

Chris Kresic, CFA

Head of Fixed Income & Asset Allocation

What Is the Yield Curve and Why Does It Matter?

The yield curve is a term used to describe the different interest rates available for investors at different bond market maturity points. Most of the time the yield curve is positively sloping, meaning interest rates increase as investors move out the curve, i.e. investors receive a higher yield the longer the term of their investment. However, it can also invert, meaning short-term interest rates are higher than long-term rates. This occurs when investors in the long end of the curve, which is more sensitive to inflation expectations than economic growth, believe that the central bank's interest rate hikes have any future inflation risks under control. These yield curve inversion environments are relatively rare and, in and of themselves, signal that investors believe the risk of recession in one to two years is higher than usual. The three-month Treasury Bill yield vs. the 10-year federal government yield is the most widely followed "yield curve". Currently the difference between the two yields is +46bps in Canada and +50bps in the US. However, the 2-year to 5-year curve in the United States recently inverted, which suggests that the risk of an economic slowdown has increased.

Globally, there has been a substantial move to flatter yield curves in the past two years as central banks raised short-term interest rates while long-term rates stayed relatively low. In a typical cycle the bond market would see an upward adjustment in all interest rates as the central bank starts raising short rates in response to increasing inflation pressures. This cycle has seen the continuation of a trend of declining impact from central bank rate hikes on long-term interest rates. This unusual phenomenon is partly due to the secular decline in inflation that we have experienced in the past decades. Long-term interest rate movements are more sensitive to inflation expectations, which even recently have remained well anchored despite the extraordinary stimulus central banks have applied (moving interest rates to negative levels in some cases and expanding their balance sheets through the purchase of financial assets including stocks and bonds). Low inflation expectations are not the only reason for the subdued behaviour of long-term interest rates, there is also an element of investors wanting safe, long-term bonds to insure against retirement liabilities and equity market downside.

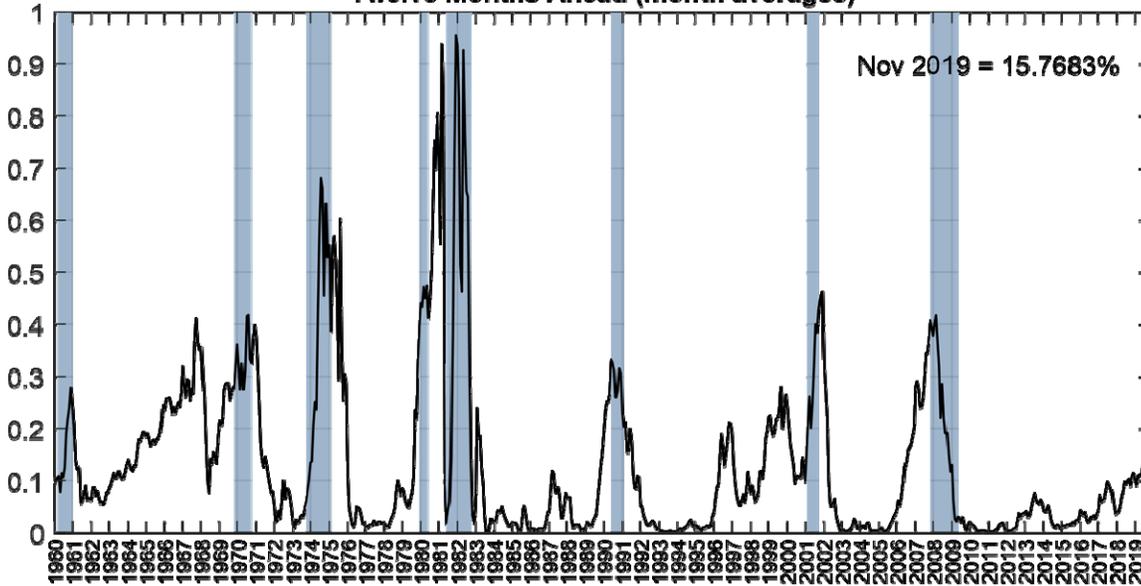
The table below shows the historical track record of the US yield curve as a leading indicator of recession. It is notable that the lead times have increased in recent cycles as the economic expansions have lengthened.

Recession Period	Going below, and staying below, 50 bps	Inversion Date	Time to Recession
Jan.1980 - July 1980	4/17/1978	8/18/1978	16 months
July 1981 - November 1982	8/18/1980	9/12/1980	10 months
July 1990 - March 1991	9/26/1988	12/13/1988	19 months
March 2001 - November 2001	3/20/1997	5/26/1998	22 months
Dec. 2007 - June 2009	5/19/2005	12/27/2005	24 months

Source: NBER

As of December 6, 2018, the St. Louis Federal Reserve’s estimated probability of recession in the next year based on the yield curve was just slightly over 15%.

**Probability of US Recession Predicted by Treasury Spread*
Twelve Months Ahead (month averages)**



*Parameters estimated using data from January 1959 to December 2009, recession probabilities predicted using data through Nov. 2018. The parameter estimates are $\alpha=0.5333$, $\beta=0.6330$.
Updated 06-Dec-2018
Source: St. Louis Federal Reserve

While the yield curve is one of the most reliable leading indicators it is not the only one. Most indicators are currently signaling a low probability of a US recession the next year. You can think of it in terms of a person’s vulnerability to getting a cold; when you (leading indicators) are strong you can fight off a cold (shock to the system), but when you are weak or run down you are more likely to succumb to the virus and get a cold.

Start of Recession	Yield Curve	Inflation Trends	Job Creation	Credit Perform	ISM Mfg.	Earnings Quality	Housing Market
November 1973	↓	↓	↓	↓	↓	--	↓
January 1980	↓	↓	↓	↓	↓	--	↓
July 1981	↓	↑	↑	↓	↓	--	↓
July 1990	↓	↓	↓	↓	↓	↓	↓
March 2001	↓	↓	↓	↓	↓	↓	↔
December 2007	↓	↓	↔	↓	↓	↓	↓
Present	↑	↔	↑	↔	↑	↑	↔

Key: ↓ Recessionary ↑ Expansionary ↔ Neutral

Source: Credit Suisse

Historically, the stock market has been able to weather the moves to a yield curve inversion quite well. This reflects the fact that economic growth is typically strong when the central bank is raising interest rates.

S&P 500 Price Performance				
Yield curve broke below 50 bps	Date of inversion	Date of trough	From 50 bps to inversion	From 50 bps to trough
October 1977	August 1978	March 1980	12%	11%
August 1980	September 1980	December 1980	3%	11%
September 1988	January 1989	March 1989	9%	8%
December 1994	June 1998	April 2000	147%	216%
May 2005	January 2006	November 2006	7%	18%

Source: Charles Schwab

Conclusion

Our conclusion is that yield curves are good leading indicators of economic recession and that the current level does not present an undue risk of recession in the short term. It does make the business cycle more vulnerable to shocks, and we are therefore much more attentive to the possibility of those shocks than at earlier points in the current expansion. We are also aware that the end of central bank liquidity expansions present an extra layer of risk for markets, particularly in the case of the much more leveraged sectors and specific economies around the world (e.g. China). As such, we are more cautious about the prospects for returns.