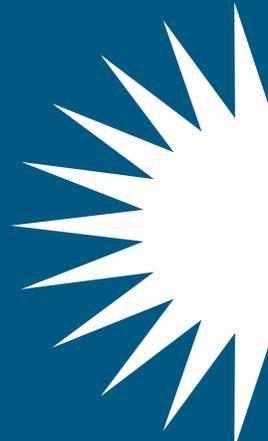


# What Might the Yield Curve Be Telling Us Now?



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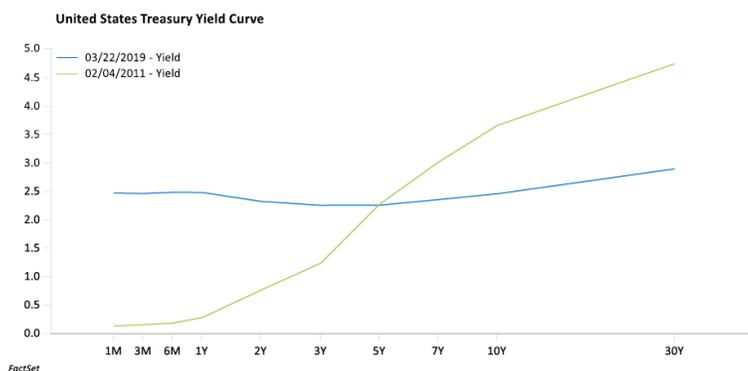
Over the past few years the macroeconomic landscape has ebbed and flowed. The 2017 calendar year ended with synchronized global growth around the world, yet as 2018 progressed, we began to see a decoupling as the United States remained resilient while economies abroad showed signs of slowing. The favorable domestic economic climate last year, coupled with firming inflation and a strong labor market, supported the Federal Reserve’s rate hike campaign, with its target rate ending the year at a level of 2.25%-2.50%. In turn, interest rates have risen from post-crisis lows, and the U.S. Treasury yield curve has flattened, as the Fed’s tightening activity has driven shorter dated yields higher.

Progressing into 2019, inflation expectations have moved lower despite stronger wage growth, and economic data in the U.S., while still positive, is showing signs of softening. As a result, the Federal Reserve has indicated a halt to its rate hike campaign. The reduced outlook for inflation and certain signals indicating a slowing global economy have driven longer dated yields lower over recent weeks, and, as a result, the spread between shorter dated yields and longer dated yields is hovering near post-crisis tights. Given current spread levels, talk of an inverted yield curve has garnered many headlines. What is the reason for all the hype? Historically, economic recessions within the United States have been preceded by an inverted yield curve. This ultimately begs the questions: When do these recessions occur? What is the impact on the market? And what should investors do? Before we explore these areas, let us first answer the broader question that many may have - what is an inverted yield curve?

## What is an inverted yield curve?

Broadly speaking, an inverted yield curve happens when yields on shorter maturity bonds increase to levels that are higher than yields on bonds with longer maturities. There are many points along a yield curve that can be compared, but one widely used by the market, and the one used as the basis for this paper, is the spread between the 2-year U.S. Treasury yield and the 10-year U.S. Treasury yield, or the “2-10 spread.”<sup>1</sup>

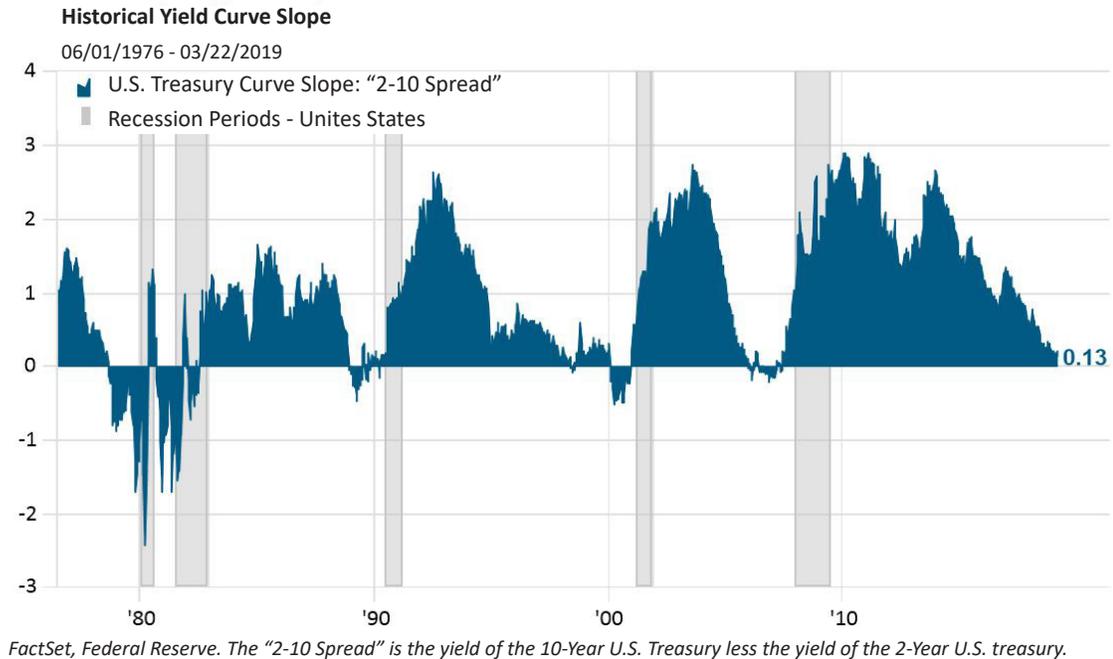
In a normal environment there is a positive term premium in the yield curve, as investors demand greater compensation for a longer time horizon, i.e., an investor should be paid more for investing in a 10-year bond compared to a 2-year bond. When this term premium holds true, the yield curve has a positive slope. When the curve is positively sloped, the 10-year yield is greater than the 2-year yield. However, when the 2-year yield moves above that of the 10-year, the yield curve is considered to be inverted. The U.S. yield curve is now the flattest it has been since the financial crisis, with a 2-10 spread of 13 basis points (0.13%) as of March 22, 2019. This relationship, as indicated in the chart, represents a significant difference from when the 2-10 spread was at its post-crisis wide of 291 basis points (February 4, 2011).



<sup>1</sup>The “2-10 spread” is calculated by subtracting the yield of the 2-year Treasury from yield the 10-year Treasury. It is often quoted in basis points, where one basis point is 1/100 of a percent.

### A recession predictor?

It is generally held that an inverted yield curve is associated with an economic recession and, as depicted in the chart below, an inverted yield curve has, in fact, preceded each of the last five recessions. This relationship makes sense, as short-term rates that are above long-term rates leads to less lending, thus curbing economic activity.



It is important to point out that, historically, recessions have not immediately occurred following an inversion of the yield curve. As depicted in the table below, the five most recent recessions, on average, have started 22 months following the date of the yield curve inversion. The current economic expansion is now the second longest on record (117 months including the month of March).<sup>2</sup> Using the 22-month average, if the 2-10 spread were to invert today, we might not expect the economy to contract until January of 2021. However, historically, the length of time between yield curve inversion and subsequent recession has ranged quite considerably, from 11 months to 35 months for the past five recessions, so there is still meaningful uncertainty as to what the timing of an economic downturn would be, should it occur.

Yield Curve Inversion and Recession		
Inversion Date	Recession Start	Months to Recession
8/18/1978	February-80	18
9/12/1980	August-81	11
12/13/1988	August-90	20
5/26/1998	April-01	35
12/27/2005	January-08	25
<b>Average</b>	-	<b>22</b>

FactSet, NBER, FIA. Inversion based on the 2-10 U.S. Treasury spread.

<sup>2</sup>NBER, "US Business Cycle Expansions and Contractions" <http://www.nber.org/cycles.html>

### Is this time different?

There are some in the industry who argue quantitative easing (“QE”) has driven longer dated bond yields lower. Bauer and Mertens point out in a recent economic letter that QE may, in fact, have had an artificial impact on long-term rates.<sup>3</sup> If this is the case, the recession risk, as indicated by the flattening yield curve, may be overestimated. There are other factors to consider that may be artificially depressing longer dated rates in the U.S. For instance, compared to many developed countries, yields on U.S. Treasury bonds looks relatively attractive. As of March 22, 2019, investors received 1.01% for investing in 10-year U.K. government bonds and -0.01% for 10-year German government bonds. Compared to a yield of 2.44% in the U.S. for a similar maturity issue, one can see why demand is seemingly keeping a lid on the back end of the curve. This downward pressure on the long-end of the yield curve is further increased by demand from pension plans as funded status improves and the move to liability matching investing increases. Ben Bernanke, the former Chair of the Federal Reserve, previously offered some perspective on the relationship between an inversion and economic activity:

*“What is the relevance of this scenario for today? Although macroeconomic forecasting is fraught with hazards, I would not interpret the currently very flat yield curve as indicating a significant economic slowdown to come, for several reasons. First, in previous episodes when an inverted yield curve was followed by recession, the level of interest rates was quite high, consistent with considerable financial restraint. This time, both short- and long-term interest rates--in nominal and real terms--are relatively low by historical standards. Second, as I have already discussed, to the extent that the flattening or inversion of the yield curve is the result of a smaller term premium, the implications for future economic activity are positive rather than negative. Finally, the yield curve is only one of the financial indicators that researchers have found useful in predicting swings in economic activity. Other indicators that have had empirical success in the past, including corporate risk spreads, would seem to be consistent with continuing solid economic growth. In that regard, the fact that actual and implied volatilities of most financial prices remain subdued suggests that market participants do not harbor significant reservations about the economic outlook.”<sup>4</sup>*

Many of the indicators that Mr. Bernanke suggested in his 2006 statement were different than typical pre-recession environments – lower interest rates, lower corporate spreads, and low volatility – are similar to the market environment we have experienced over the past few years. As we are all aware, a recession did ultimately follow Mr. Bernanke’s statement. There is no guarantee that the same pattern will hold true this time or that this time is, in fact, different, but given the historical relationship between a yield curve inversion and a subsequent recession, it is certainly an indicator that should not be ignored.

### How have markets reacted historically?

Many headlines paint a picture of a yield curve inversion as an apocalyptic event, but it is not necessarily time for investors to run for the hills. Historically, markets have performed reasonably well in the 12 months following an inversion, with the S&P 500 Total Return Index returning an average of 15.4% over the last five occurrences. Even if we take out the outlier year following the 1988 inversion, the average is still a double-digit return of 11.3%. Fixed income markets have responded favorably as well, with the Bloomberg Barclays U.S. Aggregate Bond Index posting an average return of 5.6% in the 12 months following an inversion, despite the lone negative result following the inversion in 1980. What drives these positive results? For one, the economy is typically in the later

<sup>3</sup>Bauer, Michael D., and Thomas M. Mertens. 2018. “Information in the Yield Curve about Future Recessions.” FRBSF Economic Letter 2018-20 (August 27). <https://www.frbsf.org/economic-research/publications/economic-letter/2018/august/information-in-yield-curve-about-future-recessions/>

<sup>4</sup>Ben S. Bernanke, “Reflections on the Yield Curve and Monetary Policy” Before the Economic Club of New York, March 20, 2006. <https://www.federalreserve.gov/newsevents/speech/bernanke20060320a.htm>

stages of the business cycle, with corporations exhibiting generally positive fundamentals. And, as discussed earlier, there tends to be a fairly long lag between a yield curve inversion and a subsequent recession, and equity markets typically perform well leading up to a recession.

<b>Yield Curve Inversion and Market Performance</b>		
<b>Inversion Date</b>	<b>S&amp;P 500 Next 12M Return</b>	<b>Barclays U.S. Agg Next 12M Return</b>
8/18/1978	8.9%	6.7%
9/12/1980	5.4%	-3.6%
12/13/1988	31.7%	14.6%
5/26/1998	17.3%	5.4%
12/27/2005	13.8%	4.7%
<b>Average</b>	<b>15.4%</b>	<b>5.6%</b>

*FactSet, Morningstar Direct, FIA. Inversion based on the 2-10 U.S. Treasury spread.*

We have seen that financial markets have performed reasonably well following a yield curve inversion and that there is typically a considerable lag until the economy turns downward. While the capital market outcomes paint a largely positive picture in the twelve months following the inversion, it is important to note that the range of S&P 500 performance outcomes has been wide (the dispersion is in excess of 26%). Turning to fixed income, the spectrum of outcomes is similarly wide, ranging from a 3.6% loss to a 14.6% gain. On the recession front, inception dates have a wide range as well, spanning from 11 months to almost three years following the onset of an inversion. To reiterate, inverted yield curves have historically preceded economic recessions and this relationship should not be ignored. However, the variability of the data suggests that a yield curve inversion should not be viewed in isolation but rather in concert with other economic data points in order to gain a complete picture of the potential investing and portfolio management implications.

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