INVESTMENT STRATEGY COMMENTARY

YIELD CURVE INVERSIONS

START YOUR RECESSION TIMER?

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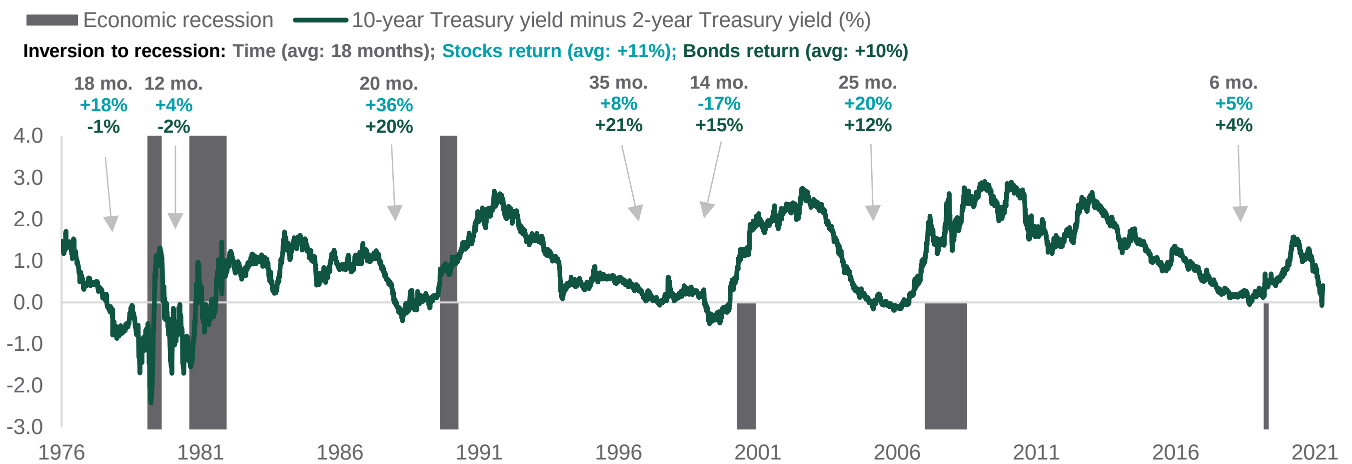
Treasury curve inversions have historically been reliable precursors of recession – and the recent yield curve inversion has given some pause. We caution against being too pessimistic. Recessions tend to meaningfully lag inversions and financial market performance between inversion and recession has historically been decent.

In this report we refer to an "inversion" as when the 10-year Treasury yield falls below the 2-year Treasury yield. The "3-month/10-year" spread is also often cited (including by the Federal Reserve), but we focus on the "2s/10s" in this report as it is the 2s/10s curve that recently inverted (if only briefly). The 3-month/10-year remains firmly in positive territory, but that could change as the Fed begins its rate hike campaign in earnest. Historically, the 2s/10s inverts about one month earlier than the 3-month/10-year on average – but that might be delayed this cycle as quite a few rate hikes (just under 11 at the time of this writing) are priced in for full-year 2022, and we think that may be a bit too aggressive.

Over the past 50 years, there has never been a recession without an inversion first. This makes a yield curve inversion a strong recession indicator – but it could work on its timing. Historically, the recession has come anywhere from six to 35 months after the initial inversion – and a full 18 months later on average. Further, financial market returns tend to do okay in the interim. Exhibit 1 shows the 2s/10s with recessions shaded and stock/bond returns from initial inversion to start of recession listed. Other than one negative performance (during the start of the dot-com bust), equity returns have held up quite well – as have bond returns.

EXHIBIT 1: HISTORICAL INVERSIONS

On average, recessions have occurred 1.5 years after inversions – and stocks and bonds have done well during that period.



Source: Northern Trust Asset Management, Bloomberg, St. Louis Fed, NBER. Monthly recession dates as specified by NBER recession-based indicators wherein a recession begins the first day of the period following a peak and ends on the trough. Total holding period returns from inversion to recession. Data as of 4/19/2022. [1]See disclosure at the end of the report for indexes used. Past performance is not indicative or a guarantee of future results. Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index.

POST-INVERSION: INTEREST RATES, CREDIT SPREADS AND VALUATIONS

Barring exceptional monetary policy tightening, Treasury yields have tended to fall after inversions. In 1978 and 1980, interest rates were driven by the Volcker-led Fed. It was tasked with "breaking the back of inflation" – and it did, albeit after pushing short rates over 10% and contributing to two recessions.

Excluding these two periods, the 2- and 10-year Treasury yields fell by an average of 91 and 67 bps, respectively, in the year post-inversion. Curves tend to invert once markets have priced in Fed hikes, so a fall in back-end Treasury yields as the rate hike cycle matures makes sense. However, as noted, the Volcker-led Fed did the opposite and there were strong enough moves that, on average, interest rates have slightly risen (Exhibit 2). We do not expect the Powell-led Fed will be as aggressive as the Volcker-led Fed; but will likely need to respond more forcefully than the Greenspan- and Bernanke-led Feds. As such, we believe the rate trajectory over the next year will be tamer than experienced under Carter/Reagan – but possibly not as sanguine of a reaction as we have seen in recent decades.

EXHIBIT 2: PRICING IN RECESSION RISK

Excluding the unusual 1978 and 1980 episodes, interest rates tend to decline after inversions.

RATES, SPREADS AND VALUATIONS FOLLOWING 10Y/2Y CURVE INVERSIONS								
Inversion date	Average	Aug-19	Dec-05	Feb-00	May-98	Dec-88	Sep-80	Aug-78
10Y on inversion date (%)	6.71	1.54	4.34	6.57	5.57	9.16	11.32	8.48
One-year change in 10Y (bps)	13	-85	31	-143	-2	-138	373	53
One-year change in 2Y (bps)	17	-139	44	-196	-24	-143	477	96
IG OAS on inversion date (bps)	95	113	82	115	69	-	-	-
One-year change in IG OAS (bps)	23	11	-1	50	33	-	-	-
High yield OAS on inversion date (bps)	379	400	340	484	293	-	-	-
One-year change in high yield OAS (bps)	98	81	-59	219	151	-	-	-
S&P 500 Index PE ratio (x)	17	19	17	28	25	12	8	9
One-year change in PE ratio (%)	8	43	-2	-13	14	22	7	-13

Source: Northern Trust Asset Management, Bloomberg. Basis points = bps; option-adjusted spreads = OAS. Data as of 4/19/2022. [1]See disclosure at the end of the report for indexes used. It is not possible to invest directly in any index.

Credit spreads (also found in Exhibit 2) have historically widened in the year following inversions. Directionally this is what one would expect as credit begins to price in a higher risk of recession. Nonetheless, we have a limited data history for credit spreads (spanning four inversion episodes) and in all those periods spreads were well-behaved enough to allow for positive returns (more on this below). Regarding equity multiples, on average in the year following inversions the S&P 500 Index price-to-earnings ratio has increased by 8%. That said, the track record is mixed – and the 43% rise in the multiple following the COVID drawdown skews the average upward. Nonetheless, equities have boasted positive returns from inversion to recession, as earnings growth has also proven resilient.

POST-INVERSION: EQUITY MARKET RETURNS

We have noted that investors who have held onto U.S. equities from inversion to recession have been rewarded – on average. But was this the case throughout every inversion episode? In Exhibit 3 we show that in six of the seven prior inversion periods, the S&P 500 Index has realized positive returns from inversion to recession (or 86% of the time). The one exception is the 2000 occurrence when the Tech bubble popped and led to negative equity returns. In the other six non-bubble market environments equity markets were positive, with the S&P 500 Index up 15% on average. As such – and while only a sample size of seven – we have evidence that equity markets are still "investable" during the period between inversion and recession. In fact, when compared to the broad historical experience, our data set suggests that the one-year periods after inversions are *better* times to invest – with a higher hit rate (86% versus 73%) and a better average return (14% versus 12%).

EXHIBIT 3: AN IMPRESSIVE TRACK RECORD

U.S. equities have posted positive returns from inversion to recession 86% of the time.

S&P 500 RETURNS FOLLOWING 10Y/2Y CURVE INVERSIONS (%)					
Inversion	**6m**	**12m**	**24m**	**Inversion to recession**	**Time to recession (months)**
Aug-78	(3)	9	34	18	18
Sep-80	7	1	8	4	12
Dec-88	19	32	28	36	20
May-98	8	17	28	8	35
Feb-00	3	(1)	(18)	(17)	14
Dec-05	(1)	14	23	20	25
Aug-19	11	23	63	5	6
Average	6	14	24	11	18
% positive	71	86	86	86	-

Source: Northern Trust, Bloomberg. Data as of 4/19/2022. [1]See disclosure at the end of the report for indexes used. Past performance is not indicative or a guarantee of future results. Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index.

POST-INVERSION: RETURNS ACROSS ASSET CLASSES

In looking at broad asset class performance, U.S. equities are not the only asset with positive returns from inversion to recession. In fact, all major asset classes we track have had positive returns (Exhibit 4). Of course, Treasury curve inversions are generally U.S.-specific events, so non-U.S. performance should be viewed in context of other relevant variables at the time. Candidly, there does not appear to be any statistically significant inferences to be made from this data. But it is certainly encouraging to see positive returns across the board – and, importantly, positive returns out of non-equity risk assets (e.g., high yield, real assets) during the lone period of equity market weakness (the 2000 episode).

EXHIBIT 4: POSITIVE ASSET CLASS RETURNS

While highly variable, returns on average have been positive from inversion to recession.

SELECT ASSET CLASS RETURNS FROM 10Y/2Y INVERSION TO NEAREST RECESSION								
Inversion	**Average**	Aug-19	Dec-05	Feb-00	May-98	Dec-88	Sep-80	Aug-78
Nearest recession	n.a.	Mar-20	Jan-08	Apr-01	Apr-01	Aug-90	Aug-81	Feb-80
Inversion to recession (months)	18	6	25	14	35	20	12	18
Natural Resources	29	-5	83	16	22	30	-23	117
Global Listed Infrastructure	24	0	70	11	12	-	-	-
TIPS	15	3	12	18	25	-	-	-
Investment Grade	13	4	12	15	21	20	-1	-1
Emerging Market Equities	10	4	87	-35	-15	98	-	-
Global Real Estate	9	-2	32	5	-1	-	-	-
Cash	8	1	10	7	16	-	-	-
High Yield	5	2	14	1	2	8	-	-
Dev. ex-U.S. Equities	5	0	42	-20	-3	-1	-3	17
U.S. Equities	4	5	20	-17	8	36	4	18

Source: Northern Trust Asset Management, Bloomberg, St. Louis Fed, NBER. *Averages start with 1998; Natural Resources uses Commodities for 1978-2000, and Global Listed Infrastructure uses Utilities sector from 1998-2000. [1]See asset class returns disclosure and indexes used at end of the report. Past performance is not indicative or a guarantee of future results. Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index.

CONCLUSION: EXHALE… AND CERTAINLY DON'T HOLD YOUR BREATH

The recent 2s/10s inversion points to recession … sometime in the next six to 35 months. In other words, inversions have been reliable – but not timely – indicators of recessions. And financial markets can behave quite well in the meantime. History shows that recessions tend to lag inversions by over 1.5 years on average and – during that time – both stocks and bonds tend to reward investors who stay invested. There are exceptions such as the Volcker era and Tech bubble. However, we expect Fed policy to evolve less aggressively than is currently priced into markets – and we have not observed broad-based bubble-like behavior. As such, we do not view the most recent 2s/10s inversion (in and of itself, anyway) as an issue yet. To paraphrase famous investor Peter Lynch, it's quite possible that more money has been lost waiting for the post-inversion recession than in the recession itself.

[1]Asset class returns generally represented by leading indices may be substituted for security or strategy returns where historical data for the security or strategy is deemed insufficient to provide statistically accurate results or as a broad representation of security or strategy performance. These benchmark rates of returns should not be considered as exact replications of the security or strategy returns, but rather an approximation for illustrative purposes.

Indexes used: Bloomberg (BBG) U.S. Treasury Bills 1-3 Months (Cash); BBG U.S. Aggregate (Investment Grade, “IG”, “Bonds”); BBG U.S. Treasury Inflation Notes (TIPS); ICE BofA U.S. High Yield (High Yield); S&P 500 (U.S. Equities, “stocks”); MSCI World Excluding U.S. (Dev. ex-U.S. Equities); MSCI Emerging Markets (Emerging Market Equities); BBG Commodities (Commodities); MSCI ACWI IMI Core RE (Global Real Estate); S&P Global Infrastructure (Global Listed Infrastructure); S&P Global Natural Resources (Natural Resources).