MAY 2023 CLIENT QUESTION OF THE MONTH

YIELD CURVE INVERSION

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WINTHROP WEALTH

Our client question of the month relates to the yield curve, what an inversion has historically signified, and what it could mean for the economy and markets going forward.

What is the Treasury Yield Curve?

The Treasury Yield Curve is a graph of a Treasury bond's yield-to-maturity at various periods typically ranging from 3-months to 30-years. Yield-to-maturity is the estimated annualized rate of return an investor can expect on Treasury security if purchased today and held to maturity.

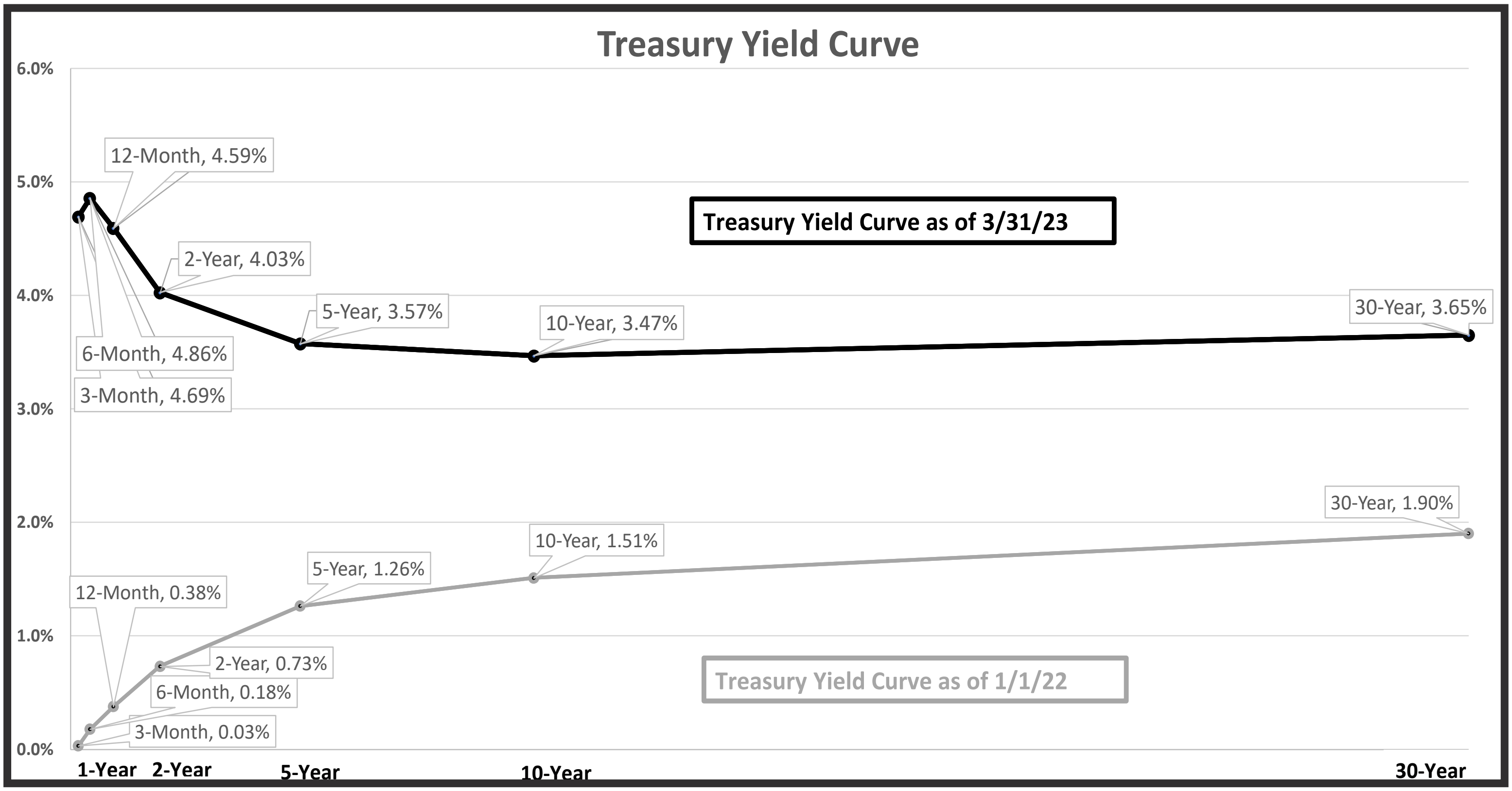
The Federal Open Market Committee (FOMC) influences the short end of the yield curve by setting the target federal funds rate range. The current federal funds rate range is 4.75% to 5.00%. The FOMC's most recent Summary of Economic Projections (SEP) showed that the median participant expects the federal funds rate to peak at 5.1% in 2023 before they cut rates to 4.3% in 2024.

The market controls the long end of the yield curve based on expectations of economic growth and inflation. Bond prices move inversely to yields (please see our Client Question: Bond Primer for details). In general, when the market becomes nervous about economic growth or a recession, there is a "flight to safety" where investors purchase long-term Treasuries (yields move lower and bond prices move higher). When the market expects strong economic growth and/or high inflation, investors sell long-term Treasuries in search of better opportunities (yields move higher and bond prices move lower).

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

The shape of the yield curve is generally upward sloping where 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 risk 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 following chart shows the current shape of the Treasury Yield Curve as of 3/31/23 compared to the beginning of 2022. The current shape of the curve is inverted with shorter term yields higher than long-term yields. At the start of 2022, yields were much lower, but the curve had a typical upward slope.



What is a yield curve inversion?

A yield curve inversion occurs when short-term maturities have higher yields than longer-term maturities.

An inverted yield curve is a sign of a pessimistic economic outlook and typically signals that investors expect the Fed to cut rates soon. Historically, an inversion usually means the market is forecasting an economic recession or slowdown. The inversion typically occurs when there is a "flight to safety" and investors buy longer-term treasuries, which pushes their yields lower than short-term Treasuries. In this scenario, investors expect that economic growth will slow and the Fed will likely cut short-term rates in response; this explains why investors would be willing to accept lower yields for longer maturities. If the Fed does cut rates as investors expect, shorter-term Treasury yields like the 3-Month and 2-Year will then fall below the 10-Year and the yield curve will be upward sloping again.

Which yield spreads are most important? Where do they currently stand?

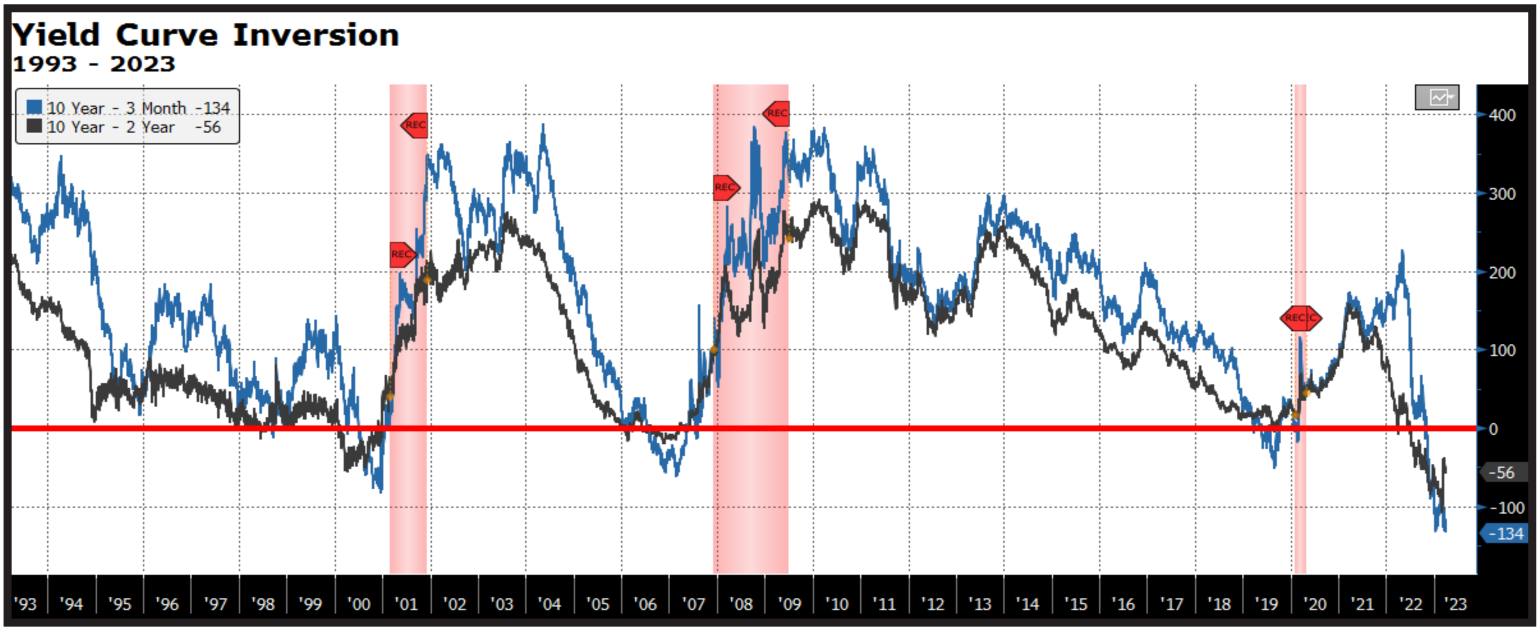
There are three common spreads associated with yield curve inversions that are utilized as recession indicators. Some investors favor one over the others. At Winthrop Wealth, we watch all three yield spreads equally and they are included in our Recession Dashboard. Currently, all three yield spreads are flashing a recession warning signal.

10-Year Treasury Yield minus the 3-Month Treasury Yield (10YR-3M):
- Current Spread: -134 basis points (-1.34%; a basis point is one hundredth of one percent).
- Signaling a recession.

Implied Yield on 3-Month Treasury in 18 months minus the 3-Month Treasury Yield:
- This is Fed Chair Powell's preferred yield spread. Chair Powell believes that if the short end of the yield curve is inverted "that means the Fed is going to cut, which means the economy is weak."
- Current Spread: -122 basis points (-1.22%).
- Signaling a recession.

10-Year Treasury Yield minus the 2-Year Treasury Yield (10YR-2YR):
- Current Spread: -56 basis points (-0.56%).
- Signaling a recession.

The following chart shows the spreads of the 10-Year minus the 3-Month yield in blue and the 10-Year minus the 2-Year yield in grey over the last 30 years. Note that recessions (2001, 2007, and 2020) are shaded in red.



How do the economy and stock market typically perform after an inversion?

We have data on the 10YR-3M and 10YR-2YR spreads going back to the early 1960s. Over the past sixty years, there have been eight 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.

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%
March-2019	2.44%	February-2020	11	11	23%
October-2022	4.00%				
Median	**6.03%**		**13**	**10**	**19%**
Average	**6.54%**		**15**	**11**	**22%**

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%
August-2019	1.61%	February-2020	5	6	17%
July-2022	2.81%				
Median	**5.70%**		**18**	**12**	**20%**
Average	**6.21%**		**18**	**13**	**20%**

Source: Winthrop Wealth, Bloomberg, and National Bureau of Economic Research (NBER).

A few observations about the data:

- A yield curve inversion before each of the last eight recessions is notable. However, eight is a small sample size.
- Prior to 2019, yield curve inversions occurred without the Fed intervening in the bond market through their quantitative easing program.
    - » While the yield curve did invert in 2019 before the 2020 recession, it is very unclear if the United States and global economy would have experienced a recession without the pandemic.
- 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.
- Historical averages would forecast a recession and market peak at some point in late-2023 or early-2024.

Does this mean a recession is imminent?

We started writing that a mild US recession felt inevitable last summer, and our view has not changed as several recessionary indicators are still flashing yellow or red. Over the past several weeks manufacturing data, economic indicators, consumer spending, and the housing market have all weakened. It's not hard to see signs of a recession in these areas. Meanwhile, the strength of the economy currently lies with the labor market as the unemployment rate of 3.6% is close to a 50-year low. With the Fed actively trying to soften the labor market to bring down inflation by lowering the overall demand for goods and services, we expect the unemployment rate to tick up over the next few months.

An over-simplified business cycle historically followed a similar pattern: the economy expands rapidly - unemployment falls - inflation overheats - financial bubbles form - the Fed responds by raising interest rates – credit tightens - good borrowers struggle to find loans – the economy stumbles - a recession occurs – the economy bottoms - repeat. We've seen the first stages of the business cycle play out starting in mid-2020. The turmoil in the banking sector that started with **Silicon Valley Bank** may end up tightening credit enough to push the economy into a recession. According to the latest FOMC minutes, the Fed now projects "a mild recession starting later this year given the assessment of the potential economic effects of the recent banking-sector developments." *Please see below for our thoughts on why a recession does not necessarily have to be a traumatic event for long-term investors.*

United Stated Recessions and S&P 500 Performance

The National Bureau of Economic Research (NBER) Business Cycle Dating Committee is charged with maintaining official records of expansions and recessions in the United States. The NBER defines a recession as a significant decline in economic activity while an expansion is defined as a period where economic activity rises substantially. According to the NBER, since 1929 there have been 15 recessions in the US lasting an average of 13 months each.

The open debate on whether the economy has already fallen into a recession will continue for a while longer. The NBER has stated the current period does not meet their definition of a recession.

The good news for long-term investors is that the S&P 500 already priced in an average recession last year when the index fell by -24.5% from January 3rd through October 12th. We are not sure if October 12th marks the ultimate bottom for this period, although unless your view is that this is the start of another Great Depression or Financial Crisis, then a lot of the damage in the equity market may have already occurred at the recent low.

A key tenant to our investment philosophy is to maintain a long-term viewpoint. A lot of short-term predictions about the market or the economy are just noise. As such, we focus on the fact that recessions can create buying opportunities for long-term investors. During the last 15 recessions, the S&P 500 declined by an average of -30.0%. However, once the market bottomed, performance was very strong over subsequent 1-YR (+50.1%), 3-YR (+79.0%), and 5-YR (+142.1%) periods. We will rely on our time-tested process to utilize any market volatility as an opportunity to tax loss harvest, reposition and rebalance portfolios, and selectively put money to work for clients that have recently made contributions to their accounts.

At Winthrop Wealth, we apply a Total Net Worth Approach to both comprehensive financial planning and investment management. We believe financial planning drives the investment strategy and provides a roadmap to each client's unique goals and objectives. The comprehensive financial plan defines cash flow needs, is stress tested for various market environments, seeks to optimize account structures, considers tax mitigation strategies, and continuously evaluates financial risks as circumstances and/or goals change. The investment management process is designed to provide well-diversified portfolios constructed with a methodology based on prudent risk management, asset allocation, and security selection. Investors are reminded that no strategy assures success or guarantees against loss.

United States Recessions			S&P 500 Performance						
Economic Growth Peak	Economic Growth Trough	Peak to Trough (Months)	S&P 500 Peak	S&P 500 Trough	Peak to Trough (Months)	Peak to Trough Decline	1-Year Post Trough	3-Year Post Trough	5-Year Post Trough
August 1929	March 1933	44	September 1929	June 1932	33	-86.2%	121.4%	117.7%	287.9%
May 1937	June 1938	13	March 1937	March 1938	13	-51.3%	34.8%	36.3%	82.8%
February 1945	October 1945	8	January 1945	January 1945	0	-3.5%	42.7%	24.9%	74.6%
November 1948	October 1949	11	June 1948	June 1949	12	-15.5%	59.9%	132.8%	206.8%
July 1953	May 1954	10	January 1953	September 1953	8	-12.4%	45.6%	137.3%	165.0%
August 1957	April 1958	8	July 1957	October 1957	3	-19.8%	36.2%	52.0%	68.9%
April 1960	February 1961	10	January 1960	October 1960	10	-11.1%	34.8%	55.9%	106.0%
December 1969	November 1970	11	May 1969	May 1970	13	-32.2%	48.9%	71.3%	56.1%
November 1973	March 1975	16	January 1973	October 1974	21	-44.8%	44.4%	76.4%	122.9%
January 1980	July 1980	6	February 1980	March 1980	1	-16.7%	44.4%	82.5%	133.5%
July 1981	November 1982	16	January 1981	August 1982	19	-19.1%	66.1%	111.0%	300.3%
July 1990	March 1991	8	July 1990	October 1990	3	-19.2%	33.5%	70.8%	126.4%
March 2001	November 2001	8	January 2001	September 2001	8	-29.1%	-11.1%	22.2%	49.7%
December 2007	June 2009	18	October 2007	March 2009	17	-55.2%	72.3%	115.0%	208.7%
February 2020	April 2020	2	February 2020	March 2020	1	-33.8%	77.8%	85.1%	
Average (15)		13			11	-30.0%	50.1%	79.4%	142.1%
Median (15)		10			10	-19.8%	44.4%	76.4%	124.7%
Average (14. Ex. Great Depression)		11			9	-26.0%	45.0%	76.7%	130.9%
Median (14. Ex Great Depression)		10			9	-19.5%	44.4%	73.8%	122.9%

Source: Winthrop Wealth, Bloomberg, and National Bureau of Economic Research (NBER).

DISCLOSURES:

Content in this material is for general information only and not intended to provide specific advice or recommendations for any individual.

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.

This information is not intended to be a substitute for specific individualized tax advice. We suggest that you discuss your specific tax issues with a qualified tax advisor.

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 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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Diversification does not protect against market risk. All investing involves risk which you should be prepared to bear.

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