

**SKY Harbor Weekly Briefing**

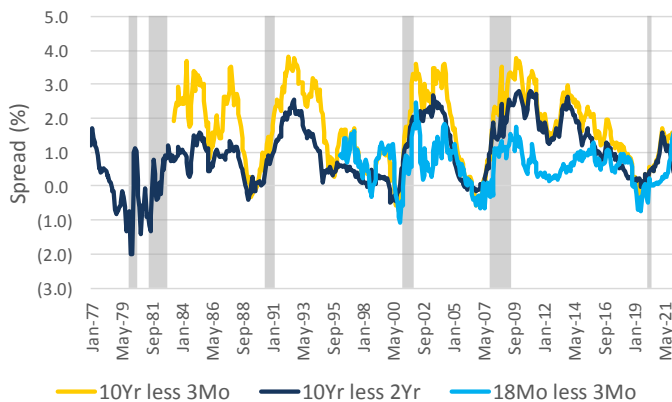
**SKYView: Yield Curve Inversion**

Investor focus has been squarely on the slope of the yield curve, with the widely accepted barometer of recession risk – the 2s/10s spread – nearly inverting at various points during this past week. Though a robust body of research would imply that inversion needs to be both sustained and pervasive across a number of measures before it becomes a valid indicator of future stress, we nevertheless anticipate widespread concern that an economic contraction may be on the horizon. In this *Weekly Briefing*, we take a look back at the efficacy of inversion as an indicator of a contraction, with the goal of gauging how long investors should stay in high yield (or risky assets in general) once the alarm has been sounded.

**Spread differentials between short-term and long-term rates have, historically speaking, been good predictors of future recessions.** As such, the financial press took notice when the 2s/10s curve flattened dramatically this past Tuesday (March 29), perhaps even inverting (some price sources say we inverted by 1 bp, some say we came 1 bp away from inverting) for a brief moment. Regardless, it is commonly accepted that **inversion must be sustained for a period of time before ascribing any efficacy to the measure as a warning sign for economic growth**<sup>1</sup>. Furthermore, a Federal Reserve research paper<sup>2</sup> found evidence that the “long-term spread” (for example, the 10-Year yield less the 2-Year yield) is a less reliable indicator of a future recession than a “near-term forward spread” (the difference between the current implied forward rate on Treasury bills six quarters from now and the current yield on a three-month Treasury bill). Of note, this preferred measure has not inverted (neither has the differential between 10-Year and 3-Month Treasury yields), remaining well above parity and even rising during the most recent bout of rate volatility.

**Yield Curve Inversion Typically a Strong Indicator of Recession**

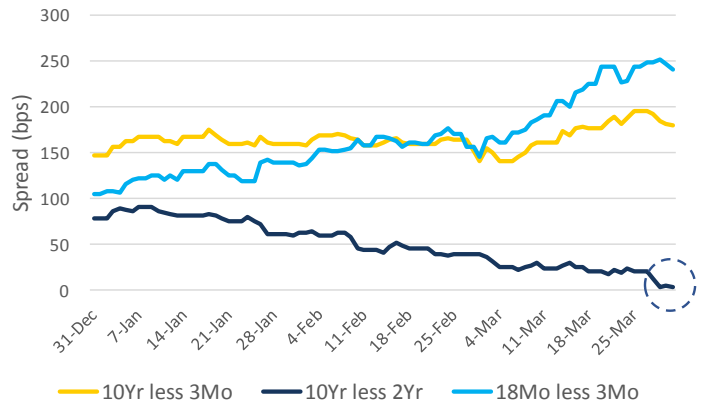
monthly data, recessions shaded grey



Source: SKY Harbor, Bloomberg

**2s/10s Came Close to Inverting; Other Measures on the Rise**

daily data since the start of the year



For the sake of argument, let's imagine the 2s/10s curve (along with the near-term forward spread) has sustainably inverted. What does this mean for markets? First, **while curve inversion has predated each of the last six recessions in our data set, we caution that there have been false positives in the past.** Furthermore, inversion – even when not a false positive – tends to be a long-leading indicator of a recession. Given the somewhat imprecise definition of a “sustained” inversion, our analysis assumes that shorter-term rates must exceed longer-term rates (we use two different but widely accepted measures) through at least one month-end period. As demonstrated below, **the timing between inversion and recession is typically sizeable, with a median of 12 to 15 months (depending on the curve used).** Note, also, that excluding the COVID-induced recession in 2020 (curves inverted in mid-2019, but the exogenous shock of pandemic-related lockdowns likely sped up an eventual recession), **the median distance between the two events is even longer, or approximately 14 to 17 months.**

**Inversion to Recession (10yr Treasury less 2yr Treasury)**

monthly data

Month of Inversion	Month Recession Begins	Lead Time (# of Months)
August '78	January '80	17
September '80	July '81	10
January '89	July '90	18
February '00	March '01	13
December '05	December '07	24
August '19	February '20	6
<b>6 Recession Average</b>		<b>14.7</b>
<b>6 Recession Median</b>		<b>15.0</b>

**Inversion to Recession (10yr Treasury less 3Mo Treasury)**

monthly data

Month of Inversion	Month Recession Begins	Lead Time (# of Months)
May '89	July '90	14
July '00	March '01	8
February '06	December '07	22
May '19	February '20	9
<b>4 Recession Average</b>		<b>13.3</b>
<b>4 Recession Median</b>		<b>11.5</b>

Source: SKY Harbor, ICE Data Indices, Bloomberg, National Bureau of Economic Research

<sup>1</sup> St. Louis Federal Reserve President James Bullard commentary in Aug '19; <https://www.cnbc.com/2019/08/16/feds-bullard-says-only-a-sustained-bond-inversion-would-be-a-bearish-signal.html>  
<sup>2</sup> <https://www.federalreserve.gov/econres/notes/feds-notes/dont-fear-the-yield-curve-20180628.htm>

Let us furthermore assume that we have had both a sustained curve inversion and that asset allocators choose to do nothing after the countdown to a recession begins. Would returns suffer materially? Using the last three recessions in which we have relevant high yield index data (we use the ICE BofA US High Yield Index, ticker H0A0, as a proxy for broad market high yield risk, and ticker JVC4 to approximate short duration high yield risk), we calculated returns during what we will call the “anticipation” period. The “anticipation” period, or the time between inversion and recession, has varied in length, from ~ 6 months (the COVID-induced recession of 2020) to ~ 24 months (the lead up to the Global Financial Crisis). Since all periods have different lengths, we present annualized returns based on monthly data for each “anticipation” span below. **Our findings show that average and median “anticipation” period returns are actually better than performance generated in the 12-month lead-up to inversion.** Said otherwise, high yield returns have historically improved after yield curve inversion sparks concerns over a future recession.

### Uptick in Returns During "Anticipation" Period: Broad HY (H0A0)

based on monthly data

Month of Inversion (Start of "Anticipation" Period)	Duration of "Anticipation" Period	Annualized "Anticipation" Period Return	Annualized Return 12mos Prior to "Anticipation" Period
February '00	13 months	2.6%	1.7%
December '05	24 months	7.0%	2.7%
August '19	6 months	7.2%	6.6%
<b>Average</b>	<b>14 months</b>	<b>5.6%</b>	<b>3.7%</b>
<b>Median</b>	<b>13 months</b>	<b>7.0%</b>	<b>2.7%</b>

### Equivalent Results for Short Duration HY (JVC4)

based on monthly data

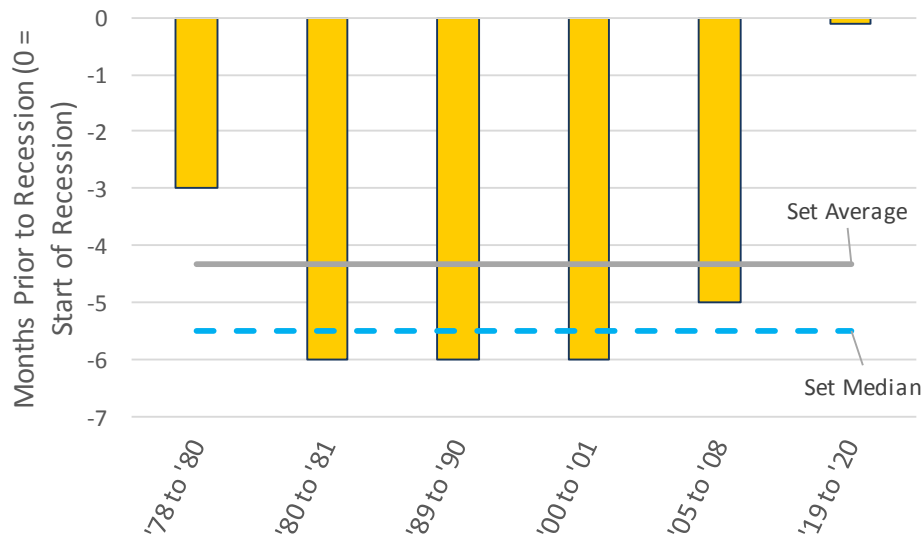
Month of Inversion (Start of "Anticipation" Period)	Duration of "Anticipation" Period	Annualized "Anticipation" Period Return	Annualized Return 12mos Prior to "Anticipation" Period
February '00	13 months	3.7%	5.2%
December '05	24 months	6.5%	3.2%
August '19	6 months	6.0%	6.1%
<b>Average</b>	<b>14 months</b>	<b>5.4%</b>	<b>4.8%</b>
<b>Median</b>	<b>13 months</b>	<b>6.0%</b>	<b>5.2%</b>

Source: SKY Harbor, ICE Data Indices, Bloomberg, NBER

The level of total return enhancement, however, varies both by examination period and convergence in time toward the actual beginning of an economic contraction. With this in mind, we changed our analysis, this time identifying the point at which rolling 3-month short-term Treasury (we use the 3-Month T-bill) returns begin to outpace rolling 3-month returns of “risky” assets (note that we replace high yield with S&P 500 equity returns, thereby increasing the size of our dataset twofold to the last six recessions; note further that high yield and S&P 500 returns have historically been highly correlated over time, particularly during periods of stress). As demonstrated below, **“risky” assets only begin to sustainably underperform “riskless” assets four to six months prior to the start of a recession.** This implies that “risky” assets outperform during the majority of the period between inversion and recession, with investors perhaps more significantly penalized for divesting too soon, rather than too late.

## Shifting Risk Sentiment: When Rolling 3-Month Returns Begin to Favor Riskless Assets

monthly data during pre-recessionary "anticipation" periods



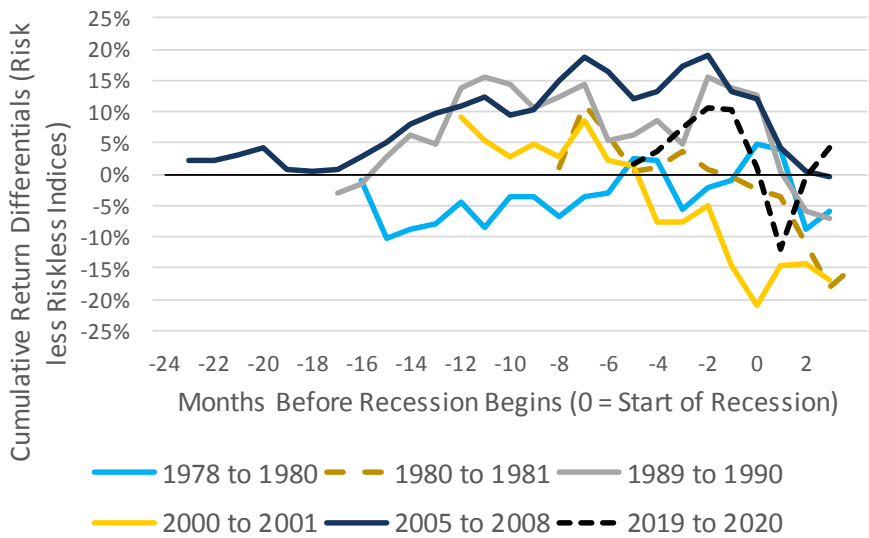
Month of Inversion	Months Before Start of Recession (= 0) Riskless Assets O/P Risky Assets
August '78	(3)
September '80	(6)
January '89	(6)
February '00	(6)
December '05	(5)
August '19	0
<b>Average</b>	<b>(4.3)</b>
<b>Median</b>	<b>(5.5)</b>

Source: SKY Harbor, ICE Data Indices, Bloomberg, NBER

An obvious pitfall to the analysis above is that, in real-time, investors don't know how long the period between inversion and recession will ultimately last. What they do know, however, is the start of the inversion period. With this in mind, we generated cumulative total return differentials (“risky” less “riskless” indices) that begin following the first month of inversion, and end when in the final month of “risky” outperformance. As demonstrated below, **cumulative return differentials favor “risky” assets until ~ two months before the start of a recession, or roughly 14 months after inversion (over 80% of the “anticipation” period).** Again, our findings suggest that selling risk too quickly after inversion is perhaps more negatively impactful to performance than selling a bit too late.

# "Anticipation" Period Cumulative Return Differentials

Risk (S&P 500) Returns less Riskless (3mo Tsy) Returns



Month of Inversion	Months Before Start of Recession (= 0) Riskless Assets O/P Risky Assets
August '78	(4)
September '80	(3)
January '89	1
February '00	(5)
December '05	2
August '19	0
<b>Average</b>	<b>(1.5)</b>
<b>Median</b>	<b>(1.5)</b>

Source: SKY Harbor, ICE Data Indices, Bloomberg, NBER

Attention has rightly been paid to financial markets following a significant flattening of the 2s/10s curve this past week, with most economists predicting that further Fed tightening will eventually result in a sustained inversion. With that said, we remind readers that false positives have occurred in the past, and at the very least there typically exists a long lag between inversion and the start of economic contraction. Even so, a prudent analysis of risk asset performance is merited given a heightened sense of uncertainty. Based on historical data (limited as it may be), we continue to believe there exists greater downside in selling risk assets too soon rather than too late, and remain optimistic about high yield in the current market environment.

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