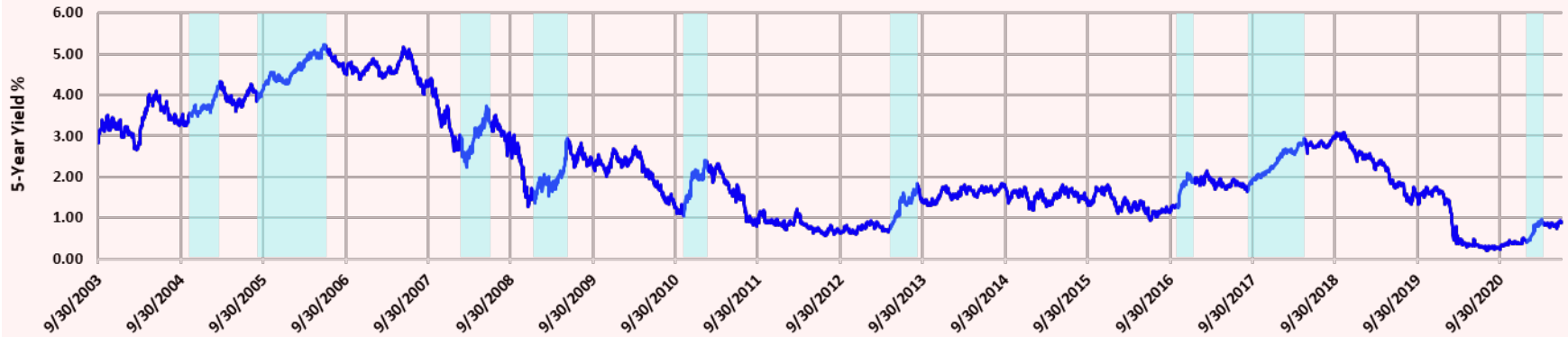


MARKET MICROSCOPE – Fixed Income Duration and Rising Interest Rates

Duration is a measure of a bond portfolio’s sensitivity to changes in interest rates. It is commonly presented in “years,” with the number of years representing the expected change in the value of the portfolio for a 1% move in interest rates. The value of a bond moves in the opposite direction of the change in rates. For example, a bond portfolio with a duration of 5 years would be expected to lose about -5% if the yield curve experienced a uniform 1% increase across all maturities, and it would be expected to gain 5% if rates fell by 1% across the yield curve.

A bond portfolio’s “coupon rate” has an impact on its duration, as a higher coupon rate lowers the overall duration. In a sense, the coupon serves as a cushion to offset some of the decrease in the value of a bond when rates are rising.

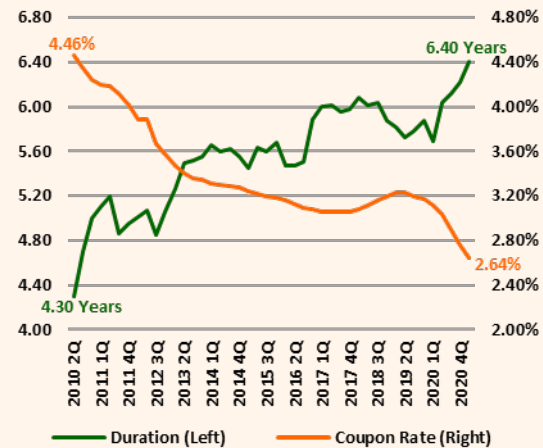
5-Year US Treasury Yield: Sept. 2003 – June 2021



Date Range	5-Year Yield Start of Period	5-Year Treasury Yield Change	iShares Core US Agg ETF Return
3/16/2004 - 6/9/2004	2.65%	1.36%	-4.00%
10/25/2004 - 3/28/2005	3.25%	1.08%	-1.23%
9/1/2005 - 6/28/2006	3.85%	1.38%	-2.17%
3/17/2008 - 6/13/2008	2.23%	1.50%	-2.60%
1/14/2009 - 6/8/2009	1.36%	1.59%	-1.56%
11/4/2010 - 2/16/2011	1.04%	1.33%	-2.97%
5/1/2013 - 9/10/2013	0.65%	1.13%	-4.76%
11/4/2016 - 12/27/2016	1.24%	0.83%	-3.10%
9/7/2017 - 2/21/2018	1.63%	1.06%	-2.96%
12/31/2020 - 4/2/2021	0.36%	0.61%	-3.24%

This table shows the return of an ETF that tracks the Barclays Aggregate Index during periods that have seen a meaningful increase in the 5-year Treasury yield. Note that in recent years, a smaller increase in rates has coincided with a larger decline for the bond index.

Barclays Aggregate Index Duration and Coupon Rate



For the past decade, the duration of the Barclays Aggregate Index has risen as the coupon rate has declined. This is the primary reason why it has taken a smaller change in interest rates to make bond portfolio returns go negative.