



the great debate - fixed income and portfolio construction

For thirty years, high quality bond portfolios have produced a nearly unbroken string of positive returns for investors.

Starting from double-digit yields in the early 1980s, the steady decline in interest rates actually allowed long-term Treasury bonds to outperform the S&P 500 from 1982-2011 with just a fraction of the volatility. This record of strong performance has made it comfortable to overweight bonds in a portfolio, and investors have moved in droves from stocks to the perceived safety of bonds following the 2008 financial crisis.

Even though rates have moved somewhat higher over the past few months, the result of this long-term decline in interest rates is that yields remain at historically low levels, making prospective returns from bonds less appealing. With interest rates so low, the question of how to manage fixed income exposure is a significant concern. In fact, with yields low and likely to move higher, some investors are questioning the wisdom of maintaining a fixed income allocation at all.



BY JASON P. LIOON, CFA
Principal, Diversified Trust



BY JAMES S. GILLILAND
*Senior Vice President,
Diversified Trust*

continued on next page >

what to do?

Despite all the challenges associated with holding low yielding bonds, they remain an integral part of a diversified portfolio. A high quality bond portfolio remains the only certain portfolio stabilizer during times of crisis (see chart at right). As a result, prudence dictates that every portfolio should have at least some allocation to

Time Period	S&P 500	Barclays Aggregate
Sept - Nov 1987	-29.58%	2.17%
June - Oct 1990	-14.69%	3.78%
May - Aug 1998	-13.45%	3.68%
Feb - Sept 2001	-23.12%	6.65%
Apr 2002 - Feb 2003	-25.48%	11.78%
Nov 2007 - Feb 2009	-50.95%	6.09%
Average	-26.21%	5.69%

bonds, no matter how low the future expected returns. Thus, the question shouldn't be "Should I hold bonds?" but "What bonds should I hold?" We believe in an approach centered on three themes:

1. **Determine how much "sleep at night" money you need to maintain in bonds.** Understand that your allocation to a high quality bond portfolio is unlikely to perform very well, but that it will provide a very important anchor for your portfolio during the inevitable market downturn. This is a very personal decision and should be done in close consultation with your advisor(s).
2. **For your bond allocation, have a well-constructed, high quality core portfolio with a lower duration.** This will help to mitigate the impact of what is likely to be a period of gradually rising interest rates over the next few years. For individual investors in a high tax bracket, this core portfolio should emphasize municipal bonds.
3. **Diversify your fixed income exposure away from bonds that are exclusively interest rate sensitive.** This should include corporate bonds, floating rate loans and global bonds, all of which are less correlated to interest rates.

First, let's take a look at what we can expect from a core bond portfolio over the next few years.

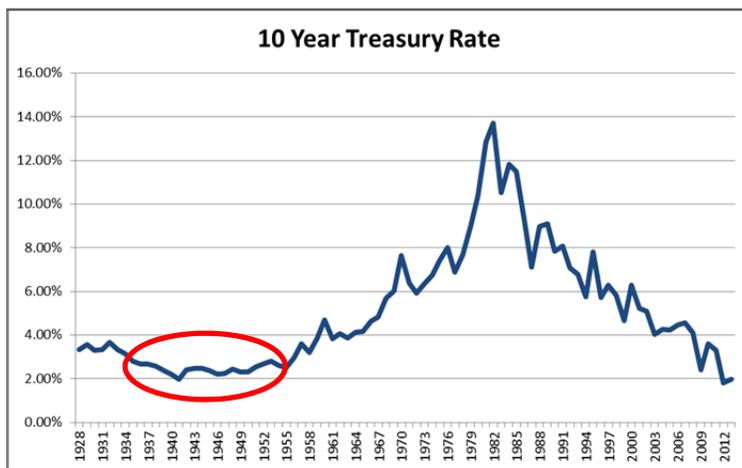
continued on next page >

historical context.

The run bonds have enjoyed over the past thirty years is nearly unprecedented, spurred mostly by the historically high interest rates seen in the early 1980s. In September of 1981, the yield on the 10-year Treasury topped out at nearly 16% following three years of double digit inflation (and 10 years of 5%+ inflation). As inflation came under control, that yield fell over time, providing sizeable capital appreciation to bondholders and driving outsized returns.

Recent Federal Reserve policy, combined with a healthy appetite for safe haven assets by investors, has driven interest rates even lower. The 10-year Treasury, currently yielding roughly 2.75%, traded as low as 1.4% during 2012, an all-time low. While the magnitude of the recent Federal Reserve intervention seems unprecedented, this is not the first time that government policy has had interest rates at artificially low levels. The deflationary financial contraction during the Great Depression pushed rates down significantly during the 1930s. This was quickly followed by World War II and the Bretton Woods system of monetary management, which emphasized tight government control over capital markets. Throughout the war and post-war period, the Federal Reserve was committed to a roughly 2.5% rate on all long-term government securities.

This resulted in a prolonged period of low interest rates; the chart to the right highlights the period from 1935-1956 when the 10 year Treasury rate never meaningfully exceeded 3%. While the current circumstances are not exactly the same as they were in the 1940s and 1950s, this extended period of low interest rates can be instructive for how things may play out in the future.



Source: U.S. Treasury, Federal Reserve

ATLANTA

400 Galleria Parkway, Suite 1820
Atlanta, GA 30339

Phone: 770.226.5333



GREENSBORO

300 N Greene Street, Suite 2150
Greensboro, NC 27401

Phone: 336.217.0151



MEMPHIS

6075 Poplar Avenue, Suite 900
Memphis, TN 38119

Phone: 901.761.7979



NASHVILLE

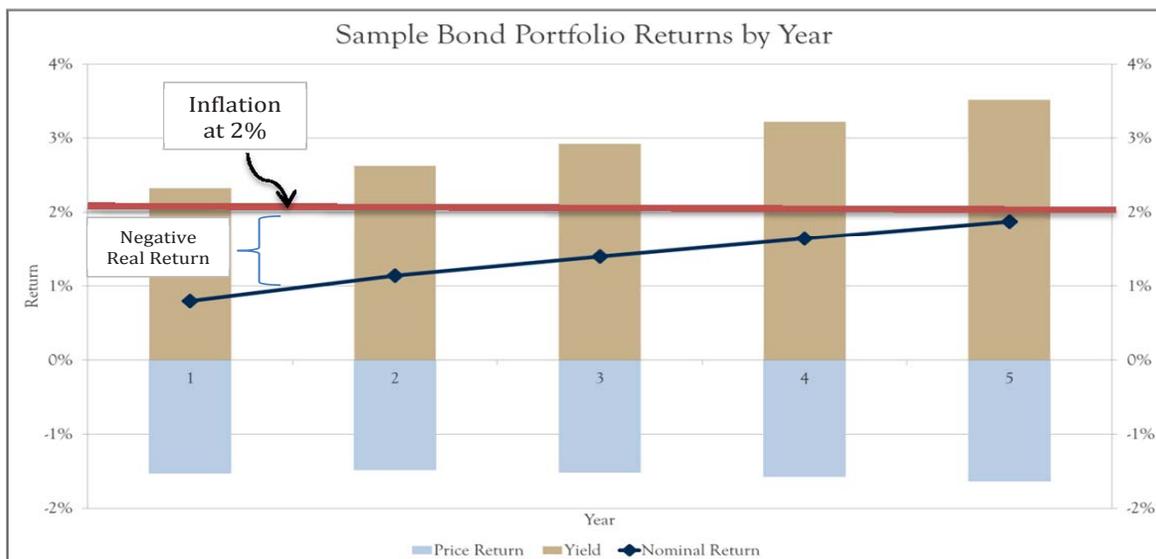
3102 West End Avenue, Suite 600
Nashville, TN 37203

Phone: 615.386.7302

white paper

There are several takeaways from this analysis. First, low yields generally mean low returns, since if you hold a bond to maturity your return is equal to the yield you are paid when you buy it. Not surprisingly, throughout the 1940s and early 1950s period of a flat 2.5% interest rate, nominal bond returns averaged 2.5% per year. Also, low yields make bonds more sensitive to even small changes in interest rates. For example, a bond with a 5% yield can sustain a 3% decline in value and still deliver a positive return, while in the same scenario a bond with a 2% yield would have a negative return.

Finally, and perhaps most importantly, low interest rates also make a bond portfolio more sensitive to inflation. Despite that steady 2.5% nominal return in the 1940s and 1950s, inflation in several of those years spiked higher, producing negative real returns. As an example of how that might look today, let's assume that interest rates will rise gradually over the next five years. In the analysis below, we start with a portfolio yielding 2.15% today and rates rising to 3.65% over the next five years. We assume that a portion of the bonds in the portfolio mature every year, so proceeds are invested at a higher rate, leading to a gradually increasing portfolio yield. In this scenario, the portfolio income (shown in beige) will be enough to offset the negative price return (in light blue) every year, generating a positive nominal return for the portfolio (dark blue line). However, if we assume a very conservative inflation level of just 2% per year (red line), the real return for the portfolio will be modestly negative, averaging -0.6% over the 5 year period.



continued on next page >

managing duration.

Despite the lackluster returns associated with the example shown on the previous page, prudently managed bond portfolios remain an integral 'safe haven' component for investors seeking safety of principal and lower volatility for their overall investment portfolio. It is therefore crucial to have a well-designed core portfolio that actively manages interest rate risk.

relationship between rising interest rates and market value.

Interest rate risk as measured by duration indicates the market value sensitivity of a bond or a portfolio of bonds relative to a change in interest rates. Simply stated, the longer the duration, the more sensitive the principal value is to a change in interest rates. Duration and interest rate risk are relevant for all classes of fixed coupon bonds, whether they are municipal bonds, corporate bonds, U.S. Treasury bonds, asset-backed bonds, sovereign bonds, or government agency bonds.

In the most basic sense, the longer the duration, the more sensitive or volatile the bond's principal value is to a change in interest rates. For example, as interest rates change, the market value of a 30-year bond swings much more than a 10-year bond. Therefore, the change in market value due to interest rates (real interest rates or inflation) is directly linked to duration of the bond. This concept is especially relevant as it relates to an investor's liquidity needs, particularly in a rising interest rate environment.

We view a client's bond portfolio on a weighted average basis rather than on the basis of individual bonds. As such, we typically structure portfolios with diverse maturities owning a mix of short, intermediate and longer-duration bonds. This strategy helps ensure that no single bond has an outsized influence on the portfolio particularly in volatile or rising interest rate environments. A diversified bond portfolio provides the opportunity to make gradual rather than wholesale portfolio adjustments, as cash and proceeds from called and maturing bonds are consistently reinvested, helping investors mitigate interest rate risk.

continued on next page >

white | paper

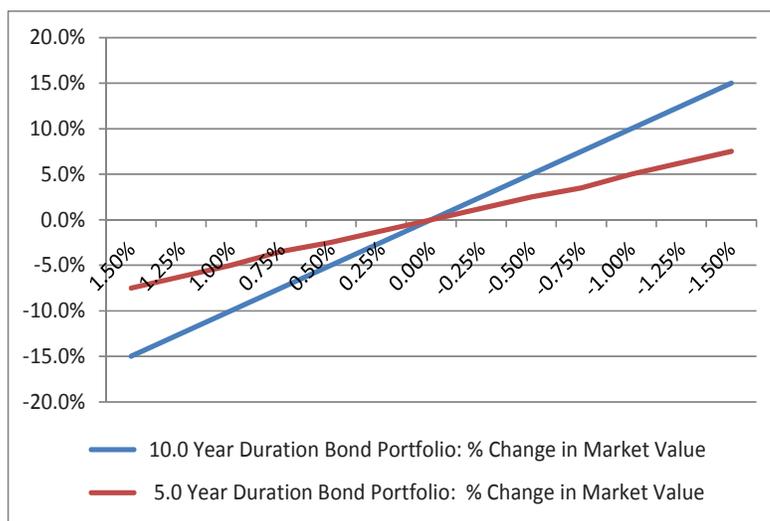
The primary objective of our core fixed income strategies is to protect the principal, earn a reasonable level of income, and reduce the volatility of our clients' overall portfolios. This is why we typically maintain the portfolio weighted average duration in the intermediate range of three to seven years. Our aggregate portfolio weighted average duration is now well below 4 years. For the sake of comparison, a 30-yr bond with level, mortgage-style amortization typically has a duration of about twenty years, depending upon the bond's fixed interest rate.

example: duration and interest rates - market value volatility.

To illustrate the mathematical duration relationship, we can use a hypothetical example which assumes there are two separate portfolios consisting of the exact same number of bond holdings. The holdings are from the same bond issuers, with the same credit ratings, but with significantly different maturity dates, resulting in weighted average portfolio durations of 5.0 years and 10.0 years. For the sake of simplicity we assume the changes in interest rates occur simultaneously at all points along the yield curve (i.e., a parallel shift of the yield curve). In reality, a parallel shift is very uncommon which demonstrates the importance of diversification of maturities.

The volatility is apparent in the divergence of Portfolio Market Values of the otherwise identical \$1,000,000 portfolios. As demonstrated in the data above, a hypothetical, parallel change of 1.5% in interest rates has significantly different effects on bond portfolios with longer maturities than portfolios with shorter maturities.

**Interest Rate Stress Test:
Change in Bond Portfolio Market Value**



continued on next page >

IMPORTANT NOTES AND DISCLOSURES

This White Paper is being made available for educational purposes only and should not be used for any other purpose. Diversified Trust Company, Inc. believes that the sources from which such information has been obtained are reliable; however, it cannot guarantee the accuracy of such information and has not independently verified the accuracy or completeness of such information or the assumptions on which such information is based. Opinions expressed in these materials are current only as of the date appearing herein and are subject to change without notice. The information herein is presented for illustration and discussion purposes only and is not intended to be, nor should it be construed as, investment advice or an offer to sell, or a solicitation of an offer to buy securities of any type of description. Nothing in these materials is intended to be tax or legal advice, and clients are urged to consult with their own legal advisors in this regard. Consistent with Circular 230 issued by the U.S. Treasury Department, Diversified Trust Company affirms that any comment or opinion in this communication relating to a federal tax issue is not intended to be used, and cannot be used, by a taxpayer for the purpose of avoiding tax-related penalties that may be imposed.

Sizable increases in interest rates are unlikely to occur overnight; rather, rate changes occur over time, which permits the portfolio manager to re-balance and reinvest maturing bonds as appropriate.

On the contrary, if interest rates decline, holders of longer duration bonds will benefit on the same relative basis, more than a portfolio with a shorter duration. Our view is that the core bond allocation should represent the safe haven component of a portfolio and should not be vulnerable to significant swings in market value.

diversifying your fixed income exposure.

We have discussed the benefits of adding allocations to non-traditional fixed income sectors previously (see *Managing Fixed Income Portfolios in an Uncertain Interest Rate Environment* from Q1 2011 and *How Safe is the 'Safe' Component in your Portfolio* from Q1 2013), so we will not go into this subject at great length here. Suffice it to say that in a low rate environment, we believe that it is highly beneficial to complement your interest rate sensitive core portfolio with bonds that are instead more sensitive to either credit risk (high yield and senior loans), currency risk (global bonds),

or find bonds that can actually benefit from rising rates (senior loans, which have floating rate coupons). These sectors have traditionally been viewed as more risky than a core portfolio, which has made it less popular with many investors. However, these assets, when managed prudently, can provide attractive diversification benefits as a complement to a core portfolio.

Following the financial crisis in 2008, we began advocating the use of more credit sensitive investments in client portfolios. Since then, not only have returns been strongly positive, they have shown a low level of correlation with a core fixed income portfolio. This has especially been the case since interest rates began rising in May 2013, where a diverse fixed income allocation has dramatically outperformed.

continued on next page >

The chart below illustrates the impact of rising rates on bond returns for the period between May and August 2013. During this period, high yield, global bonds and senior loans outperformed the traditional bond benchmarks. A portfolio that utilized these types of bonds would have benefitted significantly.

Bond Benchmarks	Returns May - Aug 2013
Barclays Aggregate	-3.7%
10-Year Treasury	-8.1%
High Yield	-1.9%
Global Bonds	-3.2%
Senior Loans	0.6%

conclusion.

Above all else, it is important not to give up on a bond allocation. Bonds are always a crucial building block in any diversified portfolio. During times of crisis, high quality bonds are the anchor during the storm, providing stability when other assets are likely losing value. Even with lower future expected returns, prudence dictates that every portfolio should have some allocation to bonds for the protection they can provide. Although we find ourselves in a time where prospective returns for bonds are uninspiring, long-term investors need to also keep in mind that even though rates may continue to rise, as bonds mature the proceeds can then be reinvested at the higher rate.

In today's environment, we believe that a bond portfolio should be structured to limit the impact of volatile interest rates. We strive to limit this volatility by structuring core bond portfolios with a mix of maturity dates in order to provide consistent reinvestment opportunities at reasonable market rates. This core portfolio can then be complemented with a range of diversifiers that help produce an "all season" portfolio capable of generating a reasonable return no matter what the future might hold. ■