

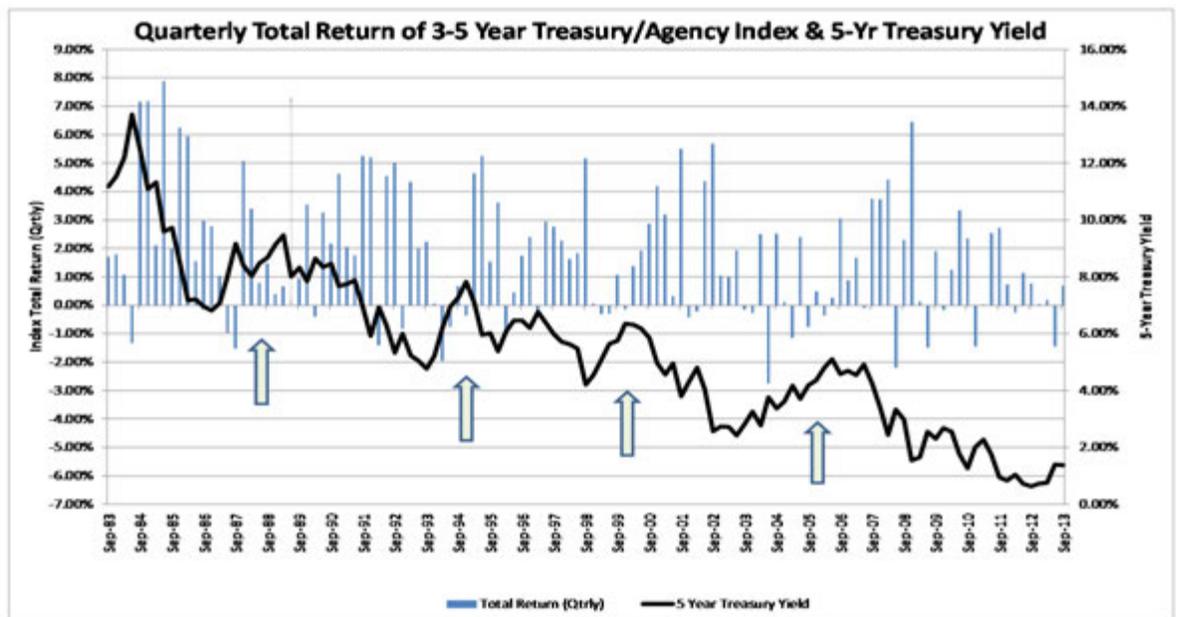
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## Duration Strategy: Back Testing the Options –

### Stay Short for Defense, or Play the Long Game?

The market, post Fed, in Treasuries has provided some relief from the relentless sell-off that characterized the Summer season. However, short maturity Agency focused money managers are likely seeing negative TTM total returns for the first time in many years. The chart below provides, over a 30-year look back period, the quarterly total returns of an index of 3-5-year maturity Agency & Treasury bonds. The yield on the 5-year Treasury is included to help to provide context for the market environment. Unsurprisingly, even when considering the 30-year bull market in bonds, there were a number of quarterly periods of negative total returns (pictured as the negative blue bars). Against this backdrop, many are now considering the relative merits of using this recent rally as an opportunity to reduce portfolio duration to mitigate potential unrealized mark-to-market losses on bond holdings. The analysis that follows, attempts to show exactly how both of these strategies would have theoretically performed in the past, highlighting four periods of large moves higher in interest rates.



Source: Data provided by Bank of American Merrill Lynch, Bloomberg Finance L.P, The Yield Book, Stifel

For the purposes of the analysis we assumed that a typical portfolio manager in this market segment might invest in a portfolio of 3-5 year Treasuries/Agencies for the “long” duration strategy and a portfolio of 2-year Treasuries/Agencies for the “short” duration strategy. Over the last 30-years we have highlighted four periods of sharply rising interest rates. (200-300 basis points on the 5-year Treasury) What stands out when looking at the data is that even over the course of a prolonged increase in rates, the interest component of total return can overwhelm principal losses – given very reasonable holding periods. In other words, the decline in portfolio value associated with rising interest rates tends to be short-lived as the portfolio is rebalanced and generates yield income.

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Comparative Total Return Analysis - [3-5 Year Tsy/Agy Index vs 2-Year Tsy/Agy Index] in 4 Recent Rising Rate Scenarios										
	QTR End Date	Total			Annualized	Total			Annualized	
		2 Yr Yield	Change	Years	Holding Period	5yr Yield	Change	Years	Holding Period	
					Total Return of 2			Total Return of 3 5	Year TSY/AGY	
					Index			Index		
Trough	9/30/1986	6.33%								
Peak	3/31/1989	9.67%	3.34%	2.50	2.54%	6.95%				
						9.47%	2.52%	2.50	5.27%	
Trough	9/30/1993	3.88%								
Peak	12/31/1994	7.70%	3.82%	1.25	0.65%	4.77%				
Crossover 3-5 Year	3/31/1995	6.78%	2.90%	1.50	<b>2.30%</b>	7.83%	3.06%	1.25	-1.89%	
						7.07%	2.30%	1.50	<b>3.07%</b>	
Trough	9/30/1998	4.27%								
Peak	3/31/2000	6.48%	2.21%	1.50	2.14%	4.22%				
Crossover 3-5 Year	6/30/2000	6.36%	2.09%	1.75	<b>0.93%</b>	6.31%	2.10%	1.50	1.17%	
						6.19%	1.97%	1.75	<b>1.09%</b>	
Trough	6/30/2003	1.30%								
Peak	6/30/2006	5.15%	3.85%	3.00	1.20%	2.41%				
Crossover 3-5 Year	9/30/2006	4.69%	3.38%	3.25	<b>0.60%</b>	5.09%	2.68%	3.00	0.90%	
						4.58%	2.17%	3.25	<b>0.93%</b>	

Source: Data provided by Bank of American Merrill Lynch, Bloomberg Finance L.P, The Yield Book, Stifel

The data table above summarizes how these strategies would have performed. For example, in the 2.5-year period that began in the third quarter of 1986, the 5-year Treasury sold-off 252 basis points from a yield of 6.95% to a yield of 9.47% while the 2-year Treasury sold off from a 6.33% to 9.67% for a move of 334 basis points. In this case, it is clear that the longer duration strategy was more profitable as a holding period of 2.5 years would have generated a 5.27% total return for the long duration strategy, while the short duration strategy generated a 2.54% total return.

In the second rising rate scenario, the results for the long duration strategy were less favorable due to the much shorter time frame in which the rise in rates occurred. During the 1.25-year period, the shorter duration strategy would have out-performed by 254 basis points. However, as time passes and the portfolio generates income, that dynamic quickly reversed – as the longer duration portfolio only needed another 3 months to overwhelm the losses from the quick rise in rates. A 1.5 year holding period was all that was required for the longer duration strategy to bear fruit. The results for the 3<sup>rd</sup> and 4<sup>th</sup> scenarios are similar in the sense that while rates are increasing, the longer duration assets underperform – as one might expect. However, given the benefit of a small amount of time the holding period returns of longer duration assets outperform.

**Buy and hold investors who can be patient with longer duration assets and manage to hold bonds for 1.25-3.25 year time frames may find they are compensated for accepting the short-term unrealized price volatility in the portfolio.** For fund managers who can not be confident about holding assets over these holding periods they may be better served staying short for the flexibility inherent in shorter bonds.

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