

Episode 7

The Inverted Yield Curve and Stock Returns

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Cam Harvey explains the link between the yield curve inversion and future stock returns as well as why value offers investors a potential hedge against downside risk after a yield curve inversion.

This Conversation is based on

**The Real Term Structure and
Consumption Growth** (October 2005)

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[Read in SSRN](#)

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 **Conversations**

 Jim Cam, in our last conversation we talked about your research regarding inversions in the yield curve and what that means for the economy. Can you briefly recap?

 Cam *Sure. At the time of our last conversation in April, the yield curve had just inverted. The yield curve is the difference in yields between a short-term Treasury bill and a long-term bond. It's almost always the case that the long-term yield is greater than the short-term yield. An inversion is rare, and my dissertation many years ago showed that when the yield curve inverts, that is, when the 10-year Treasury bond's yield is less than the three-month Treasury bill's yield, that's bad news. It precedes a recession, and that is what's happened for the last seven recessions.*

When we talked the last time, the yield curve had just inverted. My dissertation required a full quarter of inversion, because GDP is measured over a quarter. So in April, we had had an inversion, but not for a full quarter. As of June 30, however, we actually had a full quarter of inversion both for the 10-year bond minus the three-month bill and for the five-year note minus the three-month bill. And since that time the spread between longer- and shorter-term yields has become much more negative.

 Jim Let's switch gears and talk about stocks. Since the end of June we've seen the market hit multiple new highs. We've also seen some pullback over the last few days and weeks. Is this normal? How does this compare to historical episodes?

 Cam *One thing that's clear is that since the 1960s we've had seven recessions. And we've had seven yield-curve inversions before each of those recessions, so this is a pretty reliable leading indicator—but with a caveat. It is a very simple measure—there's only one variable—and it's only a forecast (which can be imperfect).*

The one thing we do know from economics is that recessions are bad for equities. The value of a stock today is the value of its expected future cash flows, or earnings. We know earnings are typically negatively impacted by recessions. We also discount these anticipated earnings to account for the estimated risk associated with those cash flows. In recessions, risk increases, which also acts to reduce valuations. Thus, both expected lower cash flows and higher anticipated risk traditionally reduce a stock's value in a recession. The link here is that the yield curve inversion is predicting a recession. Therefore, theoretically, the yield curve inversion should be bad news for stock returns.

 Jim We've had seven of these episodes over the last 60 years or so. Should we try to identify one of those times as being similar to today? Or should we look at an average of all of them? How should we use these historical periods in thinking about today?

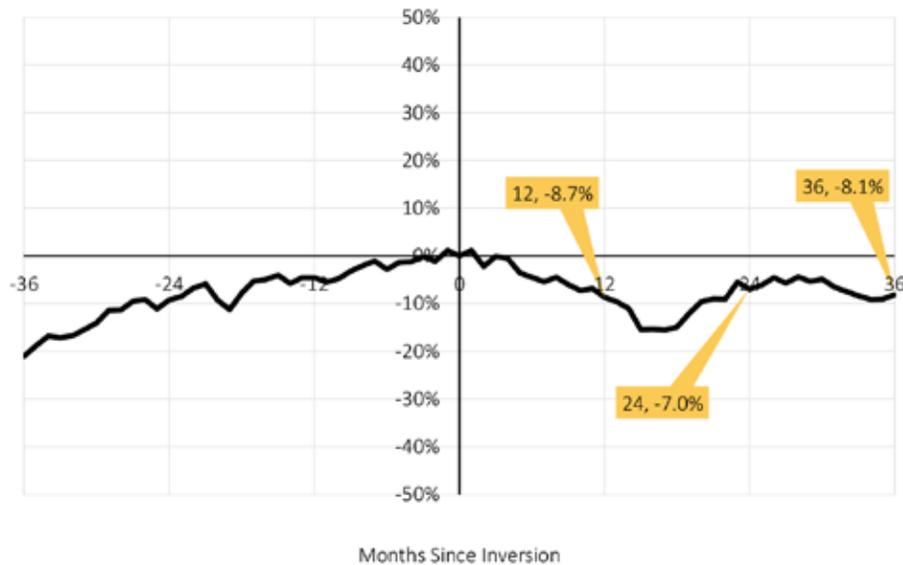
 Cam *That's the question: How do we use history to get some insight into the future? One problem is that we only have seven observations, so it's really difficult. It's also really hard to fine-tune to a particular recession. I think the best thing to do is to look at the average, and that's what I've done.*

I created an historical analysis, investing in the market right after the yield curve has been inverted for a full quarter and holding for three years. With the most recent episode, that investment occurs on the first trading day of July, following the end of the second quarter on June 30.

I also look at the three years before the inversion. I do that for every single yield curve inversion from the 1960s to today. In finance this is called an event study. So time zero is the point where the yield curve inverts, and time one is the first investment on the first trading day of the first month after the inversion.

On average, investing in the market after a yield curve inversion is not a good idea. The first year's return after an inversion is negative, about -9%, and the cumulative return for three years is also negative. Thus, on average, now is not a good time to be heavily exposed to the stock market. It's also interesting that before the inversion, on average, equity returns are highly positive, just as we've seen.

Cumulative Market Excess Return: Average of Seven Yield Curve Inversions



Source: Research Affiliates, LLC, based on data from Kenneth French website and the Federal Reserve Bank, St. Louis.

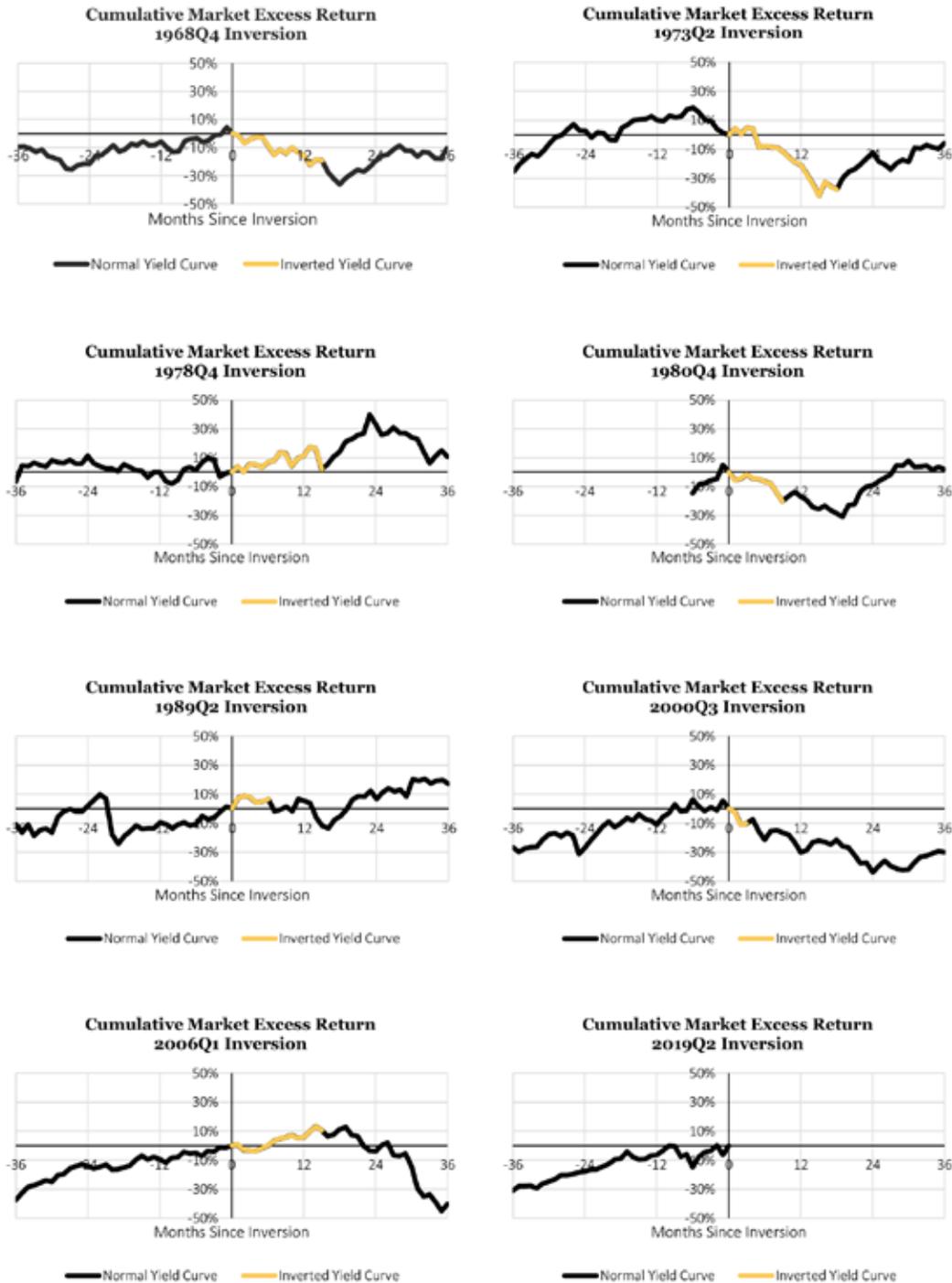
The qualifier, obviously, is the variance we see among the individual recessions. In some recessions, the negative returns are very small. The 2001 recession didn't even produce a year-over-year negative GDP growth rate and is actually associated with small positive returns in the market. So not every single inversion is followed by strongly negative returns, but, on average, it is, and I think that investors need to be aware of that.

Jim

In the last few years factor investing has become very popular. Your event study also looks at factor portfolios, correct?

Cam

I look at a value portfolio as an example of a factor portfolio, and it's interesting, the results are the opposite of the overall market. Three years before a yield curve inversion, value does very poorly. Then, after the yield curve inversion, on average, value does well. So it's really a nice historical hedge.



Source: Research Affiliates, LLC, based on data from Kenneth French website and the Federal Reserve Bank, St. Louis.

This is exactly the time when investors should be looking at their portfolios and asking, “What is my exposure to a recession? Is my portfolio properly positioned to minimize the damage that’s associated with a recession?”

Now is the time—as the risk of recession is dramatically increased—when asset managers earn their keep and when investors and advisors should re-examine the positioning of their portfolios, asking “Do I have the right mix of assets and investments so that I’m as protected as I can be?” Factor investing is an obvious tool available to mitigate some of the downside risk.

Jim

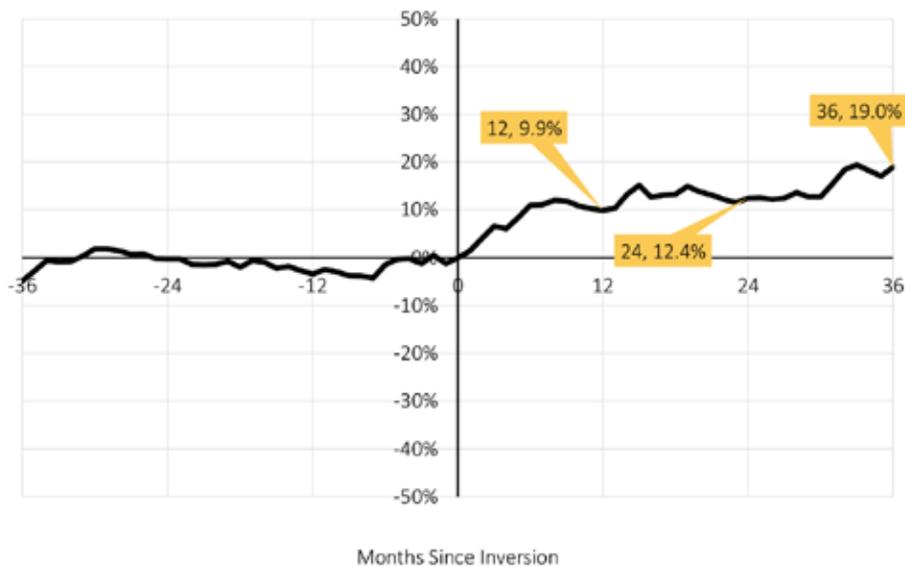
I’d be remiss if I didn’t ask you about the Fed’s response to the yield curve. We’ve seen the Fed begin to lower rates in an effort to jump start what might be a slowing economy or to head off other risks. That could cause the yield curve to become upward sloping again, all else being equal. What are your thoughts on this?

Cam

I was on the record before the Fed actually cut the short-term rate on July 31, making the following points. First, the Fed has some control over the short end of the curve. They don’t have control over the long end. The yield curve inversion encompasses rates on both the short and the long ends—both pieces matter.

The idea that the Fed raised the short-term rate too quickly, which led to the yield curve inversion, and that they can undo the damage by lowering it again, is naïve. The Fed can cut the short-term rate, but as I mentioned they have no control over what happens in the long end of the curve. It could be that the cut in the short-term rate was already factored into rates throughout the curve. The possibility that the long-term rate could decrease after a Fed rate cut was, indeed, exactly what we saw.

Cumulative Return of Value Factor: Average of Seven Yield Curve Inversions



Source: Research Affiliates, LLC, based on data from Kenneth French website and the Federal Reserve Bank, St. Louis.

I think many people are naïve about the actual influence and power of the Fed. The yield curve inversion today is far more severe than before the Fed rate cut. The effort by the Fed to nix the yield curve inversion, in my view, failed.

 Jim

So are you saying that the Fed has very limited ability to influence the current direction of the economy?

 Cam

I'm not saying that the Fed has no influence. Central banks, in general, have substantial influence. The issue is, is it a positive influence or a negative influence?

Look at rates around the world. We have a crazy situation in which 60% of sovereign developed bonds have negative yields. The German yield for the 10-year bund is -0.6% and for the 30-year bund is also negative. Some people in Europe are even being paid to take a mortgage. Is that an equilibrium situation, a long-term sustainable situation, that's good for the economy? I don't think so.

The thing that worries me the most is that with really low rates companies are tempted to invest in projects which have extremely low rates of return because the financing is so cheap. This type of overinvestment serves us poorly by reducing economic growth in the long term. So, yes, central banks have very substantial influence that is often distortionary. We're living it right now, and we will pay the price for a number of years.

 Jim

Those are great thoughts. Thank you, Cam, for joining us.

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