when interest rates were significantly lower than the interest owed on the original bond issuance. The Tax Cut and Jobs Act of 2017 disallowed municipalities the tax-exempt advantage and thus greatly slowed advance municipal refunding.

That is until now. Interest rates have fallen to a point that is allowing states and local governments the advantage of refunding via taxable municipal bonds. Taxable debt, which is not as cost effective, is being offset by the lower interest rates. During the first 7 months of 2019, taxable municipal issues represented 8.1% of the total municipal bond issues. In August and September, they represented 19.5% and 18.5% of the total municipal issues respectively. The wave of taxable municipal issuance, is at the very least, creating a window of



opportunity that is worth exploring for investors active in the taxable bond market. If rates remain in the same range, continued surge in taxable municipal issuance could continue through year end and into next year. This may mean that spreads remain wide and can provide relatively attractive yields for core investments. In addition, taxable municipal bonds offer opportunities out on the curve for investors with longer duration needs.

Appendix A	
States with No Income Taxes	States That Tax In-State Bonds
Alaska	Illinois
Florida	Iowa
Nevada	Oklahoma
South Dakota	Wisconsin
Texas	
Washington	
Wyoming	
District of Columbia	
Tennessee (tax only interest and dividend until 2021)	
New Hampshire (tax only interest and dividend until 2025)	
Utah	

Reciprocal State. Does not tax in-state issued bonds or bonds issued by states that do not tax Utah bonds but taxes all others. The following states do not impose an income tax on Utah issued bonds: Alaska, Florida, Nevada, South Dakota, Texas, Utah, Washington, Wyoming... PLUS Indiana (bonds acquired before January 1, 2012) and North Dakota (municipal bonds are exempt from state tax under the piggyback method of tax preparation used by approximately 90% of residents).

Sources: Utah State Tax Commission, New Hampshire Department of Revenue Administration, Tennessee Department of Revenue, Kiplinger, Raymond James.

Takeaways on Taxable Municipal Bonds:

- Many issues offer very high credit quality.
- Secured by the same revenue streams and tax pledges funding tax-exempt municipal bonds.
- Although federally taxed, many states do not tax the income generated on issues within their own states (see Appendix A).
- *De minimis* rules do not apply to discounted bonds purchased in the secondary.
- State and local municipality issues provide taxable investors with issuer diversification from corporate issuers.
- Widening taxable municipal spreads provide attractive comparable yields.

Money Market Yield & Reinvestment Risk

The relatively flat Treasury yield curve raises investor inquiry about positioning fixed income dollars. Should investments be short in duration or somewhere out along the curve?

Short money market yields have been attractive, providing an enticing alternative to traditional fixed income or at the very least, a basis for comparison between the two. There are varying benefits and different risks associated with each of the alternatives.

For illustrative purposes, let’s compare purchasing a 3.00% 10-year bond to a 2.00% money market fund. An individual bond will have a higher duration, thus more interest rate risk. It will likely have slightly more credit risk and assuming a buy-and-hold practice, it will lock up principal longer term.

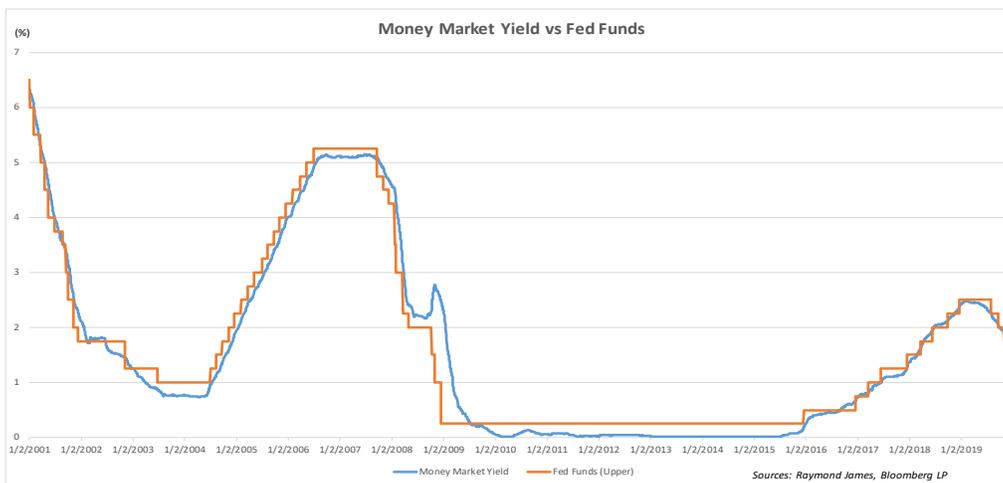
Fixed income allocation often benefits from long-term planning, dissimilar to the more spontaneous or fleet moves required of growth assets. In other ways, individual bonds and packaged products are also dissimilar. Therefore, a deeper understanding of this comparison may reveal crucial investment decision-making knowledge.

Individual bonds “lock” in their yield at the moment of purchase. A 10-year bond (barring default and held-to-maturity) purchased with a 3.00% yield, locks in an annual yield of 3.00% in each of the next 10 years. A packaged product, like a money market fund, delivers a changing yield based on turnover of the underlying securities. In the example above, the 2.00% yield is changing on a daily basis.

Most money market funds are composed of high-quality, short-term underlying securities. As a result, market fund yields tend to rise and fall in line with short-term rates, more specifically, the Fed Funds rate. Investors tend to equate lower duration with lower risk, yet reinvestment risk may be more impactful given the current economic environment. For example, the 2.00% money market yield might seem relatively attractive today, but since it is highly correlated to FOMC decisions on Fed Funds, money market fund yields are likely to adjust alongside with them. The short duration money market instruments are exposed to short-term interest rate changes and since yields are not locked in, they are vulnerable to reinvestment risk.

The graph below illustrates the yields for a popular money market fund and the Fed Funds rate (the fund is not identified, as the specific fund is not the point) highlighting the general relationship between these two categories of investments. The correlation is quite evident: as the FOMC raises or lowers rates, money market yields tend to follow.

The Takeaway: Fixed income is about long-term planning, not passing-moment market plays. Reinvestment risk is a prevailing current market concern. Today’s 2.00% money market yield is subject to tomorrow’s yield change. Locking in a longer-term yield may deliver enhanced long-term portfolio performance. Money market funds can provide liquidity in high-quality, short-term instruments; however, they are not substitutes for a long-term fixed income strategy. ■



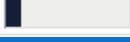
Case Study 1: Utilizing Call Structures

The Scenario: An investor wants a 3.00% tax-exempt yield, wants to extend only 5-10 years and maintain a high credit quality. The investor seeks national municipals and is in a 37% Federal tax bracket.

Considerations: All investors seek the highest yields achievable within their parameters; however, the market dictates current yields. The “sweet” spot of the municipal curve, where the greatest risk/reward can be achieved is also outside the desired 5-10 year range being more in the 10-20 year area.

Proposed Buys	
Coupon	3.488%
Maturity	6.95 yrs
Original Maturity	6.95 yrs
Price	111.990
Yield to Worst	1.539%
Yield to Maturity	1.637%
Modified Duration	5.73
Convexity	0.408
After Tax YTW**	1.539%
Tax Equivalent YTW**	2.443%
Avg Moody's Rating	A1  Aa3
Avg S&P Rating	AA-  AA

The Strategy: The yield is not achievable under current market conditions (red box). The maturity restrictions further hinder a satisfactory return. An alternative scenario (blue box) is devised that allows the investor to utilize the embedded call feature associated with many municipal offerings. Purchases involved using 10-20 year maturities with higher coupons and call dates inside the 5-10 year desired maturity range. This increased the overall yield, kept the duration similar (the current market prices these bonds to the call), kept credit ratings similar and provided increased cash flow via the higher coupons.

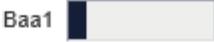
Proposed Buys	
Coupon	4.232%
Maturity	14.92 yrs
Original Maturity	14.92 yrs
Price	115.186
Yield to Worst	1.796%
Yield to Maturity	2.943%
Modified Duration	5.90
Convexity	0.426
After Tax YTW**	1.796%
Tax Equivalent YTW**	2.850%
Avg Moody's Rating	Aa3  Aa2
Avg S&P Rating	AA-  AA

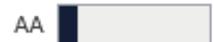
This example is for illustrative purposes only

Case Study 2A: Credit/Yield Trade-off

The Scenario: A non-taxable entity with no maturity or duration restrictions, seeks income within high quality investments.

Considerations: Although the client has no maturity restrictions, consideration is given to sweet spot of each product curve as well as the credit differences. Does extending out adequately reward an investor for the additional risk? If the choice is to extend out on the curve, what is the investor’s comfortable credit rating?

Proposed Buys	
Coupon	5.213%
Maturity	15.30 yrs
Original Maturity	15.30 yrs
Price	115.307
Yield to Worst	3.944%
Yield to Maturity	3.948%
Modified Duration	10.47
Convexity	1.425
After Tax YTW**	3.944%
Tax Equivalent YTW**	3.944%
Avg Moody's Rating	Baa1  A3
Avg S&P Rating	BBB  BBB+

Proposed Buys	
Coupon	3.309%
Maturity	14.72 yrs
Original Maturity	14.72 yrs
Price	103.772
Yield to Worst	2.858%
Yield to Maturity	2.998%
Modified Duration	8.98
Convexity	1.078
After Tax YTW**	2.858%
Tax Equivalent YTW**	2.858%
Avg Moody's Rating	Aa3  Aa2
Avg S&P Rating	AA  AA+

The Strategy: The first scenario (blue box) is a portfolio of investment-grade “BBB” rated corporate bonds. Many corporate offerings in the 10-20 year maturity range are high coupon and therefore trade at high premiums. This BBB portfolio provides a 3.94% yield with a 10.5 duration and \$115.3 average dollar price.

Because the client sought a higher credit quality, a taxable municipal portfolio (red box) provided it. The trade-off is a lower yield (2.86%) but a significantly higher credit quality (AA vs. BBB). Utilizing lower coupons, this portfolio has a much lower premium. The use of taxable municipals also provided a diversification of names outside the typical corporate issuers.

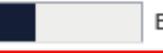
This example is for illustrative purposes

Case Study 2B: Credit/Yield Trade-off

The Scenario: An investor wants an investment grade portfolio with the best yield and to mitigate interest rate risk if possible. This is an IRA account. The investor has no plans to trade in-and-out of their holdings.

Considerations: An IRA is tax deferred and therefore the investor is likely to benefit more from taxable income. The search includes taxable products (CD, government, agency, corporate, mortgage-backed). Investment grade can include a wide range of credits with very different results.

Proposed Buys	
Coupon	3.113%
Maturity	5.30 yrs
Original Maturity	5.30 yrs
Price	102.869
Yield to Worst	2.397%
Yield to Maturity	2.403%
Modified Duration	4.68
Convexity	0.317
After Tax YTW**	2.397%
Tax Equivalent YTW**	2.397%
Avg Moody's Rating	A3  A2
Avg S&P Rating	A-  A

Proposed Buys	
Coupon	4.526%
Maturity	5.14 yrs
Original Maturity	5.14 yrs
Price	105.135
Yield to Worst	2.845%
Yield to Maturity	2.854%
Modified Duration	4.39
Convexity	0.286
After Tax YTW**	2.845%
Tax Equivalent YTW**	2.845%
Avg Moody's Rating	Baa2  Baa1
Avg S&P Rating	BBB  BBB+

The Strategy: The idea was to compare different ends of the investment-grade credits. Therefore an all A-rated portfolio (blue box) is compared to a BBB-rated portfolio (red box), both investment-grade. It turned out that although all taxable alternatives were considered, corporate bonds afforded the highest yields. In order to mitigate interest rate risk, both portfolios were structured with balanced 1-10 year laddered maturities. The results reflect a 45 basis point pick up in yield with the BBB-rated versus A-rated ladders. Although the durations were comparable, the BBB-rated portfolio's higher average coupon (higher cash flow) pushed its duration slightly lower.

This example is for illustrative purposes only

Where Is The Value?

This chart shows the AAA municipal yield curve as well as the A-rated corporate yield curve (“Yield” column). The “Add’l Yld” column shows the incremental yield pickup in basis points gained by moving out one additional year on the respective curve. Green cells indicate larger incremental yield pickup, whereas red cells indicate smaller incremental yield pickup. The “Capture” column shows what percentage of the entire yield curve is captured at each point on the curve. For example, the yield at 10 years on the municipal curve (1.59%) represents 72% of the yield offered by the longest spot on the curve (2.21%), as $1.59/2.21 = 72\%$.

<u>Municipals (AAA)</u>				<u>Corporate A</u>			
Year	Yield	Add'l Yld	Capture	Year	Yield	Add'l Yld	Capture
1	1.12		50%	1	1.94		56%
2	1.14	0.02	51%	2	1.97	0.03	57%
3	1.15	0.02	52%	3	2.04	0.08	59%
4	1.17	0.02	53%	4	2.14	0.10	62%
5	1.22	0.05	55%	5	2.26	0.11	65%
6	1.28	0.06	58%	6	2.38	0.12	69%
7	1.36	0.08	61%	7	2.49	0.12	72%
8	1.43	0.07	65%	8	2.61	0.11	75%
9	1.51	0.08	68%	9	2.70	0.09	78%
10	1.59	0.08	72%	10	2.78	0.09	81%
11	1.65	0.06	75%	11	2.87	0.08	83%
12	1.70	0.05	77%	12	2.95	0.08	85%
13	1.75	0.05	79%	13	3.03	0.08	88%
14	1.80	0.05	81%	14	3.11	0.08	90%
15	1.83	0.04	83%	15	3.19	0.08	92%
16	1.87	0.04	85%	16	3.25	0.06	94%
17	1.91	0.04	86%	17	3.31	0.06	96%
18	1.94	0.03	88%	18	3.37	0.06	98%
19	1.97	0.03	89%	19	3.43	0.06	99%
20	2.01	0.03	91%	20	3.49	0.06	101%
21	2.04	0.04	92%	21	3.49	0.00	101%
22	2.08	0.04	94%	22	3.49	0.00	101%
23	2.11	0.03	95%	23	3.49	0.00	101%
24	2.14	0.03	97%	24	3.49	0.00	101%
25	2.15	0.02	97%	25	3.49	0.00	101%
26	2.16	0.01	98%	26	3.48	-0.01	101%
27	2.18	0.01	98%	27	3.47	-0.01	101%
28	2.19	0.01	99%	28	3.47	-0.01	100%
29	2.20	0.02	100%	29	3.46	-0.01	100%
30	2.21	0.01	100%	30	3.46	-0.01	100%

As of: 11/13/2019 Source: Bloomberg LP, Raymond James

Know What You Can Own

Many wealthy investors choose individual bonds to preserve their wealth. Laddered strategies can provide defined cash flows, steady income and a known maturity date. Ladders can be designed with flexibility allowing investors to obtain very individualized results. The table below summarizes a few illustrative portfolios to give investors an idea of current yields. ■



	Portfolio Statistics					Credit Quality			
	Maturity	Avg.	Yield to			AAA	AA	A	BBB
	Range	Maturity	Duration	Worst	TEY*				
Municipal Ladders	1 to 5	3	2.80	1.24%	2.10%	20%	60%	15%	5%
	1 to 10	5.5	4.89	1.41%	2.39%	20%	60%	15%	5%
	1 to 15	8	6.78	1.60%	2.70%	20%	60%	15%	5%
	5 to 10	7.5	6.42	1.54%	2.60%	20%	60%	15%	5%
	5 to 15	10	8.18	1.73%	2.93%	20%	60%	15%	5%
	5 to 20	12.5	9.81	1.87%	3.16%	20%	60%	15%	5%
	10 to 20	15	11.30	2.04%	3.45%	20%	60%	15%	5%
Corporate Ladders	1 to 5	3	2.77	2.30%			25%	75%	
	1 to 10	5.5	4.83	2.62%			25%	75%	
	1 to 15	8	6.67	2.90%			25%	75%	
	5 to 10	7.5	6.32	2.87%			25%	75%	
	5 to 15	10	8.00	3.14%			25%	75%	
CD Ladders	1 to 2	1.5	1.44	1.65%					
	1 to 3	2	1.90	1.72%					
	1 to 4	2.5	2.35	1.74%					
	1 to 5	3	2.79	1.80%					

- ✓ Identify acceptable risk factors.
- ✓ Define desired income.
- ✓ Create required cash flow.
- ✓ Identify requisite redemption period.
- ✓ Create needed liquidity.
- ✓ Isolate personal biases.
- ✓ Use appropriate asset mix.
- ✓ Diversify.
- ✓ Rebalance when applicable.

Sources: Raymond James, Bloomberg LP, MMD; as of 11/13/19

*TEY is based on the top federal tax bracket (37%) plus the Medicare surtax (3.8%)

Yields shown are illustrative only, calculated using the arithmetic means based on the maturity range combined with the credit quality percentages, and are not inclusive of sales credit.

Certificates of Deposit offer FDIC insurance and a fixed rate of return whereas the principal value of fixed income securities will fluctuate with changes in market conditions.

Diversification and strategic asset allocation do not ensure a profit or protect against a loss. Investments are subject to market risk, including the possible loss of principal. The process of rebalancing may carry tax consequences.

OUR ONLY BENCHMARK IS YOURS.

When it comes to your income, is success measured by an index, or when your individual needs and goals are met?

Fixed Income Strategy Resources

Doug Drabik - Sr. Fixed Income Strategist

Drew O'Neil - Fixed Income Strategist

Rob Tayloe - Fixed Income Strategist

Rob Tribolet – Fixed Income Strategist

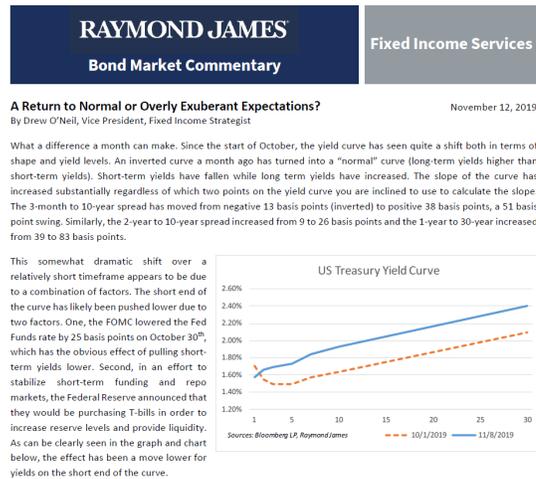
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Indexes referenced in this report:

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

Bloomberg Barclays U.S. Treasury 5-10 Yr Total Return Index Value Unhedged: Bloomberg Barclays US Treasury: 5-10 Year Index measures US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury with 5-9.9999 years to maturity. Treasury bills are excluded by the maturity constraint, but are part of a separate Short Treasury Index. STRIPS are excluded from the index because their inclusion would result in double-counting.

Bloomberg Barclays US Treasury 1-5 Yr Total Return Index Value Unhedged: Bloomberg Barclays US Treasury Index measures US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury. Treasury bills are excluded by the maturity constraint, but are part of a separate Short Treasury Index.

Bloomberg Barclays US Corporate High Yield Total Return Index Value Unhedged: Bloomberg Barclays US Corporate High Yield Bond Index measures the USD-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch and S&P is Ba1/BB+/BB+ or below. Bonds from issuers with an emerging markets country of risk, based on Barclays EM country definition, are excluded.

Bloomberg Barclays Municipal Bond Index Total Return Index Value Unhedged: Bloomberg Barclays U.S. Municipal Index covers the USD-denominated long-term tax exempt bond market. The index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds and prerefunded bonds.

S&P 500 Total Return Index: S&P 500 Total Return Index. Calculated intraday by S&P based on the price changes and reinvested dividends of SPX <INDEX> with a starting date of Jan 4, 1988.

Dow Jones Industrial Average TR: Dow Jones Industrial Average Total Return Index tracks the total return of the member stocks of the DJI Index. Dividends are reinvested. This index prices once per day at market close by Dow Jones. The index is quoted in USD.

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