GEEK OUT WEDNESDAY TOPIC: Inverted Yield Curve

There is much mystery around an inverted yield curve. What does it mean and what are the real implications of it to average investors, to lenders, and most importantly the economy? What is an inverted yield curve? An inverted yield curve is an environment in which short term interest rates are higher than long term interest rates. To fully understand what that means, we need to first understand how bonds work.

A very quick refresher on bonds

When an investor purchases a bond, her or she lends money to a borrower, which in this case is a bond issuer. The issuer pays the investor interest during the term of the bond and returns the investor's principal at maturity. The investor is taking risk by lending out money and is rewarded for taking risk with interest. There are three high level risks that bond buyers take: 1) company risk, 2) inflation risk, and 3) time risk. Company risk is associated with a borrower's health and its ability to pay not only the interest but to repay the principal at the end of the term. Inflation risk is the risk that lenders take when locking in a rate for the term of a loan assuming that inflation will not pick up. For example, if an investor lends out money at 3% for 5 years with inflation at 1%, the investors real return is 2%. If inflation picks up to 2% during the term, the investor's real interest rate will go down to 1%. The third high level risk for investors is time. The longer the maturity, the greater the chance of something going wrong with the company or inflation. That is why when an investor buys a longer maturity bond, her or she expects a higher return (or yield) for the risk. To learn more about bonds, read my geek-out note on the topic here: https://www.siebertnet.com/blog/index.php/2018/09/19/trade-war-of-words/ .

The yield curve

The yield curve is a simple plot that displays yields of different maturity US treasuries. On the x-axis going from left to right are maturities that range from 3 months out to 30 years. On the y-axis is the yield to maturity offered by each treasury bill, note, or bond. Based on what you now know about bonds and maturities, you would expect that a normal yield curve would be upward sloping from left to right. The chart below is the yield curve from 2 years ago today. It would be considered normal as the longer maturities provide higher yields.

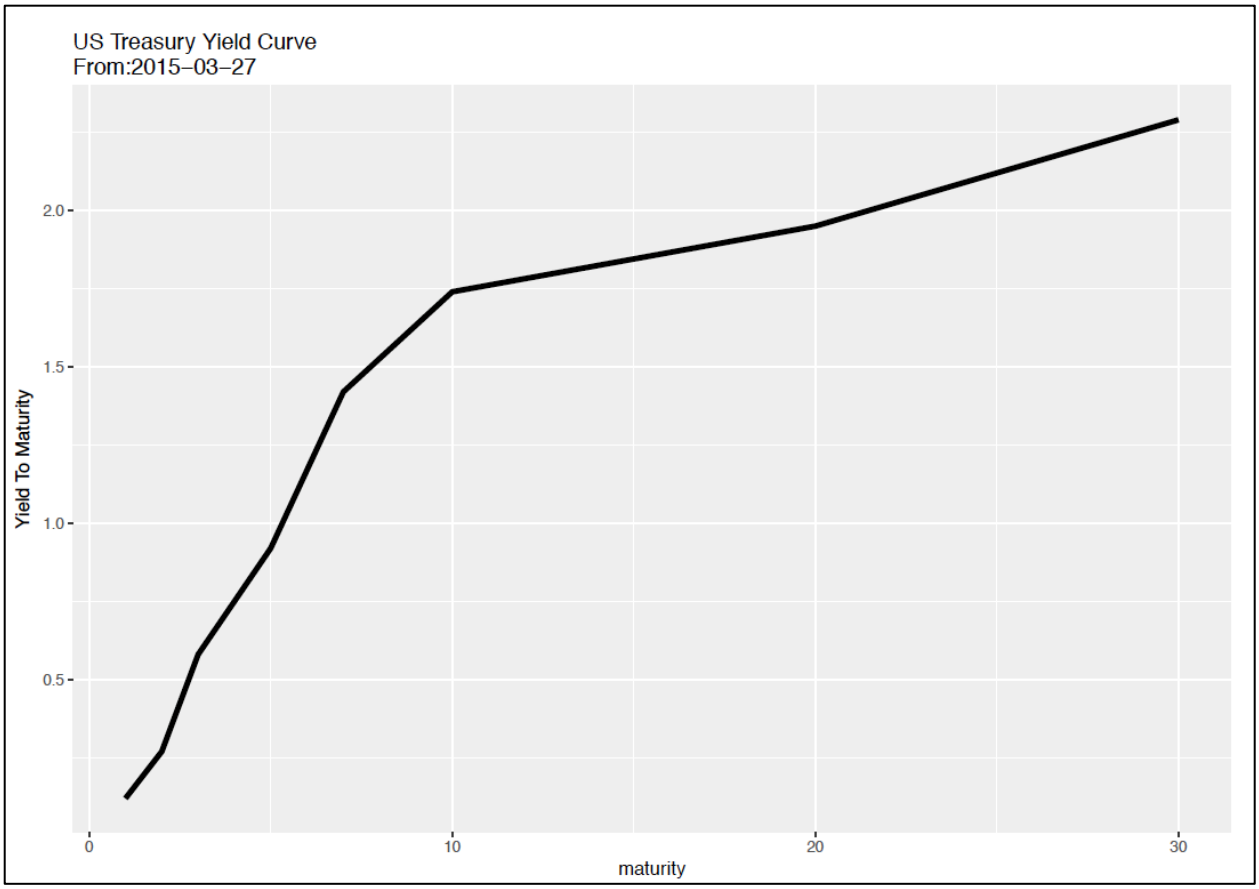


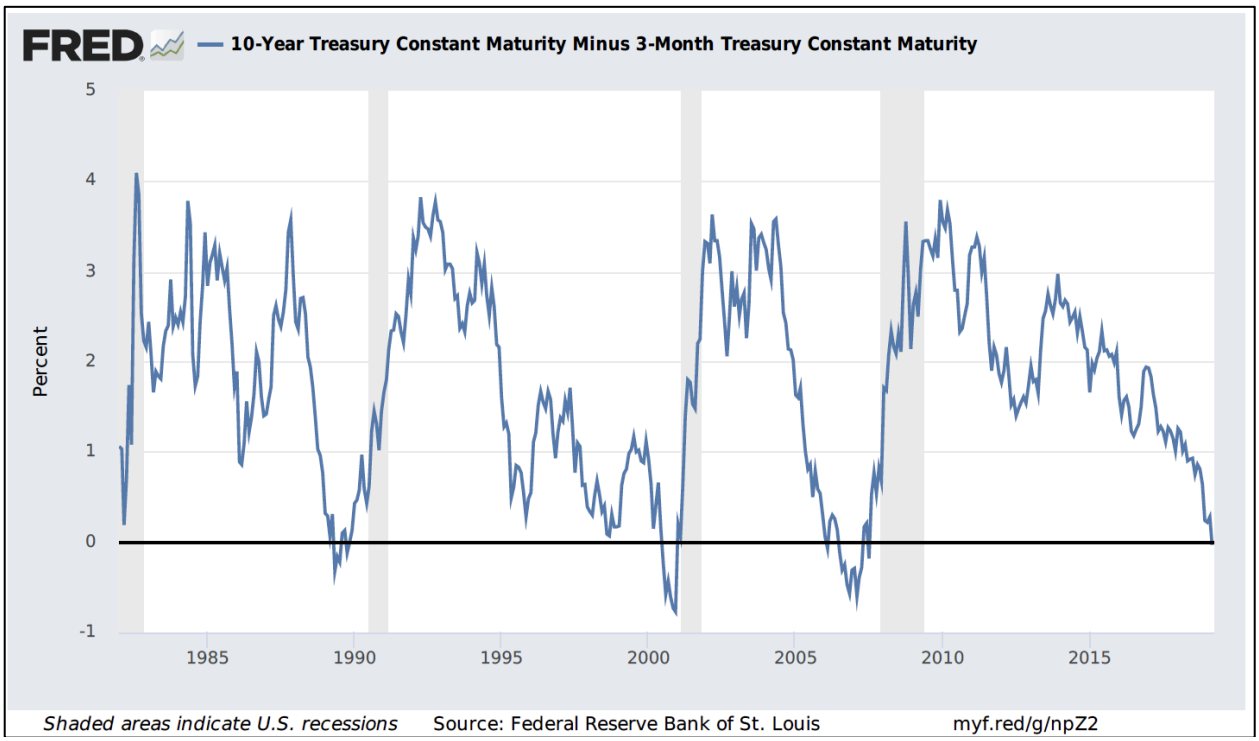
Chart of a normal environment yield curve

Inverted yield curve

As its name implies an inverted yield curve is a downward sloping curve from left to right. The negative slope is a result of shorter term yields exceeding longer term ones. What causes the yield curve to invert ? When economic conditions are expected to worsen in the future an active Fed would deploy monetary policy to stimulate the economy. If it is expected that rates in the future will be lower, investors would want to lock in the higher rates that currently exist. Further, the 10 year US treasury note is perhaps the most stable global asset from a risk perspective. When times get tough investors turn to treasuries as a safe haven. As demand for longer maturity bonds increases, prices go up, pushing yields down. Shorter maturity yields are closely tied to the Federal Reserve's rate policy, so in an environment in which the Fed is raising rates or holding them constant, shorter term rates will not move much. The result: the front part of the curve remains unchanged while the back end of the curve goes down, which causes the curve to flatten and ultimately slope downward.

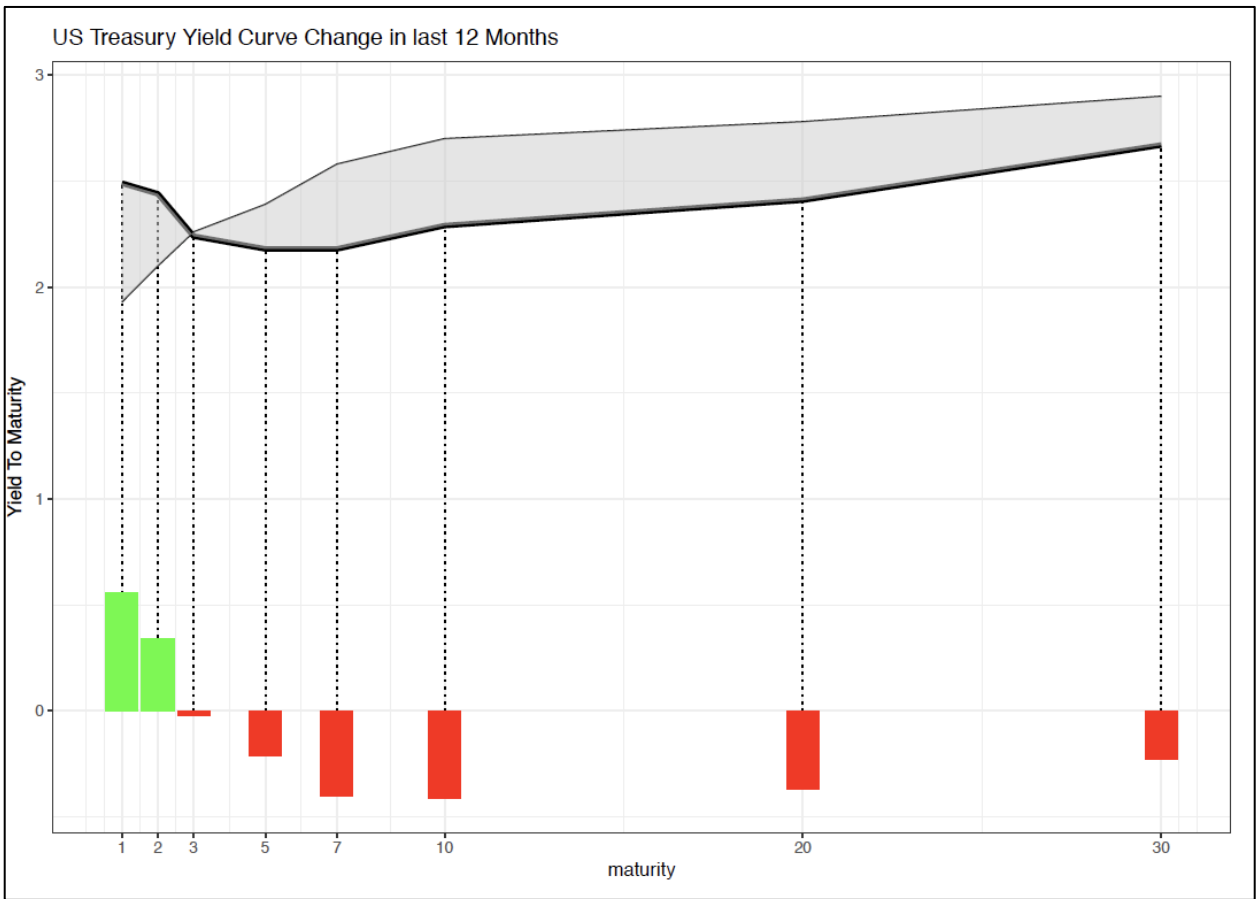
What does an inverted yield curve mean

It is important to recognize that while an inverted yield curve may occur as an economy peaks and heads into a recession, it does not cause a recession. Of course inversions have implications for certain sectors, particularly the banking sector which relies on a normal steep yield curve to make money lending on spread, but generally speaking an inverted yield curve does not have any direct hand in causing a recession. Now that we know that an inverted yield curve is a rare event that can happen when investors are predicting a recession and the Federal Reserve is raising or holding short term rates steady, we can look back and see if inversions in the past have predicted recessions. Below is a chart that plots the historical difference in yield between 3 month bills and 10 year notes with the areas shaded in blue being recessions. You will see that the curve inverted prior to all of the three recessions on this chart. In fact, if you go back further you will find that the inverted yield curve accurately preceded every recession except for 1 in the mid 1960's. That is why investors should and do take note when the yield curve inverts.



What does this mean for us today?

Following the financial crisis, the Federal reserve stepped in to aggressively stimulate the economy to get it back on track. The stimulus included near zero short term rates and open market purchases of bonds (known as quantitative easing or QE). Though it took time, the economy ultimately recovered prompting the Fed to begin raising rates starting in late 2015 and ultimately liquidating some of the bonds that it purchased as part of their quantitative easing. As rates went up, the entire yield curve began to shift upward still maintaining its healthy upward slope (as seen above). As the economy began to show some signs of weakness in late 2018, bond buyers began to buy longer maturity treasuries causing longer yields to come down. Simultaneously the Fed was raising short term rates as recently as December of last year. Those moves are a classical cause of yield curve flattening, which can be noted on the following chart that shows the yield curve today compared to where it was just one year ago. The bold line is the current yield curve and the bars on the bottom of the chart represent the yield differences. On it you can see a yield curve that is flatter than a year ago and inverted on the front end. To see the move in the bigger picture, refer to the prior chart above in which you will see the spread approaching zero and turning negative last Friday.



Conclusion

An inverted yield curve tells us that investors are expecting future rates to be lower as a result of a weakening economy. Inversions are rare and have pre-dated all except one prior recession. That last inversion occurred in 2007, around one year prior to the financial crises. Does this mean that we are definitely going into a recession? No it does not, but it does warrant vigilance. Investors must carefully watch the Federal Reserve, the performance of the economy, and most importantly consumer behavior. Investors must be prepared to act if the investment landscape changes. As always, the best way to minimize risk in all economic conditions is to diversify.

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