The Yield Curve

Mark F. Toledo, CFA

April 4, 2019

The difference between long-term and short-term interest rates, the yield curve, has been prominent in the financial media. By now, most investors know that an inverted yield curve occurs when short-term rates exceed long-term yields, and that this condition historically precedes recessions. This commentary focuses on the usefulness of the yield curve indicator for equity investors.

Several different measures can be used to determine when the yield curve inverts. The investment industry focuses on the spread between the 10-year and 2-year Treasury note yields. This difference is currently .19% (2.51% - 2.32%), which has garnered speculation about whether the difference will turn negative and the implications for investors. Academics follow the 10-year minus 3-month Treasury bill yields, which is .07% (2.51% – 2.44%). Finally, the Conference Board Leading Economic Indicator series uses the 10-year Treasury minus the Fed Funds Rate, which is .13% (2.51% - 2.38%). We will use the middle measure, 10-year minus 3-month.

Predictive Value

Exhibit 1 shows a history of yield curve inversions, the subsequent one year return for the S&P 500 and the lead time to the next recession.

The yield curve has inverted nine times during the past 52 years. The subsequent one-year return for the S&P 500 has ranged from -15.3% to +37.1%, and averaged 10.9%. Seven of the subsequent 9 years (78%) produced positive returns for equity investors. These statistics are remarkably close to the long-term annualized rate of return for the S&P 500 of near 10%, and the 79% of the one-year periods since 1966 that have produced positive returns.

In other words, the base case expectations of an average return of 10%, a normal range of -10% to +30%, and a 79% probability of a positive return generally describes the post inversion outlook for the equity market.

Exhibit 1: Yield Curve Inversions

Date of Inversion	S&P 500 return Over the next year	Months to Recession
4/12/66	-9.3%	False
9/8/66	24.3%	False
12/19/68	-15.3%	12
2/12/73	27.0%	9
7/5/78	7.7%	18
9/1/80	0.9%	11
5/29/89	12.2%	14
9/10/98	37.1%	30
2/20/06	13.2%	22
Average	10.9%	16.5

Inversion: 3-month > 10-year yield
Source: WSJ, 12/6/18, Refinitiv[1]

Yield curve inversions have a much better record predicting recessions. Seven of the nine (78%) inversions preceded recessions. The two false signals in 1966 could be viewed as one signal. The lead

[1] James Mackintosh, Afraid of the Yield Curve? You're Looking at the Wrong One, Wall Street Journal, 12/6/18

time for the signals vary from nine to 30 months with an average of 16.5 months. An inversion of the yield curve could be followed by the onset of a recession over the next two years.

The Federal Reserve Bank of New York published an article that describes how the yield curve significantly outperforms other financial and macroeconomic indicators in predicting recessions two to six quarters ahead. This Bank has developed a model based on the spread between the 10-year and 3-month Treasury rates that calculates the probability of a recession twelve months ahead. This model currently puts the recession probability over the next year at 25%.[2]

Conclusion

The yield curve has a good record predicting economic downturns, but not imminent equity bear markets. One reason for this phenomenon is that the equity market often experiences a decline before the yield curve inverts. As a result, by the time that the yield curve inverts, equity prices may already reflect the anticipation of a downturn in economic activity.

The cause of the yield curve inversion may also be important. In 1998 and 2006, the Greenspan and Bernanke Federal Reserve Boards aggressively moved to restrictive monetary policies to deflate the internet and housing markets, which lead to recessions and bear markets. In contrast, the current Board's goal has been to remove the post-financial crisis emergency accommodations, and get to a neutral position.

From a statistical perspective, the one-year forward outlook for equity prices after a yield curve inversion is similar to any other one-year forecast. Broadly speaking, the total return (dividend yield plus price change) for equity investments has a 75% probability of being positive, within a most likely range of -10% to +30%. Seeking more precision based on indicators of future economic activity has not proven profitable.

[i].

Important Disclosure Information

Past performance may not be indicative of future results. Different types of investments involve varying degrees of risk, and there can be no assurance that the future performance of any specific investment, investment strategy, or product (including the investments and/or investment strategies recommended or undertaken by Chicago Partners Investment Group LLC ("CP"), or any non-investment related content, made reference to directly or indirectly in this commentary will be profitable, equal any corresponding indicated historical performance level(s), be suitable for your portfolio or individual situation, or prove successful. Due to various factors, including changing market conditions and/or applicable laws, the content may no longer be reflective of current opinions or positions. Moreover, you should not assume that any discussion or information contained in this commentary serves as the receipt of, or as a substitute for, personalized investment advice from CP. Please remember to contact CP, in writing, if there are any changes in your personal/financial situation or investment objectives for the purpose of reviewing/evaluating/revising our previous recommendations and/or services, or if you would like to impose, add, or to modify any reasonable restrictions to our investment advisory services. CP is neither a law firm nor a certified public accounting firm and no portion of the commentary content should be construed as legal or accounting advice. A copy of the CP's current written disclosure Brochure discussing our advisory services and fees continues to remain available upon request.

[2] https://www.newyorkfed.org/research/capital_markets/ycfaq.html, accessed Mach 29, 2019