

Bond Investing as a Negative Art

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Within the investment universe, bond fund managers are often cited as perennially gloomy. When confronted with good news, fixed income investors often recall Eeyore, the continuously gloomy donkey from A.A. Milne's *Winnie-the-Pooh*. The biggest reason for this state of continual worry is that fixed income investment, more than many other kinds of risk activities, must deal constantly with the concept of "negative skew."

If that sounds like the name of a bad high school band, let me help with an explanation. Most finance academics and many widely held concepts in finance assume a world of normally distributed returns. In other words, in a so-called "efficient" market, total returns are as likely to be positive or negative, at least relative to a risk-free rate plus some sort of risk premium. The shorthand way of thinking of this is that prices are more or less as likely to go up as to go down.

But these theories and concepts are mostly applied to assets with an unlimited upside (stocks, real estate, commodities) as opposed to a fixed income universe which has a very clearly defined upper limit (yields don't often go below zero, so prices can't go up forever). The amount of ongoing return (yield or coupon) compensates the investor for the limited price upside, certainly, but broadly the best you are going to do with fixed income is get back

what you paid for it plus some yield along the way. "Negative skew" more or less defines a modification of the shape of possible returns, which in fixed income shows up as a bell curve with less space underneath the right tail and more space underneath the left. As an example, imagine a company has poor results and gets into trouble. Bond investors can take losses from default or credit deterioration in the same way the equity investors suffer from an unpleasant earnings environment. On the flip side, however, bond investors only get their promised yield when the company does well, whereas stockholders participate in the upside of a better earnings environment. Bonds are merely contracts between two parties. You may think of them as loans or you may think of them as securities, but at the end of the day the question is if the borrower lived up to their side of the contract. If not, no amount of "yield" will have made the risk worth taking.

So investing in fixed income nearly always means getting mostly what you expect,

combined with a few things you did not. Unfortunately, as demonstrated above, the unexpected is often negative. When purchasing a bond, any investor is confronted with the single most defining statistic for those seeking income: the yield. But that yield is subject to any number of different forces including holding period, default, and changes in timing of principal payment. In other words, yield, while convenient, is often not a great gauge of the potential for total return. What is more, the yield is also not often a great gauge even of the income that will come from one security or a collection of securities.

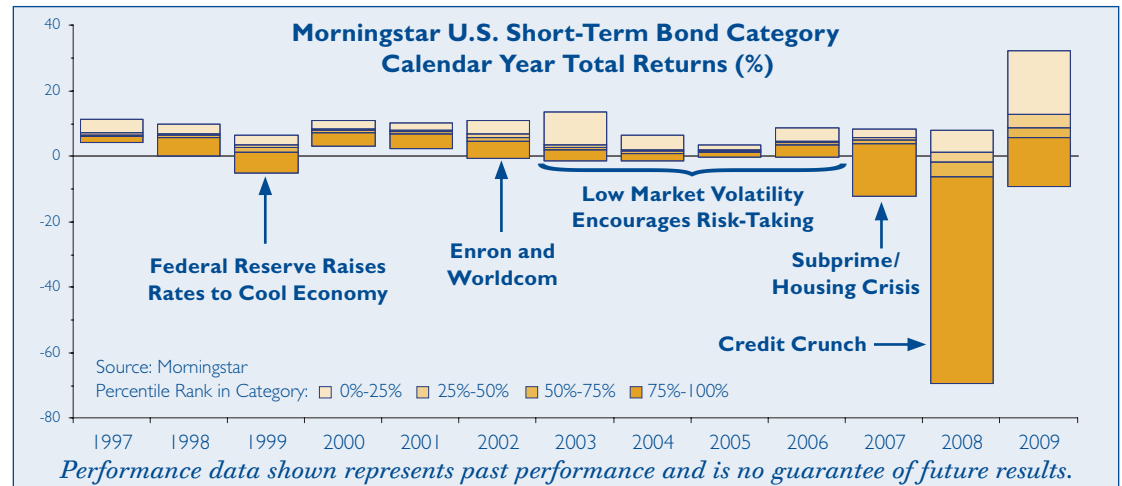
Consider 2008 (which I know you probably have at great length, as have I). What became clear in 2008 more than any year in any living investor's memory is that a bond may not return what is promised. Many bonds that were given the highest regard and rating by professionals at both asset managers and rating agencies effectively went from \$100 to \$0. While this happens in almost any year, 2008 showed that entire

asset classes can experience enormous stress. Though 2009 has been a year of significant recovery, the lessons from 2008 should be fresh in every investor's mind.

The chart above is one clear demonstration of negative skew.

In this chart of the returns of Morningstar's short-term bond category we have graphed the range of returns from best to worst in a given year. As you can see, in most years, bond investors receive more or less the same return given a somewhat similar set of investments. However, there are periods of significant stress (like 2007-2008) where the difference between the best and worst performers was significant. Not only that, but in those stress periods the worst performers lost quite a bit, while in the less-stressed period the best performers couldn't do enough to gain those sorts of losses back.

All of this is to say that taking significant risks in high-quality bond portfolios can lead to big losses. Even supposing that good periods could make up for bad periods within the

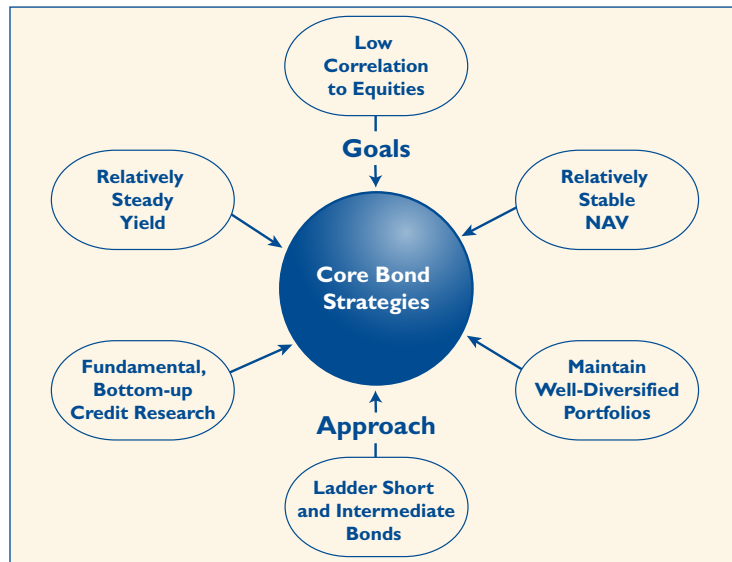


fixed income universe, most investors look toward their core fixed income allocation for steady income and pricing. Sure, 2008 was extraordinary, but even in that time with the extreme volatility of the market we saw, having a fund that lost as much as an equity fund is not part of a core bond allocation. At Thornburg Investment Management, we also run portfolios with a goal of high current income and with that comes higher risk in those particular funds than in our core bond funds, but we would not suggest that those higher risk funds offer the same sort of principal protection and steadiness in down markets that we strive for in our core bond funds.

To put the risk another way, looking at “average” returns is not necessarily a good gauge of an investor’s experience. Looking at the range of experience – the highs and lows – that investors have with a fund and when that happens is very important. When an investor allocates money into a core fixed income strategy, she probably wants to have an anchor for income within her portfolio.

A final consideration around risk is how a particular fund or investment reacts with the rest of your portfolio. When looking for that aforementioned “anchor” in your portfolio in the form of a core fixed income allocation, it is important to note the correlation between that portfolio and another key piece of many investors’ asset allocation: equities. The table below shows the correlation between some of Thornburg Investment Management’s larger bond funds and major equity indices.

What this table shows is that the net asset value (NAV) reaction of Thornburg’s bond funds to various markets over the past 10 years (a period with significant volatility and two major equity market dustups) is essentially unrelated to the movement in equity prices over that same time period. In other words, we believe our bond funds are less likely than some (including many high yield funds on both the municipal and corporate side) to move lower at the same time that equity markets move lower. This sort of low and negative correlation is a huge benefit in



down markets, and an important part of our designation of these funds as “core.”

In all, just examining returns over a certain time period, particularly a shorter period, is not enough to determine the quality of a given fixed income portfolio. Because of negative skew (likelihood of negative outcomes and their disproportionate effect) as well as unwanted volatility, a portfolio that produces good total returns over a short period may not be the best place for investor dollars. Longer term returns, combined with an examination of nega-

tive experiences within the portfolio, probably better qualify as appropriate indicators of quality. Looking to each investment’s reaction to various markets and how they can form a balanced whole is also a key to successful investment.

Many investors are increasingly looking to add income producing assets to their portfolio, in part because of bad experiences in equities, but also because their investment needs are changing. If you are in that camp, consider what you are looking for from your fixed income allocation. Some of that allocation can indeed be focused on higher income with an attendant appetite for higher risk. However, for your core holdings, it may be better to look for a true anchor for your portfolio. ■

Correlation measures the degree to which two variables move together. A correlation coefficient of 1 (the highest) indicates the returns of the mutual funds and/or indices move in the same direction to equal degrees. A correlation of 0 indicates that there is no relationship between returns. And a correlation of -1 (the lowest) would indicate the performance moved in opposite directions by equal amounts.

10-Year Correlations as of 12/31/09	Thornburg Limited Term Municipal, A	Thornburg Intermediate Municipal, A	Thornburg Limited Term Income, A	Thornburg Limited Term U.S. Govt., A	S&P 500 Index	MSCI EAFE Index	NASDAQ Composite Index PR
S&P 500 Index	-0.01	0.05	0.07	-0.24			
MSCI EAFE Index	0.03	0.10	0.20	-0.15	0.88		
NASDAQ Composite Index PR	-0.04	0.02	-0.02	-0.27	0.82	0.72	
Morningstar High Yield Category	0.29	0.37	0.40	-0.08	0.66	0.70	0.60

Sources: Standard & Poor’s, MSCI Barra, NASDAQ, Morningstar, and Thornburg Investment Management.

Investments in the Funds carry risks, including possible loss of principal. Bond funds have the same interest rate, inflation, and credit risks that are associated with the underlying bonds. The principal value of a bond will fluctuate relative to changes in interest rates, decreasing when interest rates rise. Unlike bonds, bond funds have ongoing fees and expenses. Funds invested in mortgage backed securities may bear additional risk. Investments in the Funds are not FDIC insured, nor are they deposits of or guaranteed by a bank or any other entity. There is no guarantee that the funds will meet their stated objectives.

The **MSCI EAFE Index** is a generally accepted benchmark for major overseas markets. Index weightings represent the relative capitalizations of the major overseas developed markets on a U.S. dollar adjusted basis. It’s calculated with net dividends reinvested in U.S. dollars. The **NASDAQ Composite Index** is a market value weighted, technology-oriented index comprised of approximately 5,000 domestic and non-US-based securities. The **S&P 500 Index** is a broad measure of the U.S. stock market. Investors may not make direct investments into any index.

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