IVOL September 12 2019 Webinar

The Inverted Yield Curve & Potential Opportunities
When: Thursday, September 12, 2019
10:00am – 10:30am EST
What: With an inverted yield curve driving recession concerns, a Twitter-fueled trade war and potentially more rate cuts on the horizon, many investors can't make heads or tails of the market. The only thing that is certain is that volatility has been increasing. Nancy Davis, CIO of Quadratic Capital will discuss our current economic environment and how, despite the unprecedented market uncertainty, investors can potentially find returns and benefit during times of market volatility.
Agenda:
- *Nancy Davis and Guy Ferrara introduction*
- *How to potentially benefit from the yield curve and market volatility*
- *Is an inverted yield curve a reliable economic predictor?*
- *What can the FED do to help the yield curve?*
- *Overview of The Quadratic Interest Rate Volatility and Inflation Hedge ETF (IVOL) and how it may potentially benefit portfolios*

SLIDE 1 UNTIL GUY STARTS TALKING
AS GUY STARTS INTRO, FLIP TO SLIDE 2

Guy: Hello and welcome back to our webcast.
I am here with Nancy Davis, the founder and Chief Investment Officer of Quadratic Capital, an investment manager based in Greenwich, CT. She's appeared on CNBC, Fox Business and several other networks. We have partnered together with Quadratic to launch a fixed income ETF called IVOL. Today, Nancy is going to help us understand the yield curve and show us some interesting ways to think about inflation.

Nancy: Thanks, Guy. It's a pleasure to be here with you today and to be partners with KraneShares.

Guy: Nancy, it seems like the yield curve is in the news almost every day. Can you explain what the yield curve is and what does it mean to be inverted?

SWITCH TO SLIDE 3 (showing barbell of three types of yield curves)

Nancy: The yield curve is just the graphical representation of the difference among interest rates of different maturities. It's really as simple as that. It's called a yield *curve* because normally we expect to be paid more money for longer maturities. So,if you expect to be paid some percentage for 2 years and then a higher percentage for 10 years, you could plot those two points on an axis and you'd have an upward sloping curve. Thus the name.

We would say that a **Normal** yield curve is when short term interest rates are lower than long term interest rates. I think that's pretty intuitive.

Sometimes, the yield curve is **Flat.** This is the shape of the curve when short term rates are the same as long term rates, which means there is no difference between lending money for 3 months or 10 years. This is less common than a normal curve.

Flip slide 4 (10y and 3mth rates on two slides)

Lastly, we have an **INVERTED** yield curve, which is the unusual shape of the curve that we have today.and which is why everyone is talking about the yield curve. An **Inverted** yield curve occurs when short term rates are higher than long term rates. Think of the US Treasury as a bank. The Bank of Uncle Sam is offering a 3 month CD that pays more than its 10yr CD right now.

Guy:
Thanks for that. So, what does all this mean to investors. Why does it matter ?

Flip to slide 5 (10yr-3mth)

Nancy:
Well the fact that the curve is inverted right now – with shorter rates yielding more than longer ones – is very rare. This it often happens in advance of recessions. Think about it this way: in what situation would you be prepared to earn less return on your money in the future than now, all other things being the same? For me, it would be because I thought inflation would be lower in the future or because I thought returns were going to be lower in the future. In other words, because I expect the market or the economy to be worse in the future than it is now.

Now, it matters a lot less if I personally think this or you, Guy, personally think this. But what matters in this case is that, in aggregate, the people and institutions who buy US government bonds appear to think this. .

Guy
So this is why people worry over an inverted curve. Is it a leading indicator?

Flip to slide 6 (Recession Indicators)

Nancy:
Well, before each of the last seven recessions, the yield curve has been inverted. So it has been reliable in that regard. But it's also true that it has inverted sometimes without being followed by a recession. So it isn't a perfect indicator.

Guy
Can an inverted yield curve cause a recession on its own?

Nancy:

I suppose it's possible, certainly. It could become a bit of a self-fulfilling prophecy if companies and consumers cut back on their spending in anticipation of worse times ahead and thus trigger the very recession they fear. But it's also possible that it works, as markets often do, to correct itself. One way in which that could happen would be for companies and consumers to see it as very inexpensive to take on long-term debt at low rates. And then, with the capital they've raised, to go on a spending and investing binge. I think we saw something very much like that in the aftermath of the 2008 crisis.

Flip to slide 7 (equity sell offs)

Guy:
How should investors be thinking about this? Is there a way to benefit from the current shape of the yield curve.

Nancy:
Historically, it has been very tricky. Some investors have shorted longer-dated Treasuries, including a very famous hedge fund based in Connecticut. But they've lost quite a bit on that trade so far. The problem is that it can be expensive to short Treasuries – remember you have to pay the coupons if you're short – and you also want to get the timing right. So, you may be right that long-term yields will rise as Treasuries sell off, but if you're wrong on the timing you lose a fair amount of money while you wait to be right or decide you don't want to lose any more money.

Guy:
It sounds like these strategies have some serious drawbacks. I know you want to tell us about another way to play the yield curve.

Flip to slide 8 (steepness timing)

Nancy:
I do! Back in May, we launched a new, first-of-its-kind ETF called IVOL. I-V-O-L. IVOL is unique because it is the first ETF that purchases options on the shape of the yield curve. Previously, this product was not accessible to non-institutional investors.

Since the yield curve is currently inverted, IVOL is able to purchase these options for far less than usual. Jeffrey Gundlach, a very prominent investor, recently called interest rate options the best value play in the market today. Unfortunately, that market is challenging for regular investors to access, except through IVOL.

So, investors who expect the yield curve to normalize at some point in the future can benefit from that shift without having to pay the high costs of shorting Treasuries. In fact, IVOL also owns TIPS which have the potential to pay inflation protected income.

Guy:
So how would the yield curve "normalize"?

Flip to slide 9 (normal yield curve from other periods)

Nancy:
Well, it would return to either a flat or normal shaped curve, of the sorts we talked about earlier. This could happen either because short term rates decrease further, as they might with the Fed cutting rates, or longer term rates increasing because of higher inflation expectations or any other reason. Or any combination of lower short term rates or higher long term rates.

Guy:
You mentioned inflation just now. How does inflation fit into the picture and do you think investors are focused on it enough? Actually, before you do that could you perhaps take us through the difference between inflation, deflation, disinflation and recession.

Nancy:
Sure.
Inflation is a general increase in prices, which results in the decreasing purchasing power of money over time. Inflation is the reason your grandmother thinks a can of Coke should cost a quarter.

Deflation is the opposite. It is an overall reduction in the price levels of an economy. Historically, certainly since the Bretton Woods Accords, these periods are very rare.

Disinflation – is the reduction in the rate of inflation. Prices are still rising, but the rate of that rise is less.

Recession - a period of economic decline during which trade and industrial activity are reduced. Economists generally define a recession as any period of at least two consecutive quarters during which the GDP of a country falls.

Flip to slide 10 (repear showing current yield curve)

Now, to answer the first part of your question – I don't think investors are focused on inflation. Remember, the yield curve is inverted. Investors are currently paid more to own a 3 month T-bill than a 10 year Treasury bond. This means that the Treasury market is pricing in disinflation - lower rates of price increases - in the US for the next decade. That is why an inverted yield curve is supposed to be an early warning indicator for a recession.

That said, with the Fed poised to continue cutting rates even with unemployment at or near all-time lows, I think it's hard to see inflation really, truly falling for the next 10 years. I think this is a case of markets getting ahead of themselves, of the pendulum swinging too far in one direction. Eventually, it will swing back.

Guy:
So, when most people think of interest rates, they think about their house which typically has a mortgage. How does the yield curve affect homeowners?

Flip to slide 11 (make one about real estate here)

Nancy:
Well, most mortgages have a fixed term and during that period the rate on that particular mortgage won't change. Adjustable mortgages have real challenges as interest rates and inflation rise. But where higher interest rates affect everyone who owns real estate – whether it's a person's home or a portfolio of commercial properties – is in the overall price levels.

As inflation and rates rise, mortgage rates – which are often priced off of Treasuries – will rise as well. And the higher they go, the higher the monthly payment becomes. This can have the effect of reducing the price someone is willing to pay for a property, because their budget is probably based on a monthly cost to finance the property. Additionally, you're likely to see mortgage lenders being more selective about risk as they see higher defaults.

Taken together, I think we can expect higher rates and inflation to lead to challenging times, not just for homeowners, but for anyone who owns real estate, commercial property, REITs, etc.

Guy:
Can IVOL play a role in a real estate portfolio?

Nancy:
Oh, absolutely. IVOL doesn't own any real estate but the options we buy within IVOL seek to increase in value during scenarios like we just discussed, like higher mortgage rates leading to depressed pricing. IVOL may help hedge the value of real estate by potentially increasing in value when property values decline due to rising long term rates

Guy:
How is it possible to build one ETF that has the potential to profit in either environment? What exactly is in IVOL if we popped the hood?

Flip to slide 12 (make one using factsheet to show portfolio and bullets)

Nancy:
IVOL is pretty simple. The portfolio within IVOL is composed of just two types of securities. We own Treasury Inflation-Protected Securities – "TIPS" – for yield and to mitigate the effects of inflation. And we enhance them with options on the shape of the yield curve. Combining these two securities provides potential for true portfolio diversification while also delivering inflation-protected income. It's how we seek to profit from relative interest rate movements – either lower short-term rates or rising long-term rates. We don't have to pick one or the other. Lastly, it is the options that have the potential to profit any time volatility increases, which is what has historically occurred during equity and real estate sell-offs.

Guy:
It seems like a fantastic macro environment now for IVOL.

Nancy:
We think so. That's why we launched it.

Equity markets in the US are at or near all-time highs. Not recent highs, not post-crisis highs. All-time highs. Unemployment is the lowest it's been over the last 50 years. In many parts of the country, unemployment has never been measured this low. Core inflation, as measured by CPI is under the Fed's 2% target. And in this rosy picture of a market and an economy humming along about as well as can be imagined, the Fed is cutting rates.

Guy:
Why? Why is the Fed so worried?

Flip to slide 13 (inflation expectations)

Nancy:
When Chairman Powell was in front of Congress recently, he said that inflation expectations "are the most important driver of actual inflation." My own opinion is that the Fed doesn't want to see a situation in the US like Japan has gone through. He is looking to move quickly and decisively to shock inflation expectations higher again.

To get inflation expectations back up, the Fed has various weapons it can use. Cutting interest rates is one of them, but they can also buy government bonds. They did this in the aftermath of the '08-09 crisis. These purchases are known as Quantitative Easing. They did this to change the shape of the yield curve, to make it flatter so that companies and consumers would borrow and spend money.

Now focused on inflation expectations, the Fed could cut the Fed Funds rate, or they could buy short-term Treasuries like 3 month T-bills. If they buy enough, the price of those bills would go up and the rate would go down. This would also have the potential to steepen the yield curve.

The Fed is also worried about "a number of government policy issues" and Chairman Powell mentioned specifically Brexit and the US debt ceiling. He COULD have also mentioned the breakdown of the old EU consensus and the rise of populist parties in core EU states like Germany, France and Italy. He might have also mentioned a possible trade war with China. He could have mentioned that the Fed should be very concerned that despite our economy running on full throttle, inflation isn't rising. He should be very concerned that the Treasury yield curve is inverted – usually a warning sign. There's a lot Chairman Powell should be worried about. There's a lot we all should be worried about.

Guy,
Ok. Thank you. I think. What does that mean for the future, all the worries you just articulated?

Flip to slide 14 (Three outcomes summary page:)

Nancy:

Broadly speaking, I believe there could be three outcomes.

1. The Fed is right to be worried, and we are headed for a recession.
2. They might be wrong, and by cutting rates, they just end up putting a rocket under a strong economy.
3. We don't know, and things will stay uncertain.

In each of these scenarios, asset prices will move differently.

- If we are headed for a recession, equity markets will come under pressure. They can't stay up at all-time highs if the economy is slowing. If equity markets fall quickly, then all financial markets will come under stress across the board. We could call this the "Risk off" scenario.
- Or, if the rate cuts turn out to have been unnecessary and the economy roars back into life, then that may create inflation. Bond markets may struggle to deliver returns that can beat this inflation, particularly with interest rates as low as they are these days. We could call this the "Risk on" scenario.
- Or, we might try out both of these scenarios as the market tries to figure out what's really going on. That means everything will move around a lot more. The "Volatile" scenario.

Let me take each of these in turn.

In scenario 1, the "Risk Off" scenario, the Fed cuts rates to try to offset the upcoming recession. Equities fall. The outlook is bleak. Expect headlines screaming "markets crash!". In this "risk off" world, volatility picks up. Historically in these situations, the yield curve steepens as interest rates are slashed. In that scenario, IVOL should pay off. We would expect our directional tilt to pay off, and we would expect to see positive returns in a time that most other assets would not.

In scenario 2, the "Risk On" scenario, the recession never happens. Instead, we get super charged growth from the rate cuts, and inflation takes off as the economy powers on with even cheaper money. Based on past events, everyone would expect much higher interest rates ahead. In this "risk on" world, historically the yield curve has steepened. In that scenario, our IVOL directional play has the potential to pay off and we would anticipate positive returns.

And finally, in scenario 3, where no-one is really sure what's going on. In this world, it's tough to make a directional call, which might hurt the returns for IVOL. However, if history is any guide we may expect volatility to go up while the market figures out what is next. Volatility has the potential to benefit the performance of our fixed income options.

And of course, there could be many other scenarios, and I would be remiss if I didn't talk about a few particular scenarios that may not be beneficial for IVOL, as it is important that you have a balanced picture.

As I discussed the performance of IVOL option's portfolio is tied to the shape of the yield curve, or the volatility of rates. A scenario that could hurt IVOL's performance would be if the yield curve remained inverted for a long time or to a greater degree, which may cause IVOL's options to decline in value. Another scenario may be a market rally accompanied by a flattening of the

yield curve and a decline in the prices of the TIPs held by the fund. Other factors such as the perceived risk of government bonds and changes in interest rates that are not correlated with inflation and the yield curve could affect IVOL's performance as well.

Guy:
Nancy, thank you so much for coming in today. This was very interesting.

Nancy,
Guy, thank you for having me. It's been a pleasure.

GO TO slide 15 Conclusion slides with website and links to factsheet

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