



Analyzing Fixed Income Risk

In today's low interest rate environment, investors are grabbing for yield anywhere they can find it. A recent Wall Street Journal article highlights that many investment grade fixed income funds are invested in securities such as high-yield corporate bonds, emerging market debt and non-agency mortgage-backed securities. These securities can be very volatile and can lead to steep losses if the market turns.

Fixed income funds are typically not meant to be a risky part of an overall portfolio. The year 2008 is a painful reminder for investors who held fixed income funds that suffered losses of more than 10%. Therefore, investors should balance outperformance expectations while limiting the downside risk of their investment. Given the four main tools that fixed income managers have to outperform their respective benchmarks - duration, yield curve positioning, sector weightings and security selection - an investor should consider how managers are utilizing these tools to outperform and the risk being taken in the process.

Duration is perhaps the hardest tool to utilize effectively. Currently, for example, interest rates are near historical lows and many investors believe that rates can only go higher. Thus, many portfolios are significantly shorter in duration versus their benchmark. The downside to this strategy is that it is very difficult to know when interest rates will go higher and how fast they will rise. In the meantime, yield is given up because of the positively sloped Treasury yield curve. In fact, rates could go lower. Examples of countries with lower Treasury rates than the United States are Japan with a 10-year yielding 0.77%, Switzerland's 10-year yielding 0.52%, and Germany's 10-year yielding 1.44%.

How can a manager be defensive if yields rise without significantly underperforming if rates continue to go down? The answer lies in where along the yield curve the portfolio is short duration. Treasuries, with maturities of 1-5 years, have very low absolute yields, as shown in Exhibit 1. Yields on these securities could go down further but are constrained by the assumption that investors would not buy these securities below 0.00%. This floor of 0.00% limits the downside of being underweight those maturities. For example, the 3-year Treasury currently yielding 0.31% could only decrease another 31 basis points to reach 0.00%. Meanwhile, the 10-year Treasury currently yielding 1.63% has the potential to have its yield drop 163 basis points to reach 0.00%. Thus, the "give-up" in total return if rates did in fact drop is much greater when underweighting the 10-year Treasury versus the 3-year Treasury.

Treasury Yields by Maturity As of 9/30/12	
1 Year	0.15%
2 Year	0.23%
3 Year	0.31%
5 Year	0.63%
10 Year	1.63%
30 Year	2.82%

Source: Bloomberg

Exhibit 1

The next tool in the toolbox is yield curve positioning. The basic question that must be answered is whether the yield curve will flatten, steepen or stay the same. Looking at the current shape of the yield curve and how it compares to historical yield curves can help in the decision making process. Exhibit 2 shows the current spread differential between the 90-day, 5-year, 10-year and 30-year Treasury and the average over the past 20 years. As shown in the exhibit, the current yield curve is steeper than the average except for the short end of the yield curve (difference between the 90-day Treasury bill and the 5-year Treasury note). Given this current shape of the curve and low interest rates, the barbell of overweighting the 90-day and 10-year or longer Treasury actually provides a higher yield than the 5-year bullet. This assumes the barbell and bullet comparison is done on a duration neutral basis. All else being equal, the higher yield should equate to a higher total return over time. The barbell

	Difference in Treasury Spreads by Maturity As of 9/30/12	
	Current	20 Year Average
3-Month vs. 5 Year	0.53%	1.23%
5 Year vs. 10 Year	1.01%	0.54%
10 Year vs. 30 Year	1.19%	0.53%

Source: Bloomberg

Exhibit 2

would also outperform if the yield curve flattens, either by lower long-term rates or higher short-term rates. The only scenario the bullet would outperform would be if the yield curve steepens.

The third tool to be considered is sector allocation. Looking at the fundamentals of each sector (Treasuries, agencies, corporates, mortgage-backed and asset-backed securities) to determine their strengths and weaknesses is crucial. Currently, the investment grade corporate bond market looks attractive on a fundamental basis. The balance

sheets and income statements of industrials, utilities and financials have improved over the past several years and the outlook remains favorable. The question is whether the additional spread you obtain from buying corporates over Treasuries is sufficient compensation for the additional risk. This is where breakeven analysis is important. Breakeven analysis answers the question of how much can corporate spreads widen versus Treasuries over a 1-year period such that the securities have the same return. This is used to analyze how much a corporate bond can widen and still outperform an equal maturity Treasury. Exhibit 3 shows a matrix of approximate breakevens for given maturities and spreads. For example, a 2-year corporate with an initial yield spread of 50 basis points, will have a breakeven spread of 51 basis points, which means the corporate can be priced at 101 basis points over a comparable Treasury security one year later and still equal the return of the Treasury. If the spread widening is less than the breakeven, the corporate bond outperforms. Corporate spreads have been tightening versus Treasuries over the past few years, but breakeven spreads remain attractive in short and intermediate maturity corporates.

Extra scrutiny must be given to sectors that are not in the benchmark index to determine the risk and reward potential. This is especially true for high yield and emerging market securities and non-agency mortgage-backed securities that can perform well when markets are bullish but have downside risk comparable to equities when markets become risk adverse.

The final tool for potential outperformance is security selection. This involves doing extensive credit research to identify opportunities and potential pitfalls. Rolling up the sleeves and analyzing financial statements, listening to company conference calls, doing stress tests on CMBS securities and identifying favorable prepayment characteristic on MBS pools are a part of what it takes to add incremental returns. Even with all this careful analysis, there are always potential risks of negative earnings, takeovers, prepayment surprises and poor liquidity to name just a few. This is why it is necessary to diversify your securities to limit downside risk.

Opportunities to outperform are still available in today's low interest rate environment. Understanding how your fixed income manager uses the four "tools of the trade" is crucial in understanding whether the potential returns outweigh the potential risks.

One-Year Breakeven Spread Change as a Function of Maturity and Credit Spread					
Starting Spread (bp) over Treasury	Years to Maturity of Corporates				
	2	3	5	10	30
50	51	26	13	6	3
100	102	52	26	12	5
150	153	78	38	19	8
200	204	106	51	25	10
Starting Duration of Treasury	1.98	2.93	4.90	9.06	20.11

Exhibit 3

Fixed Income Data Bank

Index Returns	Index Returns		
	Qtr.	1 Yr.	3 Yr.
Barclays Aggregate	1.58%	5.16%	6.19%
Barclays Int. Aggregate	1.36%	4.31%	5.34%
Barclays Govt/Credit	1.73%	5.66%	6.50%
Barclays Int. Govt/Credit	1.40%	4.40%	5.18%
Barclays 1-3 Year G/C	0.52%	1.36%	1.96%
Barclays 1-10 Year TIPS	0.89%	2.47%	3.22%

Source: Barclays Capital

As of September 30, 2012

Treasury Market Yields	Treasury Market Yields	
	9/30/12	6/30/12
3 Month	0.09%	0.08%
2 Year	0.23%	0.30%
5 Year	0.63%	0.72%
10 Year	1.63%	1.65%
30 Year	2.82%	2.75%