

MONTHLY

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LADDERED BOND PORTFOLIO RETURNS

Introduction

In a recent survey, InvestmentNews found that 40% of advisors favored purchasing individual bonds in their client's portfolios. A series of individual bonds held directly by an investor is often referred to as a laddered bond portfolio because maturities are dispersed to provide cash flows that could be thought of as rungs on a ladder. Investors who choose a laddered bond portfolio over a diversified bond fund often do so because they feel that holding individual bonds to maturity eliminates the risk of principal loss.

Although holding individual bonds does give an investor control over realized gains and losses, it does not eliminate fluctuations in the value of their principal. The control also comes at a price. Relative illiquidity, high transaction costs, and a lack of diversification can materially reduce the returns that investors achieve from their laddered bond portfolios. In this *Monthly*, we will discuss how principal stability affects overall bond returns, and over time, which factors

have the greatest influence on investor wealth. We will also shed light on some of the hidden costs and potential risks associated with laddered bond portfolios.

The Value of Principal Stability

Bonds generally pay a fixed rate of interest on a stable par amount which is given up by an investor when a bond is purchased and subsequently returned when the bond matures. Due to the stability of a bond's par value, many investors believe that their investment is not subjected to principal risk. In reality, even if an investor intends to hold a bond to maturity, the principal value of their investment is affected by changes in interest rates, just like the value of pooled bond investments such as mutual funds or exchange traded funds (ETFs), which are marked to

market on a daily basis.

The familiar bond pricing formula shown in Figure 1 defines the inverse relationship that exists between market yields and existing bond prices. Using this formula, market participants efficiently price existing bonds relative to current interest rates. The result is that the return associated with holding a bond to maturity is the same as the return of selling the bond and investing the proceeds to the original maturity at the current market rate. Figure 2 illustrates this point by comparing the returns of two investors who purchase the same 2% coupon bond at par, but behave differently as market rates change.

In our example, market interest rates start at 2% and increase to 4% at the end of the first year, resulting in a

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Figure 1 - Bond Pricing Formula	
Bond Price	$= \frac{\text{Coupon}}{(1 + \text{Yield})} + \frac{\text{Coupon}}{(1 + \text{Yield})^2} + \dots + \frac{\text{Coupon} + \text{Par}}{(1 + \text{Yield})^{\text{Maturity}}}$

CURRENT TOPIC

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STRATEGY

- We made no strategy changes during the month of August.
- Portfolio strategies remain overweight developed equity markets and underweight bond exposure.

"EVEN IF AN INVESTOR INTENDS TO HOLD A BOND TO MATURITY, THE PRINCIPAL VALUE OF THEIR INVESTMENT IS AFFECTED BY CHANGES IN INTEREST RATES"

LADDERED BOND PORTFOLIO RETURNS - CONT'D

principal loss for both investors. At the end of the first year, Investor A ignores the changes in market rates and continues to hold the bond until it matures at the end of year 2. This buy and hold investor receives the full original par value back at maturity and actually realizes slightly better than a 2% annualized return, as the coupon payment from the first year benefits from a 4% reinvestment rate.

As opposed to holding the bond and maintaining a stable par value, Investor B realizes a capital loss by selling at the end of the first year and reinvests the proceeds at the higher 4% coupon rate. Although the contributions from income and principal differ, at the end of the two year period both investors achieve the same investment results. This simple example illustrates why the decision to hold a bond to maturity is largely irrelevant since capital losses caused by higher rates are offset by the ability to take advantage of those higher rates.

Long-Term Drivers of Bond Returns

As mentioned earlier, investors generally choose laddered bond portfolios because they are focused on preserving principal by maintaining a stable par amount. In addition to par stability not enhancing returns, we believe this narrow view hurts

laddered bond investors since the vast majority of the wealth that accrues to bond holders over the long-term comes from the income that bonds produce and not from principal gains or losses.

Figure 3 illustrates this point by showing how income and principal changes affect the cumulative returns generated by the Barclay's Capital Aggregate bond index on a \$100,000 investment. Even during the past 10 years when bond prices have benefitted from falling yields, over 80% of the cumulative positive returns have come from income, not capital gains.

We believe that myopically focusing on maintaining a perceived stable principal value can narrow the set of opportunities that laddered bond investors utilize to produce greater returns. Unfortunately, measuring the

returns of a laddered bond portfolio can be difficult because laddered bond portfolio holdings are seldom segregated from other long-term assets and cash.

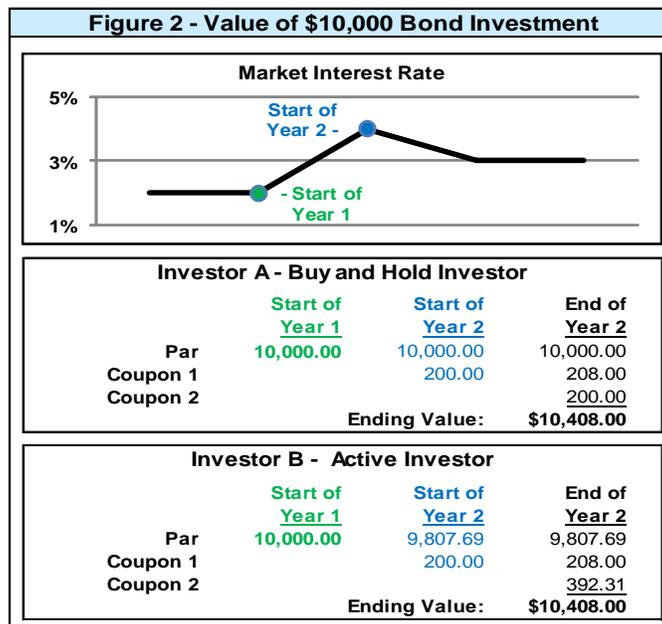
Measuring the relative value of specific bonds can also be difficult. This is because the prices at which bonds are purchased for individuals can not easily be compared to the prices available to institutional investors like the managers of bond funds. Unlike equities, bonds do not trade on an exchange where transactions are reported in a timely manner through market data services. The diversity of bonds available from a single issuer is partially responsible for the lack of transparency. For example, the price of Citigroup common stock can be easily obtained from a multitude of free market news services.

However, determining the current price of a bond issued by Citigroup is much more difficult, since there are roughly 400 outstanding issues with varying maturity dates, underlying legal obligors, and call structures. The municipal bond market also suffers from a similar lack of transparency.

Unseen Costs

Often, there is no explicit fee for maintaining a laddered bond portfolio, which leads some investors to the conclusion that they are more efficient than a diversified bond fund, which discloses an explicit management fee. In reality there can be significant costs imbedded in a laddered bond portfolio which do not show up on a monthly statement. The two most significant

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“ALTHOUGH THE CONTRIBUTIONS FROM INCOME AND PRINCIPAL AT THE END OF THE TWO YEAR PERIOD DIFFER, BOTH INVESTORS ACHIEVE THE SAME INVESTMENT RESULTS”

About Stairway Partners, LLC

Stairway Partners was formed to provide our clients (starting with ourselves) with an effective and comprehensive solution for managing their wealth. Our disciplined and rigorous approach comes from our collective knowledge in serving large institutional clients over many years.

Our core investment belief is that asset allocation is the single most important determinant of success in any investment plan. The dominant amount of risk and return comes not from your choice of individual investments but from your asset class mix. Stairway Partners focuses our resources on risk management and asset allocation. This includes building your custom blueprint (investment policy and benchmark) and aligning your portfolio with our investment strategy utilizing the global capital markets.

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cant costs are relatively poor liquidity and diversification.

The prices for bond mutual funds and ETFs are easily obtained by investors. However, individual bond prices are harder to obtain. In an effort to aid investors, the Securities Industry and Financial Markets Association (SIFMA) provides free access to a database of actual transaction data for municipal, corporate, and government bonds. The information can be found at www.investinginbonds.com. Unfortunately, prices are still not available for all bonds on a daily basis, and many investors do not take advantage of this resource. Based on data

from the SIFMA website, we estimate that the average transaction cost for high quality municipal and corporate bonds for individual investors is roughly 2%. This is a significant cost, especially in a low interest rate environment.

In our last *Monthly* we discussed the benefits of diversification within individual asset classes. Many laddered bond portfolios lack a sufficient number of holdings to protect investors from material harm, should an issue default. As a result, laddered bond investors often seek protection by restricting their investments to only the highest rated securities. This quality bias can significantly reduce long-term returns

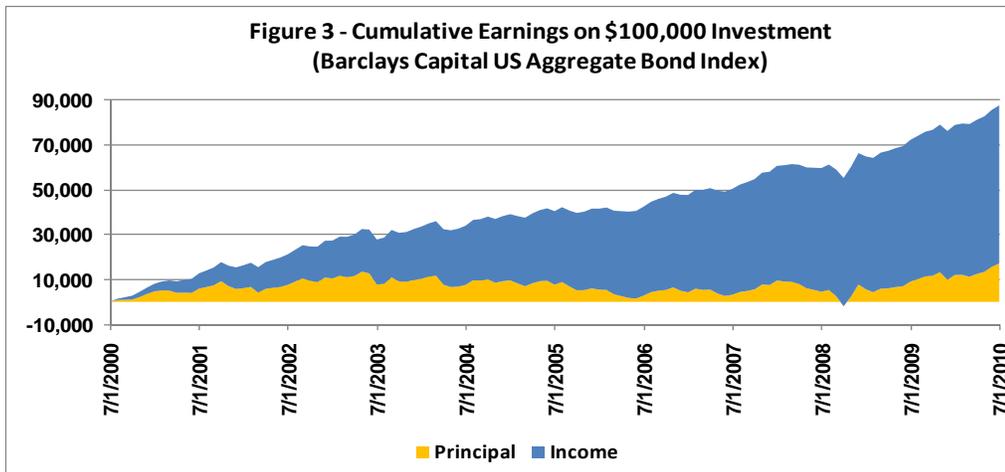
relative to a bond fund, which can invest in a broader spectrum of securities with proper diversification. We would also note that choosing high quality issuers does not guarantee future safety. Over the years we have seen seemingly safe bond investments turn into problems before they reached maturity.

Conclusion

Many investors buy individual bonds with the intent of holding them to maturity in laddered bond portfolios. This decision is largely driven by the desire to avoid market risk and maintain a stable principal value. In reality, holding a bond to maturity

does not remove market risk from an investor's portfolio. Additionally, the decision to hold a bond that has gone down in price due to a drop in market interest rates does not change an investor's overall return, due to the efficient pricing of bonds in the market. The costs imbedded in laddered bond portfolios can also detract significantly from investor returns over time. Insufficient diversification, high transaction costs, and a lack of market transparency can obscure past results and reduce the potential return that investors can receive from their bond exposure.

Figure 3 - Cumulative Earnings on \$100,000 Investment (Barclays Capital US Aggregate Bond Index)



“OVER 80% OF THE CUMULATIVE POSITIVE RETURNS FOR BONDS HAVE COME FROM INCOME, NOT CAPITAL GAINS”

Source: Barclays Capital, Stairway Partners

Strategy

Asset Class	Expected Return	Hurdle Return	Strategy Exposure	Comment
Equities				
US	15.3%	5.2%	over	Exposure above benchmark weight due to attractive pricing
Non-US Developed			over	Exposure above benchmark weight due to attractive pricing
Eurozone	26.2%	5.6%		
Japan	3.8%	3.8%		
UK	30.4%	5.9%		
Emerging	5.4%	10.5%	neutral	Asset class close to fair value
Fixed Income				
US Treasury Bonds			under	Treasuries expensive, other sectors offer better value
2-Year	0.4%	1.9%		
5-Year	0.5%	2.6%		
10-Year	1.3%	3.4%		
30-Year	3.3%	4.0%		
US Municipal Bonds			under	In longer maturities, municipal bonds are close to fair value
2-Year	0.5%	1.5%		
5-Year	0.9%	2.1%		
10-Year	2.6%	2.8%		
30-Year	9.0%	3.7%		
US High Yield	3.9%	3.7%	over	Attractive relative to other fixed income sectors
Non-US Government Bonds			under	Yields remain below fair levels
Euro 10-Year	0.4%	3.6%		
Japan 10-Year	0.4%	1.2%		
UK 10-Year	1.1%	4.1%		
Emerging Markets Debt	2.4%	3.9%	under	Other asset classes offer better value
Cash	2.6%	---	minimal	
			10-Year	
	Expected	Equity	Bond	
	FX Change	Return with	Return	
		Currency	with	
			Currency	
Currencies				
Euro	-3.2%	23.0%	-2.8%	Euro is near fair value
Japanese yen	-1.2%	2.6%	-0.8%	Yen is near fair value
UK pound	-1.8%	28.5%	-0.7%	Pound is near fair value

Notes:

As of: July 31, 2010

The expected return is our estimate of the annualized return likely to be generated over a 3-year horizon.

The expected returns are expressed in local currencies (e.g., Japanese equity return is stated in yen terms).

The hurdle rate represents the annualized return that an asset needs to generate in order to cover its risk.

Equity Return with Currency (in Currencies section) is the annual return we would expect a US dollar investor to earn from holding foreign equity markets.

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