

July 2022

An Inverted Yield Curve: What Does It All Mean?

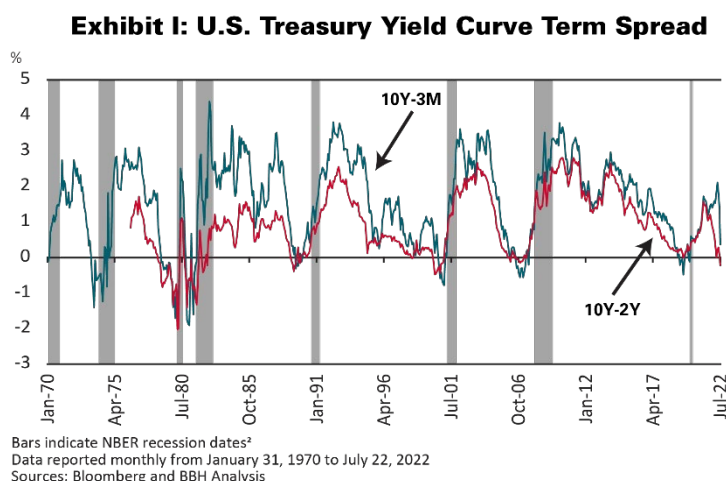
Economists are known to be poor forecasters of recessions. Market-based indicators, such as the slope of the Treasuries yield curve, have a better record. A common assertion among economists and investors is that an inversion of the yield curve almost always precedes an economic downturn. In fact, since 1970, the yield curve has inverted before **every** recession.

We take a deeper look at the interaction between the yield curve slope, investor expectations, and monetary policy. The shape of the yield curve embeds investors' expectations about the future level of short-term interest rates. When investors expect a future economic downturn, they also anticipate that the Federal Reserve (Fed) will ease short-term interest rates in response. Hence, a higher risk of recession drives forward-looking investors to bid up the price (and reduce the yield) of intermediate- and long-maturity bonds, which can invert the yield curve.

To focus on the most salient aspects of the relationship between the slope of the yield curve and future economic performance, we organize this Strategy Insight as Frequently Asked Questions.

What Do We Mean by an Inverted Yield Curve?

An inverted yield curve denotes a situation in which long-maturity rates are below short-maturity rates, or in other words, the term spread is negative. The academic literature often measures the term spread as the difference between the yield on the 10-year Treasury note, which reflects long-term views of bond investors, and the yield on the 3-month Treasury bill (10Y-3M), a proxy for the federal funds rate targeted by the Federal Open Market Committee (FOMC). Some market participants also use the difference between 10- and 2-year yields (10Y-2Y) to measure the slope of the yield curve. Both measures exhibit a similar behavior with respect to the business cycle, but some argue that the 10Y-3M spread is the most useful indicator of future recessions¹ (see Exhibit I).



Why Does the Yield Curve Invert Before Recessions?

Investors' expectations and the Fed's changes in policy stance given views on the economic cycle interact in the process. Recall that the interest rate on a long-term security in part reflects the expected path of future short-term rates. This path is affected by both expectations about the economic cycle and monetary policy. When investors expect an economic downturn, they expect the FOMC to cut the policy rate in the future. Expectations of lower future short-term rates reduce longer-term rates today as investors increase demand for longer-term securities. Also, concerns about a downturn tend to emerge deep into the Fed's tightening cycle; i.e., following a few increases in short rates. Hence, higher short-term rates, coupled with expectations of rate cuts in the future, can result in an inverted yield curve. To the extent that investors' forecasts of a downturn are correct, such changes in the slope of the yield curve will correspond to a higher probability of a future recession. In the current cycle, recession fears have manifested early (the 10Y-2Y spread has already become negative), since the Fed has only increased rates three times thus far.

¹ Bauer and Mertens, 2018, Economic Forecasts with the Yield Curve. Federal Reserve Bank of San Francisco (FRBSF) Economic Letter.

² NBER is National Bureau of Economic Research.

Where Does the Fed Fit into All of This?

The notion of a Fed's *reaction function* in its current form strengthened under Alan Greenspan (in office 1987-2006). Since 1987, the U.S. has experienced four recessions, each of them preceded by a yield curve inversion. The Fed's dual mandate of maximum employment and price stability guides policy. As mentioned before, when investors expect a downturn, they expect the Fed to follow its reaction function and ease policy, lowering short-term rates.

Note that the yield curve inverted for a brief period in September 1998, just before the Fed eased rates in the September 29th meeting. The Fed eased rates again between meetings on October 15th, and one more time at the November 17th meeting. These policy actions reduced market volatility and lifted subsequent economic activity, leading the Fed to resume its tightening cycle in 1999 (see Exhibit I).

The short inversion of 1998 is seldom counted as a false positive; i.e., inversion not followed by a recession. In hindsight, the distinctive feature about this episode is the fact that inversion did not occur at the peak of the tightening cycle, as the Fed eased rates amidst the possibility of a downturn and high volatility in financial markets (remember Long-Term Capital Management?). In retrospect, the Fed's reaction may have postponed the recession.

How Long After Inversion Does a Recession Begin?

Since 1970, it took 14 months on average from the first time the 10Y-3M spread inverted until a recession started. Furthermore, using data on both the 10Y-3M and 10Y-2Y spreads, and the National Bureau of Economic Research (NBER)² recession indicator, we derived the probability that a recession will begin in 12 months. Exhibit II shows a time series of these probabilities and the actual recessions. At today's spreads, the likelihood of a recession in 12 months is about 40% using the 10Y-3M spread and 50% using the 10Y-2Y spread. The difference results from a negative 10Y-2Y spread as opposed to a positive 10Y-3M spread.

What are the Fundamentals Saying About the Economy?

Our preferred measure of economic activity, the 3-month moving average of the Chicago Fed National Activity Index (CFNAI), is currently at -0.04. A positive value of this indicator signals above-trend growth, while negative values signal below trend growth, and a value of -0.7 denotes its recession threshold. Although overall economic activity remains above the recession threshold, a decline in production and income categories lowered the CFNAI recently (see Exhibit III).

Exhibit II: Probability a Recession Starts in 12 Months

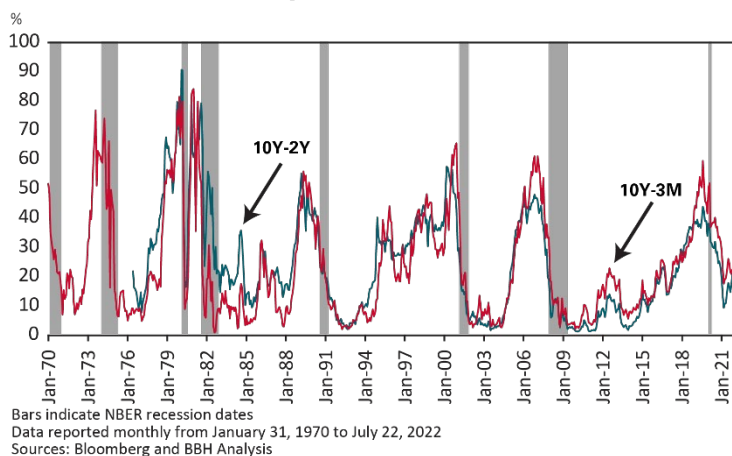
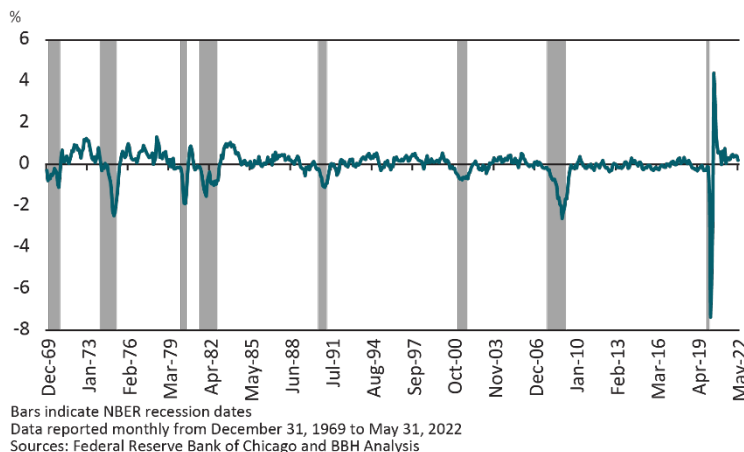


Exhibit III: Chicago Fed National Activity Index



How Do We See the Above Developments in a Portfolio Context?

Our investment process is driven by bottom-up, fundamental research. We do not make explicit macro predictions. Our view is that there is reason for caution about the strength of the economy, especially as the Fed remains committed to price stability and maintains a hawkish stance. Our portfolio positioning in credit is driven by valuations, not based on economic cycle predictions. Just as in 1Q20, we are well-positioned to take advantage of an economic downturn should it come to pass.



*Jorge Aseff, PhD
Senior Vice President
Inflation-Linked Strategies Co-Manager*



*Andrew P. Hofer
Managing Director
Fund Co-Manager*



*Neil Hohmann, PhD
Managing Director
Fund Co-Manager*



Issuers with credit ratings of AA or better are considered to be of high credit quality, with little risk of issuer failure. Issuers with credit ratings of BBB or better are considered to be of good credit quality, with adequate capacity to meet financial commitments. Issuers with credit ratings below BBB are considered speculative in nature and are vulnerable to the possibility of issuer failure or business interruption.

Opinions, forecasts, and discussions about investment strategies represent the author's views as of the date of this commentary and are subject to change without notice. References to specific securities, asset classes, and financial markets are for illustrative purposes only and are not intended to be, and should not be interpreted as recommendations.

RISKS

Investing in the bond market is subject to certain risks including market, interest-rate, issuer, credit, and inflation risk; investments may be worth more or less than the original cost when redeemed. Income from municipal bonds may be subject to state and local taxes and at times the alternative minimum tax.

Investors should be able to withstand short-term fluctuations in the fixed income markets in return for potentially higher returns over the long term. The value of portfolios changes every day and can be affected by changes in interest rates, general market conditions and other political, social and economic developments.

For more complete information, visit www.bbhfunds.com for a prospectus. You should consider the fund's investment objectives, risks, charges and expenses carefully before you invest. Information about these and other important subjects is in the fund's prospectus, which you should read carefully before investing.

Shares of the Fund are distributed by ALPS Distributors, Inc. and is located at 1290 Broadway, Suite 1000, Denver, CO 80203.

Brown Brothers Harriman & Co. ("BBH"), a New York limited partnership, was founded in 1818 and provides investment advice to registered mutual funds through a separately identifiable department (the "SID"). The SID is registered with the U.S. Securities and Exchange Commission under the Investment Advisers Act of 1940.

NOT FDIC INSURED

NO BANK GUARANTEE

MAY LOSE VALUE

IM-11444-2022-07-27

BBH003576

Expiration Date 08/31/2023