Sankala Group

Asset Class Response Function to Yield Curve Inversion

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Introduction

We are currently living through the first prolonged bear market since the Financial Crisis of 2007-2009. From top to bottom, that bear market lasted 18 months and the S&P 500 fell 56%. As of the end of September, we stand at 9 months and the market has fallen 24%. Are we half way through? Of course, the honest answer is, “we don’t know.” That said, we do our best to research historical data and analyze current data to find answers to smaller questions that are more answerable. Now that the yield curve has held its inversion for 3 months, officially sending its recession warning, in this letter we ask the question, “how have different asset classes responded to yield curve inversions in the last 50 years?”

Executive Summary

Since our data set includes only 6 yield curve inversions, we recognize that all of our observations lack the sample size needed to make strong conclusions. With that disclaimer, we do find several interesting preliminary results: 1) the 18 months after an inversion have the lowest average monthly return across the 18 asset classes we analyzed; 2) during these 18 months, only gold, gold miners, long value/short growth, US aggregate bonds, and intermediate Treasuries outperformed their respective full sample average monthly return; 3) given the historically wide spread between overvalued growth stocks and undervalued value stocks, a long value/short growth strategy looks particularly promising in the current market environment; 4) international value, emerging market value, copper, high yield bonds, the S&P 500, and US growth all produced very weak to significantly negative average monthly returns during the 18 months post inversion; 5) counter cyclical stocks showed the most consistently high return over the full 36 month period post inversion.

Yield Curve Inversion Predictive Power

For a detailed review of the yield curve, please refer to the Sankala Group letter: Understanding the Yield Curve. And to see our initial work on the predictive power of the yield curve, refer to our letter: The Trillion Dollar Question. The yield curve is the line formed when plotting the maturity of Treasury bonds on the X-axis vs their yield on the Y-axis. During normal economic times, the yield curve slopes up from lower yielding, short maturity bonds to higher yielding, long maturity bonds. This positive slope usually signals future economic expansion. But as the business cycle nears its peak, the yield curve often inverts when the Federal Reserve raises short term interest rates in an attempt to slow the economy to reduce inflation. Temporary inversions on the order of days are not considered meaningful, but when the curve holds an inversion for 3 months, the US has subsequently entered a recession (within 5 to 24 months) 9 out of the 10 times that the curve has inverted in the last 67 years (the one false positive occurred in the mid 1960's when the economy did slow, but did not actually enter a recession). (The yield curve started to invert in 2019, but there was no way it could have foreseen the pandemic in early 2020, so it is inappropriate to credit the yield curve with predicting the COVID recession.) With 90% accuracy, an inverted yield curve is the single strongest leading indicator of a recession.

Asset Class Returns Post Yield Curve Inversion

Since our 2018 letter about the predictive power of the yield curve, we have gathered many more historical asset class return data sets, now spanning 18 asset classes. The data runs from

July 1972 through January 2021. During this 48.5-year period, there were 6 yield curve inversions of our preferred measure, the 1yr vs 10yr Treasury yield. These inversions correctly predicted 6 recessions that started within 5 to 15 months (average 11 months). We analyzed the average monthly return of each asset class in 3-month intervals during the 36 months after each yield curve inversion (Table 1).

Table 1. Asset class monthly average returns after yield curve inversion

	Full Period	Months post yield curve inversion											
Asset Class	**Ave Return**	**3**	**6**	**9**	**12**	**15**	**18**	**21**	**24**	**27**	**30**	**33**	**36**
US Growth	0.97%	1.69%	0.41%	-0.09%	-0.08%	-0.24%	-0.50%	0.07%	0.42%	0.08%	0.20%	0.35%	0.39%
S&P 500	0.95%	1.49%	0.66%	0.52%	0.28%	0.05%	-0.21%	0.25%	0.48%	0.19%	0.23%	0.39%	0.46%
US Momentum	1.59%	4.34%	2.22%	0.96%	0.69%	0.91%	0.60%	1.24%	1.71%	1.10%	1.21%	1.30%	1.27%
US GARP	1.24%	3.10%	1.83%	1.67%	1.10%	0.82%	0.54%	0.93%	1.25%	0.83%	0.96%	1.06%	1.12%
US Value	1.40%	1.94%	1.93%	2.21%	1.54%	1.16%	0.74%	1.28%	1.65%	1.16%	1.32%	1.51%	1.58%
Long Value/Short Growth	0.43%	0.26%	1.52%	2.31%	1.62%	1.40%	1.23%	1.20%	1.23%	1.08%	1.12%	1.16%	1.19%
International Value	1.14%	1.05%	0.87%	0.76%	0.49%	0.32%	-0.18%	0.19%	0.40%	0.06%	0.09%	0.28%	0.40%
Emerging Market Value	1.33%	0.89%	0.33%	0.64%	0.46%	0.57%	0.09%	0.45%	0.63%	0.19%	0.31%	0.68%	0.81%
Energy Sector	1.06%	-0.05%	-0.02%	0.59%	0.79%	0.40%	0.36%	0.59%	0.83%	0.64%	0.41%	0.50%	0.52%
Copper (Metal)	0.63%	-0.19%	0.84%	0.68%	0.75%	0.36%	0.03%	0.03%	-0.06%	-0.46%	-0.41%	-0.16%	0.00%
Agricultural Sector	1.20%	1.59%	1.77%	1.76%	1.07%	1.23%	0.96%	1.01%	1.08%	0.86%	1.00%	1.03%	0.90%
Gold Miners	1.08%	-0.74%	0.29%	2.02%	1.59%	2.08%	1.79%	2.09%	2.39%	1.85%	1.64%	1.80%	1.51%
Counter Cyclicals	1.43%	1.51%	1.61%	1.22%	1.38%	1.63%	1.15%	1.85%	2.14%	1.93%	1.99%	1.90%	1.89%
High Yield Bonds	0.61%	0.62%	0.33%	0.38%	0.09%	0.03%	0.02%	0.17%	0.32%	0.20%	0.38%	0.54%	0.64%
US Aggregate Bond	0.59%	0.94%	0.75%	0.65%	0.54%	0.49%	0.62%	0.70%	0.70%	0.70%	0.70%	0.71%	0.71%
10-Year Treasurys	0.62%	1.11%	0.93%	0.75%	0.64%	0.65%	0.73%	0.78%	0.76%	0.83%	0.78%	0.76%	0.75%
30-Year Treasurys	0.86%	1.62%	1.18%	0.82%	0.57%	0.56%	0.65%	0.73%	0.73%	0.91%	0.80%	0.75%	0.76%
Gold (Metal)	0.74%	-1.70%	-0.80%	0.80%	0.80%	1.37%	1.32%	1.46%	1.25%	0.95%	0.85%	0.71%	0.65%
Average =	0.99%	1.08%	0.93%	1.04%	0.80%	0.77%	0.55%	0.83%	0.99%	0.73%	0.75%	0.85%	0.86%

When we looked carefully at the market returns after each inversion, it became apparent why the yield curve is lauded as a recession indicator and not as a stock market indicator: while the yield curve predicted coming recessions with 100% accuracy in our sample, it only predicted bear markets with 50% accuracy and one third of the time, the market never even dipped below the level seen at the inversion. That said, it did correctly predict all three of the deepest bear markets in the last 50 years. All three of these bear markets dropped more than 40%, which was enough to pull the average monthly return well below the full period average across all 6 post inversion periods.

Since yield curve inversions preceded recessions by an average of 11 months (and the recessions lasted an average of 12 months), it is perhaps unsurprising that most asset classes underperformed their long run average by the largest amount during the 18 months after the yield curve inverted (the market usually bottoms about 5 months before a recession ends). This

data suggests that we should generally err on the side of caution during this time of low and potentially negative returns.

When looking for assets to hedge against the broad market underperformance in the 18 months post inversion, we find that only gold, gold miners, long value/short growth, US aggregate bonds, and intermediate Treasuries outperformed their respective full sample average monthly return. Digging deeper, we saw that US aggregate bonds and intermediate Treasuries underperformed their full sample monthly return during post inversion periods with high inflation (1973-74, 1978-80, and 1980-82), suggesting that using bonds as a hedge may be less effective during today's high inflation environment. This narrows our hedge asset search down to gold, gold miners, and long value/short growth. The return profile for gold and gold miners looks very promising in Table 1, and our previous research (How to Value Gold and The Gold Mining Sector) combine to give us confidence that now is the time to build a significant overweight to both gold and gold miners as a hedge against general market weakness and in pursuit of above-average absolute returns.

The other promising strategy is long value/short growth. While the full sample average monthly return of long value/short growth is rather low, its performance during the 18 months post inversion is very high - surpassing the long-term growth rate of the S&P 500! In addition to this historical outperformance, the current conditions suggest that a long value/short growth strategy is likely to be especially profitable due to an extremely wide dispersion between historically overvalued growth stocks and historically undervalued value stocks. We are not alone in this observation - several of the most respected investment firms in the world, including AQR, GMO, and Research Affiliates have published research articles pointing out the current high expected return of a long value/short growth strategy. GMO went so far as to launch a new private placement "Equity Dislocation Strategy" specifically to take advantage of this opportunity, and AQR manages several different mutual funds which focus on slightly different versions of this strategy.

In addition to looking for asset classes that do well during weak times in the market, it can be informative to also look for those that do poorly. We found that US growth, S&P 500, international value, emerging market value, copper, and high yield bonds all produced very weak to significantly negative average monthly returns during the 18 months post inversion. Taken in isolation, this data suggests that we should underweight or even short these asset classes, but when we layer in the current market realities, we come to more nuanced conclusions. International value and emerging market value are both strongly undervalued relative to their own history and tremendously undervalued compared to the rest of the market which suggests a large overweight position. Balancing this with their historically weak

performance after an inversion, we arrive at a slight overweight. Copper and high yield bonds both look about fairly valued, so when combined with their underperformance after inversions, we land at a modest underweight. Despite the market's fall so far this year, the S&P 500 and US growth are both still strenuously overvalued relative to their own histories, and US growth in particular is the most overvalued major asset class in the world. Their current overvaluation plus their significantly negative historical returns post inversion lead us to dramatically underweight the S&P 500 and actively short US growth in margin accounts.

Our final major observation was to note the consistently high average monthly return of counter cyclical stocks throughout the entire 36 months post inversion. In fact, counter cyclicals produced the highest post inversion return of all 18 asset classes analyzed. The two primary selection criteria for counter cyclical stocks are 1) did the company grow revenue during the last recession? and 2) is the company high quality (low debt, high and consistent profit margins and return on equity)? The first criterion finds companies that economically benefit from a recession, and the second criterion finds companies that are strong enough and safe enough to not be sold off during a panic in the market. The cherry on top is that high quality companies actually slightly outperform the S&P 500 in the long run. Like the win-win of rebalancing alpha, which both increases return and decreases risk, counter cyclicals add extra return and hedge against recession risk.

Looking Forward

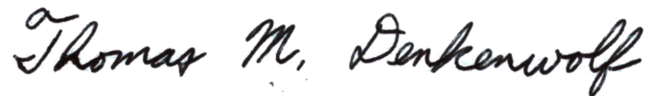
With unemployment at 50-year lows and inflation at 40-year highs, the Fed is currently in the midst of its most aggressive rate hiking cycle since the early 1980's. In recent speeches, Jerome Powell (head of the Fed), has made it very clear that he will raise interest rates as high as needed and for as long as needed to get inflation back down to the 2% target. A prolonged high interest rate will almost certainly deflate the overvalued housing market and hurt the broader US economy. Rising interest rates will continue to reduce the value of long duration growth equities (as explained in our letter: Understanding Equity Duration) and the slowdown in the economy will directly detract from most company's profits. In this negative macro-economic environment, it is important that we learn what we can from the past, and combine that knowledge with the current reality to find the best opportunities.

Conclusion

In this letter, we analyzed the returns of 18 different asset classes during the 36-month time periods after the 6 yield curve inversions of the last 50 years. Despite the limited sample size, we found promising preliminary results. After combining this research with the current market

environment, we are encouraged to overweight gold, gold miners, counter cyclical stocks, and a long value/short growth investment strategy.

Best,



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