

# YIELD CURVE INVERSION MARCH 2019

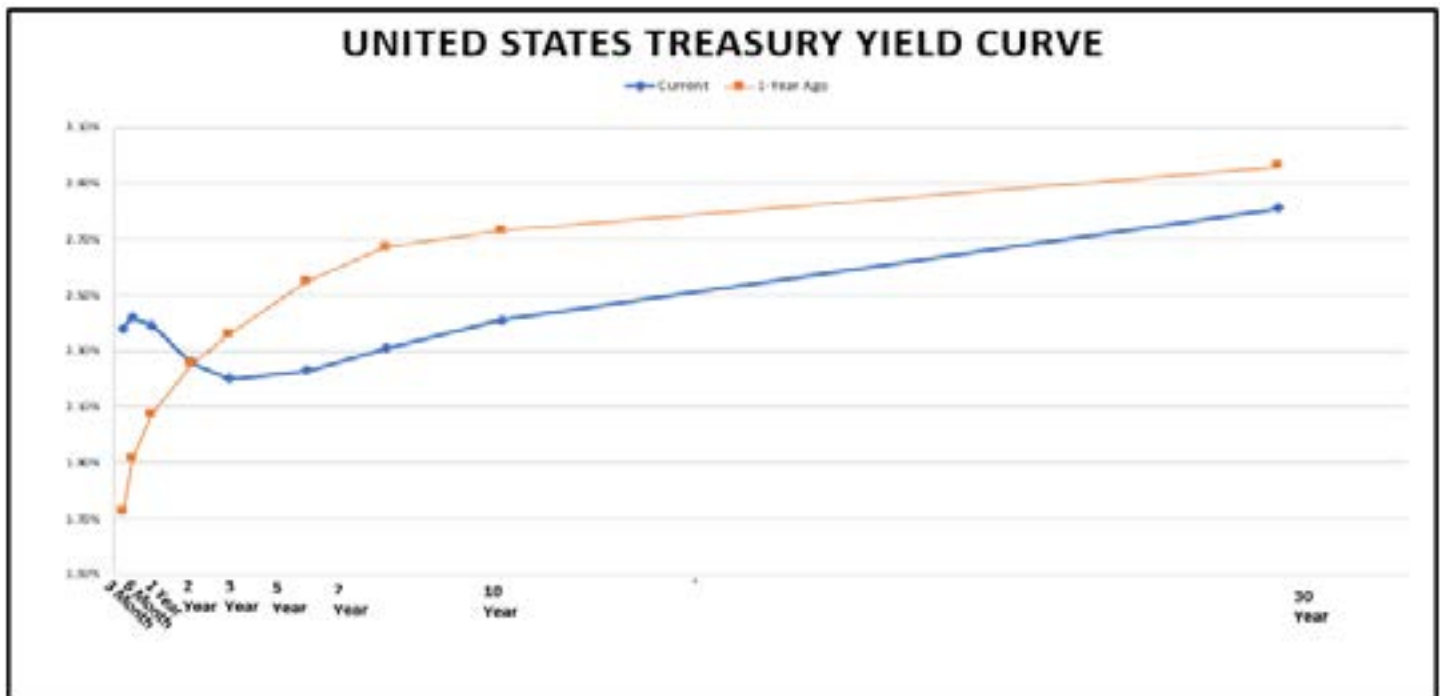
## What is the Treasury Yield Curve?

The yield curve is a graph of a Treasury bond's maturity and its rate of return for various time periods. The typical maturities referenced generally range from 3-months to 30-years. The Federal Open Market Committee (FOMC) controls the short-end of the yield curve by setting the target federal funds rate range. The current federal funds rate range is 2.25% - 2.50%. The FOMC has raised rates nine times since the financial crisis, including four increases in 2018. The market sets long-term interest rates through the supply and demand of Treasury securities. When investor demand for long-term Treasuries exceeds supply due to their outlook for inflation and/or economic growth, bond prices move up and yields down (bond prices move inversely to yield). The opposite is true when investor demand is less than supply causing prices to fall and yields to rise.

## What does the shape of the yield curve typically look like?

The shape of the yield curve is generally upward sloping, i.e. longer-term maturities have higher yields than short-term maturities. According to the Fed, Treasury yields have two components: expectations of the future path of short-term Treasury yields and the Treasury term premium. The term premium usually accounts for most of the upward slope of the yield curve and is defined as the difference an investor would receive for locking up their invested capital for an extended period (i.e. buying a 10-Year Treasury) versus rolling over short-term securities for the same amount of time (i.e. buying a 3-Month Treasury Bill every 3-months for 10-years). The term premium exists because investors need to be compensated for locking up their capital - the longer you lend someone money, the more time there is for something to go wrong. We will also point out that the term premium cannot be directly measured, rather it is the difference between the long-term rate and the average of expected future short-term rates.

The current shape of the Treasury yield curve is flatter than its typical upward slope and is even inverted (short-term yields higher than long-term yields) at some maturities. The blue line of the following chart is the current yield curve (notice the inversions from 3-months to close to 10-years). The orange line represents the curve from one year ago.



## Why has the yield curve flattened?

The yield curve has been flattening since the FOMC started raising the federal funds rate back in 2015. Remember that the FOMC sets the short-end of the yield curve. The long-end of the Treasury yield curve has stayed low, which means the entire curve has flattened. Recall that the market sets the long-end of the yield curve. The long-end of the yield curve has stayed low for various reasons:

- Absence of the term premium – estimates of the term premium have been close to zero or even negative since around the time the Fed started their quantitative easing programs. During quantitative easing, the Fed's balance sheet expanded from \$900 billion in 2008 to \$4.5 trillion in 2015 as the Fed purchased Treasuries and mortgage backed securities (MBS) in an attempt to keep long-term interest rates low and inject liquidity into the financial system.
- Low global interest rates – while the 10-Year Treasury yield of 2.41% is low relative to its own history, the current yield is still higher than many global rates. Due to weak inflation and economic growth forecasts, and their own versions of quantitative easing, 10-Year yields in Japan and Europe are currently negative. The Japanese and German 10-Year yields ended the quarter at -0.08% and -0.07% respectively. Due to the ongoing Brexit saga, the 10-Year yield in the UK is 1.00%. Therefore, US yields are still comparatively attractive for global investors.

- Expectations of future inflation and economic growth – Treasury securities are considered close to “risk free” because the principal and interest payments are backed by the US government. In general, when expectations for future inflation and economic growth are low investors will turn to Treasuries because they are considered safe. Core PCE inflation has averaged about +1.6% over the last 10-years, which has helped to keep rates low. When expectations for inflation and economic growth are poor (i.e. investors expect a recession) there is a “flight to safety” as investors rush to buy Treasuries, which pushes prices up and yields down.

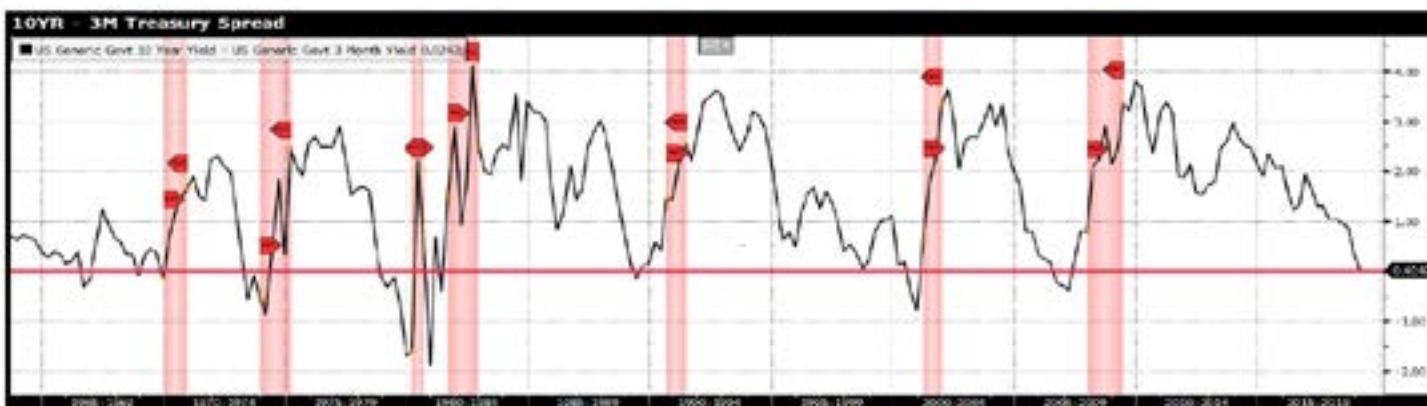
### What is a yield curve inversion?

A yield curve inversion occurs when short-term maturities have higher yields than longer-term maturities. An inversion is the market’s sign of a pessimistic economic outlook. Historically, an inversion usually means the market is forecasting an economic recession or slowdown. The inversion usually occurs when there is a “flight to safety” and investors buy longer-term Treasuries. In this scenario, investors expect the Fed will likely cut short-term rates, which explains why they would be willing to accept lower yields for longer maturities. Therefore, an inversion is usually the markets way of telling the Fed that it needs to cut rates.

### Did the yield curve invert and what does it mean?

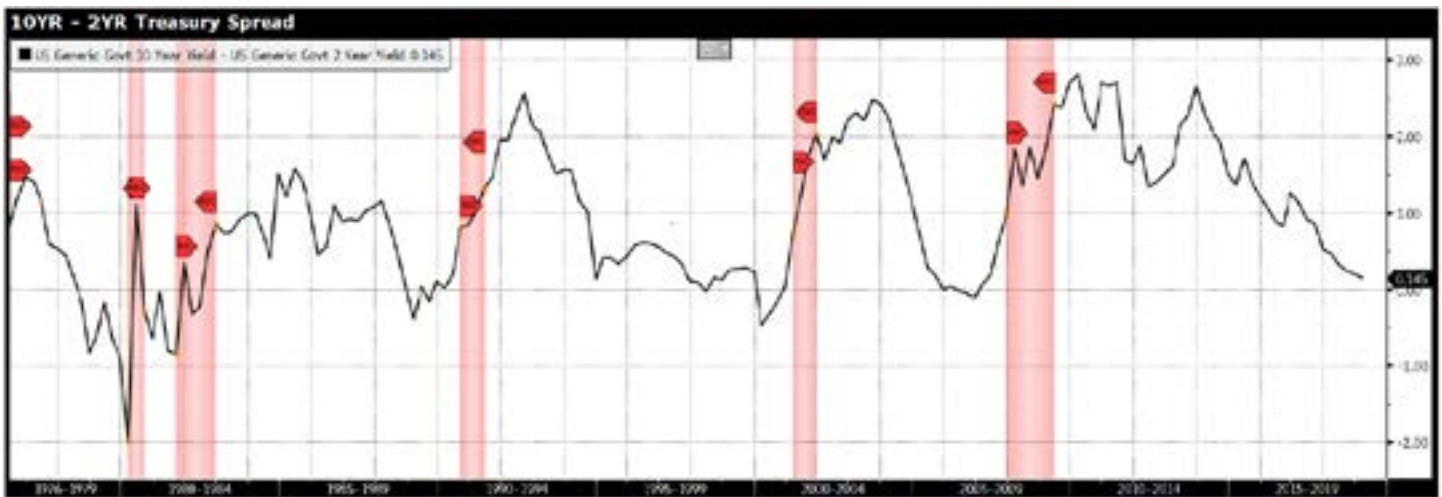
There are two common spreads associated with a yield curve inversion: the 10-Year Treasury minus the 3-Month Treasury Yield (10YR-3M) and the 10-Year Treasury minus the 2-Year Treasury Yield (10YR-2YR). The Fed typically favors the 10YR-3M measure while many investors choose to focus on the 10YR-2YR. At Winthrop Wealth Management, we watch each of them closely and both are part of our Recession Dashboard. The 10YR-3M spread first inverted on March 22nd but was back to positive territory by the end of the quarter while the 10YR-2YR measure is still positive. (Yes, that also means that the 3-Month Treasury Bill has a higher yield than the 2-Year Treasury Bond). Over the past few days, several members of the Fed have downplayed their concern about the inverted 10YR-3M spread but stated they would become increasingly worried if the inversion persists for weeks or months.

10YR – 3M Treasury Spread (1960 – 2019)



10-Year Treasury - 3-Month Treasury Yield Spread					
First Month of Inversion	Interest Rate at Inversion	First Month of Recession	Months Between First Inversion and Recession	Months between First Inversion and S&P 500 Peak	Approximate S&P 500 Return from Inversion to Peak
September-1966	5.02%	December-1969	40	26	51%
June-1973	6.94%	November-1973	5	4	8%
November-1978	8.86%	January-1980	14	15	33%
October-1980	12.46%	July-1981	9	1	11%
May-1989	8.60%	July-1990	14	8	14%
July-2000	6.03%	March-2001	8	2	6%
February-2006	4.55%	December-2007	22	20	26%
<b>Median</b>	<b>6.94%</b>		<b>14</b>	<b>8</b>	<b>14%</b>
<b>Average</b>	<b>7.49%</b>		<b>16</b>	<b>11</b>	<b>21%</b>

## 10YR – 2YR Treasury Spread (1976 – 2019)



10-Year Treasury - 2-Year Treasury Yield Spread					
First Month of Inversion	Interest Rate at Inversion	First Month of Recession	Months Between First Inversion and Recession	Months between First Inversion and S&P 500 Peak	Approximate S&P 500 Return from Inversion to Peak
December-1967	5.70%	December-1969	24	11	15%
March-1973	6.73%	November-1973	8	7	1%
August-1978	8.39%	January-1980	17	18	24%
September-1980	11.86%	July-1981	10	2	13%
January-1989	8.98%	July-1990	18	12	25%
June-1998	5.45%	March-2001	33	27	38%
December-2005	4.39%	December-2007	24	22	30%
<b>Median</b>	<b>6.73%</b>		<b>18</b>	<b>12</b>	<b>24%</b>
<b>Average</b>	<b>7.36%</b>		<b>19</b>	<b>14</b>	<b>21%</b>

Source: Bloomberg

Going back to the 1960s, there have been seven instances of a 10YR-3M and 10YR-2YR inversion that preceded a recession. We focused our analysis only on periods where a recession occurred. There have been several instances where a yield curve inversion did not precede a recession (1956 and 1959). There were also periods where the yield curve inverted, went back to positive, and then inverted again before a recession started (1966, 1989, 1998, and 2005). We counted inversions based on monthly Treasury yields since 1962 and recessions based on official National Bureau of Economic Research statistics.

A few observations about the data:

- A yield curve inversion before each of the last seven recessions is notable. However, seven is a small sample size.
- The previous instances of yield curve inversions occurred at much higher interest rates than present levels. Current US Treasury Yields: 3-Month: 2.38%, 2-Year: 2.26%, and 10-Year: 2.41%. As mentioned, there are several reasons why long-term interest rates have stayed low (absence of term premium, low global rates, low expectations for inflation and economic growth).
- There has been a significant lag between an inversion and a recession or market peak.
- The S&P 500 has historically performed very well in the periods between inversion and recession.

### Does this mean a recession is imminent?

As always, we will remind our clients not to overreact to a single data-point and highlight that a yield curve inversion is only an indicator – it does not in and of itself cause a recession. The Fed has also had internal debates over whether an inversion is a reliable recession indicator. From the September 2018 FOMC minutes: “on the one hand, an inverted yield curve could indicate an increased risk of recession; on the other hand, the low level of term premiums in recent years – reflecting, in part, central bank asset purchases – could temper the reliability of the slope of the yield curve as an indicator of future economic activity.” (Note that this kind of non-committal answer is exactly why President Harry Truman once famously asked for a “one-handed economist”.)

Over the past few weeks, I've heard just about every economic and market prediction possible based on the inverted yield curve. Opinions have ranged from "it doesn't matter, ignore it" to "it matters a lot, a recession is looming". Rather than focus on the yield curve inversion in isolation, we believe it is important to consider it in the context of other economic data. Going forward, we believe the inversion is another statistic that indicates the US economy is slowing from last year. We expected the economy to slow year-over-year due the diminishing effects of fiscal stimulus and declining global growth. Throughout the quarter, several pieces of economic data were below peak-2018 levels, including, Manufacturing and Services PMIs, Retail Sales, and the Conference Board Leading Economic Indicators Index. While the data confirms a slowdown in 2019, we feel it is too early to sound the alarm on an imminent recession. On a more positive note, the labor market is still strong, the consumer is in good shape, and housing data has started to rebound as interest rates have declined.

## DISCLOSURES

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The economic forecasts set forth in this material may not develop as predicted and there can be no guarantee that strategies promoted will be successful.

All indexes mentioned are unmanaged indexes which cannot be invested into directly. Unmanaged index returns do not reflect fees, expenses, or sales charges. Index performance is not indicative of the performance of any investment. Past performance is no guarantee of future results.

The Bloomberg Barclays US Treasury Bills 1-3 Month Index is designed to measure the performance of public obligations of the U.S. Treasury that have a remaining maturity of greater than or equal to 1 month and less than 3 months.

The Standard & Poor's 500 Index is a capitalization weighted index of 500 stocks designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.

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