

*Rocaton*

INSIGHTS

*Implications of a Flat Yield Curve*

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## EXECUTIVE SUMMARY

- The U.S. Treasury yield curve is relatively flat and the potential for the curve to invert in the near future is a distinct possibility. Investors are receiving only modest compensation, defined as yield, for extending duration.
- There are a number of implications of a flat yield curve. However, investors must consider income potential, diversification benefits, investment objectives, total return potential and tax consequences when deciding where they should be positioned on the yield curve.
- We believe different approaches can be taken depending on the investor type. For example, “total return investors” will likely have different objectives relative to “liability hedging investors.”
- While short duration fixed income currently offers a relatively attractive yield per unit of duration, we believe total return investors should not ignore the potential diversification benefits of remaining invested in market duration fixed income.
- We believe liability driven investors should focus on managing interest rate exposures inherent in both their assets and liabilities at different points across the yield curve.
- Considering taxable investors propensity to focus on short to intermediate maturity issues and the tax consequences of making allocation shifts, we would not recommend any changes in curve positioning for taxable investors.

## Introduction

The shape of the yield curve is rarely a topic of conversation outside of the investing community. In most environments yield curves are upward sloping given investors typically demand additional compensation for taking on some combination of incremental illiquidity, credit risk or price volatility. While the U.S. Treasury yield curve has generally been upward sloping over most of its history, flat or inverted curves are not without precedent. We are now at a point in which investors are receiving only modest compensation for moving further out on the yield curve. As the Federal Reserve continues to increase short-term interest rates, there is also the potential for the curve to invert. Regardless of the investor, we believe understanding the implications of holding fixed income at different points along the curve is critical given the range of investor objectives, the shape of the yield curve and the potentially disparate diversification benefits. The balance of this paper provides historical perspective on the shape of the yield curve and outlines potential strategies for different investor types.

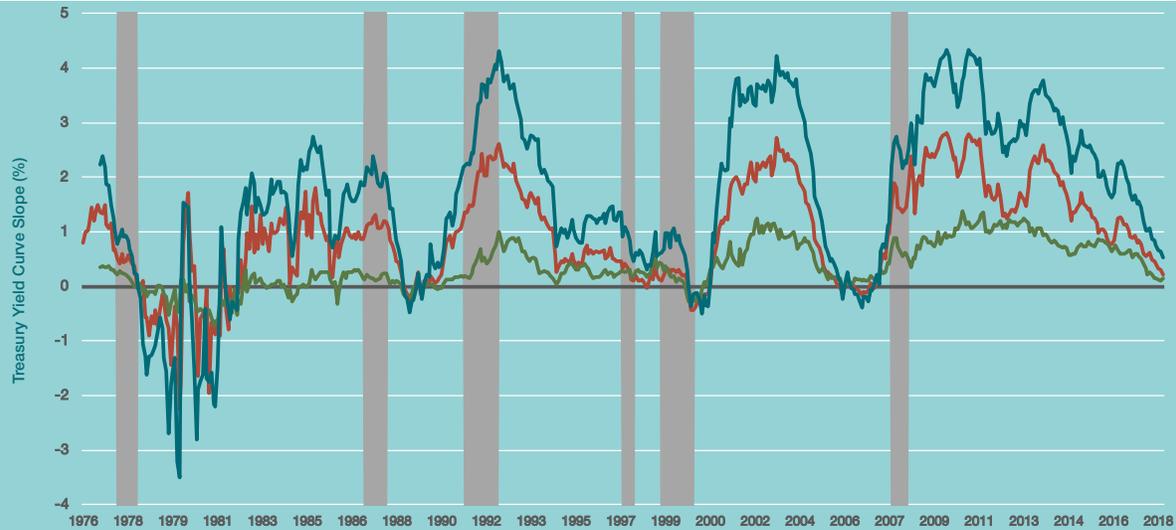
## Perspective on the Shape of the Yield Curve

Stating that the yield curve is “flat” is perhaps not specific enough as there are many ways to measure the slope of the yield curve. Some of the more common measurements include the difference in yields between 10- and 2-year Treasuries, 30- and 10-year Treasuries and 30- and 1-year Treasuries. Based on historical data for each of these measures, it is fair to say that the yield curve is flat, but not yet at an extreme level (see Figure 1). Rather than looking at the absolute yield difference, investors might also consider a certain point on the curve as a percentage of another point on the curve. For example, the difference between the 10-year and 2-year Treasury yield was 23 basis points as of August 31, 2018. Expressed differently, we can state that the 2-year yield (2.62% as of August 31st) was 92% of the 10-year yield (2.85%).

Figure 1:

Treasury Yield Curve Slope

- 10 Year - 2 Year
- 30 Year - 10 Year
- 30 Year - 1 Year
- NBER Recessionary Periods



Source: FactSet, St. Louis Federal Reserve FRED Database. Based on monthly data.

Many market observers will note that a yield curve inversion has often (but not always) preceded recessions in the U.S. This is fairly common as interest rate hikes from the Federal Reserve tend to flatten the yield curve and, at the same time, slow down the pace of economic growth. While the debate surrounding the shape of the yield curve as a leading indicator of a recession is outside the scope of this paper, the time from inversion to recession has taken up to two years. As mentioned, curve flattening has often corresponded with periods of Federal Reserve monetary tightening, as is the case today. From 2004-2006, for example, the “10-2” and “30-10” flattened over 250 and 80 basis points, respectively, and ultimately inverted ahead of the Global Financial Crisis of 2008. Conversely, in times of easier monetary policy the curve has often steepened as the Fed lowers short-term rates, and expectations of stronger growth materialize. While the curve has flattened more recently, it is worth remembering that the curve was historically steep as recently as the end of 2013. At that time, the “30-10” and “10-2” slope were above the 90th percentile of all monthly observations back to 1976.

As of August 31st, the absolute difference between the 10-year and 2-year yield ranks in the 23rd percentile of all monthly observations back to 1976. Further, when excluding the volatile interest rate environment of the late 1970’s and early 1980’s, today’s “10-2” difference ranks in the 17th percentile and the absolute difference of 23 basis points is only modestly above the post-1980’s low of negative 44 basis points. While there is certainly room for the curve to flatten further (or invert), today’s yield curve is close to reaching levels experienced only twice in the last 25 years.

Beyond the Treasury yield curve, taxable investors should be cognizant of the shape of the municipal bond yield curve. In the municipal bond market, the yield curve is not quite as flat. As one data point, the spread between 10-year and 2-year AA General Obligation Bonds was approximately 0.91% as of August 31st, well above the 0.23% spread between 10- and 2-year Treasuries. Historically, there has been less natural demand for long duration municipal bonds as individual investors are often sensitive to price volatility and, therefore, prefer short or intermediate duration exposure. Considering taxable investors propensity to focus on short to intermediate maturity issues and the tax consequences of making allocation shifts, we would not recommend any changes in curve positioning for taxable investors.

Figure 2:

Rolling 24 Month Correlation - Global Public Equities vs. Market Duration and Long Duration Fixed Income

■ Long Duration (Bloomberg Barclays Long U.S. Treasury Index)  
 ■ Market Duration (Bloomberg Barclays U.S. Aggregate)



Source: FactSet. Based on monthly data.

### Implications of a Flat Yield Curve

There are a number of implications of a flat yield curve, for investors and for the economy broadly. Unlike public equities, which are used almost exclusively for their return potential, investors may own fixed income for several different reasons, including liability hedging, diversification benefits (relative to risk assets), liquidity, income generation and total return potential. As a result, there is not one single recommendation in today’s environment that can be applied across all investors. The one known is that investors are receiving only modest compensation (in this context, defined as yield) for extending duration. We also believe that the liquidity of Treasury bills/notes/bonds at different points across the yield curve will be quite similar in most market environments. As such, we believe investors making fixed income investment decisions should focus on the remaining three reasons for owning fixed income - liability hedging, diversification and return potential.

We believe that long duration fixed income generally provides the best diversification relative to public equities and other risk assets. Throughout recent history, long duration Treasury bonds have proved to be a reliable diversifier to public equities, particularly during periods of equity market weakness (see Figure 2). While we recognize that this relationship may not exist during every market drawdown, shortening duration has the potential of reducing diversification benefits in a stressed market environment. The implications for total return and liability hedging investors is covered in greater detail below as there are additional implications that investors might want to consider.

### Yield Curve Strategies for Different Investor Types

Given that different investors will have varying objectives for their fixed income portfolios, there is no one-size-fits-all solution for dealing with a flat yield curve. For the purpose of this discussion, we will separate investors into two primary categories – total return and liability driven. While investors labeled as “total return” span a wide range, we primarily view these investors as those looking for their fixed income portfolios to generate positive returns with modest volatility while also providing some diversification benefits. Conversely, we view “liability driven” investors (often defined benefit plans or insurance general accounts) as those investors who rely on fixed income to hedge a

specific liability and therefore view risk and return relative to a liability rather than on an absolute basis. We outline the various implications for these different investors in the following section.

### **Total Return Investors**

From our perspective, total return investors typically own “market duration” fixed income (i.e., duration between 4-7 years), although there is also a sub-set that owns long duration fixed income (duration or maturity >10 years) for the potential diversification to risk assets. While moving to short duration may seem like an obvious decision for total return investors, we believe there are a broader set of trade-offs beyond yield that are worth considering.

On the surface, tax-exempt investors with market duration fixed income (i.e. the Bloomberg Barclays Aggregate) might be tempted to reduce duration given that an investor’s yield can be roughly maintained with lower interest rate risk. For example, an investor holding the Bloomberg Barclays Aggregate (3.3% yield, 6.0 year duration) can get 85% of the yield with only 32% of the duration by moving to the Bloomberg Barclays 1-3 Year Aggregate (2.8% yield, 1.9 year duration). However, investors making this switch should be aware of the potential reduction in diversification benefits by moving to a shorter maturity exposure. If interest rates fall across the curve, investors will have been better off maintaining their existing fixed income duration.

Total return investors owning long duration fixed income for diversification benefits are also faced with a difficult decision. Based on our latest capital market assumptions, we expect market duration Treasuries (3.2% expected return over the next 10-years) to outperform long duration Treasuries (2.9% expected return). This would suggest that investors who are only concerned with total return outcomes of their fixed income holdings should consider selling their long duration holdings and buying market- or short-duration exposures. However, as we outlined, history has shown that long duration Treasuries generally act as an effective diversifier to public equities, particularly during significant equity market declines. Should this scenario occur (i.e. falling equity markets, declining interest rates), there may be a compelling case to shorten up duration at that time, particularly if the yield curve remains flat. In today’s environment, however, investors looking to long duration to provide diversification relative to their risk assets are likely better served by maintaining their existing exposure.

### **Liability Driven Investors**

We believe that investors that hold assets to ultimately pay for specific obligations, such as defined benefit plans, will want to consider liabilities in conjunction with investment decisions (see *Rocaton Insights - Liability-Driven Investing Principles for Pensions*). In some cases, such investors may conclude that the economic exposure presented by the liabilities is insignificant enough, or that the need for return is significant enough, to pursue an investment approach that reduces the interest rate hedge versus liabilities. In other cases, these investors may choose to maintain a portfolio that continues to target the same interest rate hedge ratio. These portfolios often consist of investments in long duration bonds, including Treasury STRIPS, and interest rate derivatives. From our perspective, the closer to fully funded plans are, the more inclined we are to recommend targeting high interest rate hedge ratios regardless of the interest rate environment.

However, for those portfolios that are less well funded, we believe there may be opportunity for investors to consider how much and what type of risk they are taking with their plan's strategy. One of these considerations might be to take more interest rate risk (i.e., lower hedge ratios) in an effort to help close funding gaps<sup>1</sup>. Another consideration would be to potentially reposition exposure across the curve to limit the vulnerability to steepening environment particularly at the long end of the curve. For capital efficiency reasons, Rocaton often recommends that duration be concentrated at the long end of the yield curve, particularly for those investors with less capital in fixed income. However, any liabilities being hedged are likely not concentrated exclusively at the long end of the curve. Knowing that the yield curve does not always move in parallel shifts across maturities, there is a mismatch in this approach that we would typically deem acceptable, especially in environments where the yield curve is steep, as has been the case for many years. At a minimum, we would suggest that liability driven investors should understand the key rate duration exposures of both their asset portfolio as well as their liabilities.

Beyond examining key rate durations, in today's environment, or even more likely in a possible inverted yield curve environment (for instance where 30-year yields are lower than shorter-term yields), investors who hold most of their duration at the very long end of the yield curve may consider achieving the same dollar duration by reallocating the exposure to shorter maturities with leverage. This would maintain the interest rate hedge ratio and therefore the exposure of funded status to parallel shifts in the yield curve. Given that this strategy is inherently an attempt to make a bet on the shape of the yield curve (that it will steepen), there is a risk it does not work out if the yield curve flattens further or inverts. Additionally, financing costs to achieve leverage or attain derivative exposure should be a consideration.

### Conclusion

Typically, investors are compensated in the form of additional yield for being positioned further out on the yield curve. Given today's flat yield curve there is only a modest pickup in yield. As a result, we believe investors of all types should review their fixed income exposures and determine where on the curve they want to be positioned. Total return investors should consider the potential diversification benefits of market or long duration fixed income before reducing duration. Liability driven investors looking to hedge a specific liability likely require a conversation which considers assets and liabilities before a decision can be made on yield curve positioning.

<sup>1</sup> Liability interest rate hedge ratios are often calculated as asset dollar duration divided by liability dollar duration. This is a convenient measure to get a sense of how hedged funded status (assets minus liabilities) is to changes in interest rates. However, it presumes that interest rates move in parallel across the yield curve and does not account for where along the yield curve asset and liability interest rate exposure exists, which means interest rate hedging based only on this ratio can be imperfect.

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## Implications of a Flat Yield Curve

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