Seeking Alpha

XIV Or ZIV? New Perspectives Following 6 Months Of Elevated Market Volatility

Jan. 27, 2016 12:56 PM ET41 comments
by: David Easter

Summary

- XIV and ZIV are volatility ETNs with different characteristics. Their historical performances are directly compared.
- XIV is linked to short-term VIX futures. Its price is highly volatile.
- ZIV is linked to medium-term VIX futures. It is much less volatile than XIV.
- XIV is an appropriate choice for short-term trading, when the direction of volatility is correctly guessed.
- ZIV is the appropriate choice for safer, longer-term investments, without compromising capital gains.

Introduction

A few articles published on Seeking Alpha have focused on comparing two volatility ETNs: VelocityShares Daily Inverse VIX Short-Term ETN (NASDAQ:XIV), and VelocityShares Daily Inverse VIX Medium-Term ETN (NASDAQ:ZIV). Because the most recent of these appeared in July 2015, all of them predated the past six months of elevated market volatility.

This article focuses on the historical performances of XIV and ZIV since inception, and assesses their suitability for trading and/or investing in light of additional wisdom gained over the past six months.

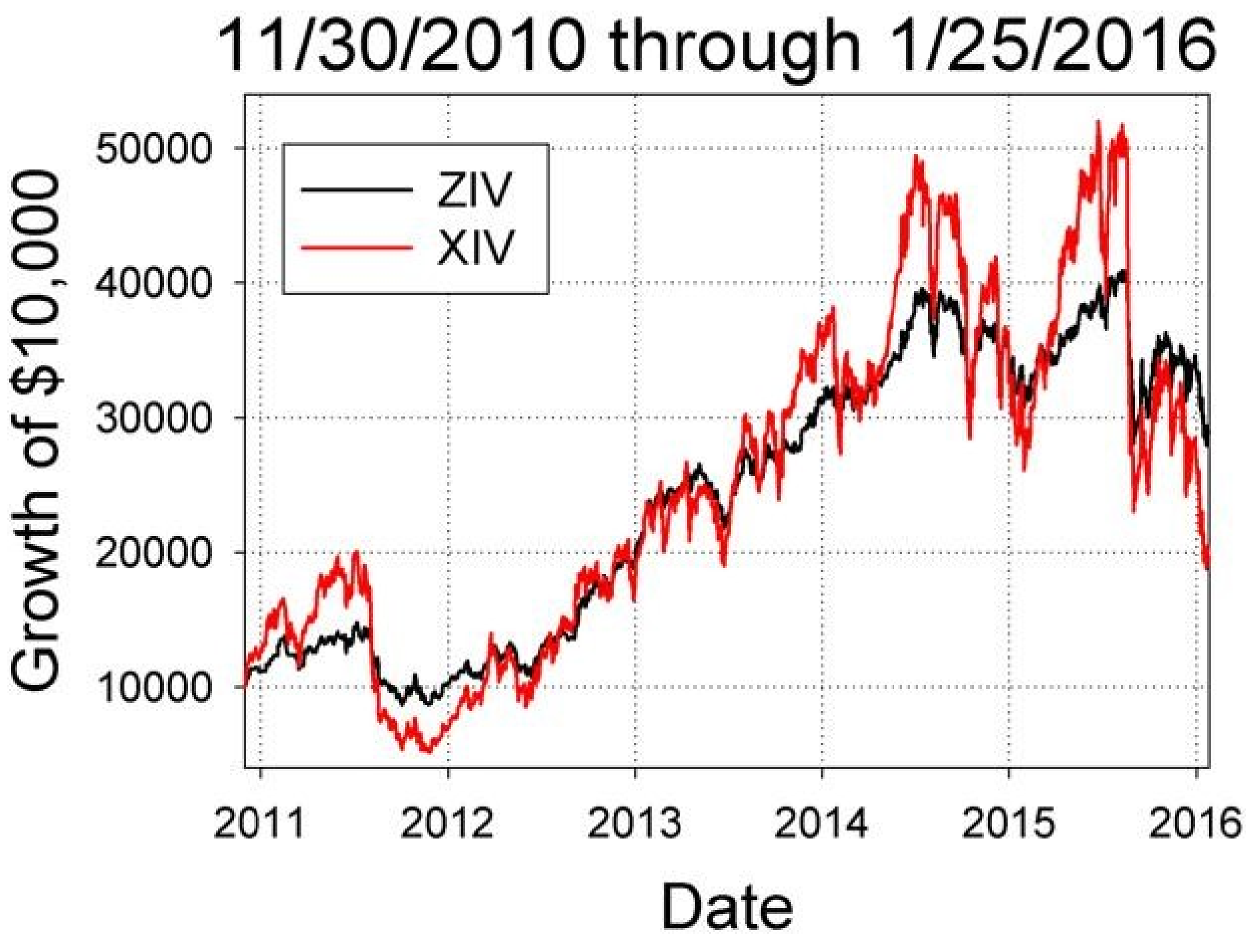
XIV is an inverse ETN, based on short-term VIX futures. Its reference index balances a collection of front month and second month futures, which are rebalanced daily so that the average expiration date of the basket is maintained at a constant duration of one month. Details of how its tracking index works can be found at this link. ZIV is also an inverse ETN, but is based on medium-term VIX futures. Its reference index basket contains futures from the fourth month through the seventh month. The prospectuses of both ETNs are posted on the VelocityShares website.

Historical closing prices for XIV, ZIV, and VIX were downloaded from Yahoo! Finance.

Data used for this article ran from 11/30/2010 (the inception date of both ETNs) through 1/25/16, inclusive.

Historical Performance

The following figure shows how an initial investment of $10K would have fared if purchased at market close on 11/30/10 and held the entire time. The red curve represents an investment in XIV, and the black curve represents ZIV. It should be obvious that the price action of XIV is more volatile, both to the upside and to the downside. Leading up to the most recent round of volatility (starting mid-August 2015), XIV was outperforming ZIV. The outcomes have reversed since then.



Direct Comparisons between XIV and ZIV

A number of direct comparisons are collected in the following table. Evaluated over the entire time frame, the CAGR of ZIV is 22.86% vs. 13.74% for XIV. CAGR values depend on the start and end dates. The comparison would have been much different for a calculation whose end date was mid-August of 2015.

On a day-to-day basis, daily price changes in ZIV correlate to daily price changes in the spot VIX, with a beta of -0.185. The corresponding beta value for XIV is -0.461. These ETNs are not designed to track changes in the spot VIX. Nevertheless, beta indicates that, on a typical day, the percent change in XIV price is expected to be only 46% of the percent change in VIX, and in the opposite direction. The expected change in ZIV is even smaller, at about 40% of the change in XIV. The daily volatility of XIV prices is substantially higher than that of ZIV prices. This is largely due to the fact that front-month futures are much more responsive to changes in spot VIX than are medium-term futures.

11/30/2010 through 1/25/2016 1296 market days; 5.153 years	XIV	ZIV
1. beta (β) vs. VIX, daily changes	-0.461	-0.185
2. alpha (α) vs. VIX, daily changes	0.003	0.002
3. r^2 vs VIX, daily changes	0.773	0.520
4. Overall Gain Since Inception on 1/25/16	94.10%	188.81%
5. Compound Annual Growth Rate (CAGR) 1/25/16	13.74%	22.86%
6. Mean One-Year Price Gain	46.26%	36.19%
7. Median One-Year Price Gain	33.52%	27.86%
8. Standard Deviation (StDev), One-Year Price Gain	71.40%	41.75%
9. Maximum One-Year Price Gain	293.28%	132.08%
10. Maximum One-Year Price Loss	-54.15%	-26.17%
11. Sharpe Ratio = [(6) - 0.6%]/(8)	0.640	0.852
12. Maximum Drawdown (MDD), 7/7/11 - 10/3/11	-74.39%	-41.36%
13. Return over Maximum Drawdown (RoMaD) = -(6)/(12)	0.622	0.875
14. MAR Ratio = -(5)/(12)	0.185	0.553

Based on the full dataset, the risk/reward statistics clearly favor ZIV over XIV. These statistics include a larger Sharpe ratio (0.852 vs. 0.640), a larger RoMaD (0.875 vs. 0.622) and a larger MAR ratio (0.553 vs. 0.185). Additional information on these and other commonly used ratios can be found on websites like Investopedia.

Conclusions

The price action of XIV is significantly more volatile than that of ZIV, largely because front-month futures respond to changes in spot VIX much more rapidly than do medium-term futures. This makes XIV the choice for day-traders, and for others who understand the importance of monitoring their position carefully, at least once a day. If one can guess the direction of volatility correctly, XIV offers the potential of higher rewards.

What is not clear is how XIV and ZIV price action will compare over *very* long periods. The trend in the graph appears to be that XIV frequently crosses above and then below the ZIV graph, but the two never permanently separate. Will the two continue to track in this same fashion over very long time frames? If so (and we don't know the answer), it could be that the long-term price destination of XIV, though much more volatile, will not be significantly different from that of ZIV.

For now, I will assume that the long-term trends will ultimately lead both ETNs to essentially the same place. If that assumption turns out to be correct, its decreased volatility and its superior risk/reward statistics strongly favor ZIV as an equally profitable, but safer long-term investment.

Based on these findings, here is what I will be doing in the near future. (1) For "mad-money" trading purposes, I intend to buy ProShares Short VIX Short-Term Futures ETF (NYSEARCA:SVXY) and will (mostly) follow my own strategy. The similarities and differences between XIV and SVXY are outlined in this linked article. (2) As part of my "safe" retirement money, I intend to set aside a fraction of the account for investing in ZIV.

The ideas expressed in this article are for informational purposes only. Volatility-related ETPs carry a high level of investment risk. Please be sure that you know, and are willing to accept the risks before making any trades. Good luck to all!

Disclosure: I/we have no positions in any stocks mentioned, and no plans to initiate any positions within the next 72 hours.

I wrote this article myself, and it expresses my own opinions. I am not receiving compensation for it (other than from Seeking Alpha). I have no business relationship with any company whose stock is mentioned in this article.

Comments (41)

Kim155
What do you think of shorting VXZ instead of long ZIV?
Inverse ETF's suffers from "volatility drag".

27 Jan 2016, 01:19 PM

bobtcat2

Timely article. The backtested results always show great performance for XIV going back to 2004 but I remain skeptical those would have been achieved in reality. Of course timing is everything- XIV is up 300% from its 2011 low, yet still about unchanged since about a month before that low.

Best guess bottom line is that for any holding period longer than a couple years, ZIV is the way to go. Maybe a consistent 15-20% return, that doubles your money every 4 years and could be worse.

27 Jan 2016, 01:29 PM

VIX Strategies
Great analysis!

27 Jan 2016, 01:37 PM

Mattfquinn
Not much daily volume in ZIV. Does anyone know if XIV ever has any share splits? Kinda like how since VXX falls in value over time there is the occasional reverse spilt. Thanks

27 Jan 2016, 01:43 PM

Nathan Buehler, Contributor
Hi Matt, June 27th 2011. The spilt was 10 for 1.

27 Jan 2016, 10:16 PM

Mattfquinn
Thankyou sir

28 Jan 2016, 07:43 AM

toombsb
David

From sbove, is VXX a typo?

"Nevertheless, beta indicates that, on a typical day, the percent change in VXX price is expected to be only 46% of the percent change in VIX, and in the opposite direction."

Bob

27 Jan 2016, 02:35 PM

David Easter, Contributor
Author’s reply » Bob,
You are correct. It should have been XIV, not VXX! The same typo also happens a second time in that paragraph. Thanks for point it out!

David

27 Jan 2016, 03:16 PM

David Easter, Contributor
Author's reply » I submitted a correction to the SA editors, and it has already been posted. The paragraph should read correctly now.

27 Jan 2016, 04:01 PM

Dane Van Domelen, Contributor
My issue with XIV and ZIV is their beta vs. SPY: roughly 4 for XIV and 2 for ZIV. That translates to huge swings with the market.

Also, both seem to have strong positive alpha in some markets, and strong negative alpha in others.

27 Jan 2016, 03:46 PM

36D_
thats because they are leveraged products
holding xiv is practically the same as holding spy on high leverage

no free lunch here;)

27 Jan 2016, 06:42 PM

bobtcat2
It looks a decent bet that UVXY will print $100+ in the next couple months. That would put XIV in the area of 9-10 and I would take a long look at it for a long term hold.

27 Jan 2016, 07:37 PM

Dane Van Domelen, Contributor
Sort of, but not really since its alpha is not 0, and it has extra residual variance not explained by the regression on SPY.

28 Jan 2016, 09:21 AM

jz30
What makes you so sure of your 100 dollar projection for UVXY

28 Jan 2016, 11:16 AM

jimnoles126
@bobcat2 So are you making that decent bet?

30 Jan 2016, 06:43 PM

bobtcat2
We're overdue for a pretty big correction. Figure with UVXY at 100, you can buy XIV for 10 and that's a heck of an investment, with a good chance at 400% return in a few years.

01 Feb 2016, 10:24 PM

bobtcat2
yes sir, UVXY will hit 100 during 2016, just not sure which month. If it happens soon, XIV might be 13, if it happens toward summer or end of year XIV could be anywhere from 10 to 6.

01 Feb 2016, 10:25 PM

jimnoles126
I hope you're right. I would love to buy more XIV at 10, even if my average price is 20!

02 Feb 2016, 06:40 AM

bobtcat2
40.40/19.46 is current UVXY/XIV. Right now all else equal a $100 print in UVXY would put XIV right around $9.75, depending on the path though.

02 Feb 2016, 11:34 AM

bobtcat2
There is no doubt in my mind we'll be able to buy XIV under 10. The only question is when. Could happen in the next several weeks, or could be over the summer. I think from 10 it will get back to 25-30 area within several years. Futures curve looks very bad for XIV right now. I won't be surprised to see a period of prolonged backwardation along with spikes in the VIX that will produce big declines in XIV. In fact I think by the March Fed meeting we will see UVXY around 100 and XIV around 11 or lower.

03 Feb 2016, 01:11 AM

bobtcat2
Looking again at the charts since ZIV was introduced in 2011. ZIV is up 170%, XIV is up 70%, and S&P is up 50%. I don't have a great handle on how ZIV NAV is calculated, I understand VXX/XIV with rolling the front two months. But in most times, 50% return in 5 years doesn't seem that unusual, so that's a nice return for ZIV. If we go to 1200 area for S&P 500, it probably would make sense to switch from ZIV to XIV. But it seems that over most holding periods, ZIV is the better product.

06 Feb 2016, 04:52 PM

jimnoles126

bobtcat2
I really doubt it will go 50% from here. Maybe 50% from the peak, which would be a drop from 35 to 25. So perhaps another 30% drop? I think it will be 100 in 6 years or less, maybe 150.

06 Feb 2016, 08:37 PM

jimnoles126
Oh I agree, I plan on starting a position if we break the 52 week low. I hope it happens this week! =)

07 Feb 2016, 11:39 AM

Learner16
Than you for the article, Mr Easter, It is very interesting. What do you think of the additional issuer risk of ZIV compared with SVXY?

27 Jan 2016, 06:53 PM

David Easter, Contributor
Author’s reply » At present, I don't view it as a major concern. However, if I were to start hearing rumors that Credit Suisse is about to go under, I would change my mind immediately.

The main reason I prefer SVXY to XIV is the tax advantage that it currently offers, in spite of the additional requirement of filing a schedule K-1.

27 Jan 2016, 07:21 PM

jimnoles126
Do you mind elaborating on the "tax advantage" of svxy to xiv?

30 Jan 2016, 06:45 PM

David Easter, Contributor
Author’s reply » Jimnoles,

I refer you to the article published just last Monday at this link: http://seekingalpha.co.... The discussion can be found under the heading, "Other Factors to Consider ...". You might also want to read the comments posted by readers to that article.

David

30 Jan 2016, 08:59 PM

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financialtales
What's the thinking on XIV as a long term investment. While I believe ZIV will average more than 10% long term I am not sure if XIV will ever deviate from a series of long term up trends followed by 80-90% declines. This means XIV could be at 200 one day and drop to $20. Then $400 and drop to $40. This of course could take decades but I don't see ZIV exhibiting the same large losses. What do others think?

27 Jan 2016, 09:05 PM

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bobtcat2
I think XIV is a good buy when VIX is over 40, you have a nice margin of safety. If you plot ZIV against XIV, it appears that the longer your holding period, the more favorable ZIV looks.

It's too bad there isn't a counterpart to ZIV that avoids the issuer risk.

27 Jan 2016, 10:18 PM

Dickov9410
Hi David, that's a brilliant article. However, I'm starting to wonder whether XIV is at all suitable as an investment. Over the last 10 months, VXX is basically unchanged, but XIV has lost 45% in the same period. I don't understand the maths behind this, but it seems that shorting the VXX is preferable to buying the XIV in volatile markets. What are your thoughts?

28 Jan 2016, 06:24 AM

David Easter, Contributor
Author’s reply » Thanks, Dickov9410. Your question is one that I have been thinking about a lot recently. The short answer is probably that shorting VXX may sometimes be preferable, but with a bunch of caveats and conditions. I was planning to do some research to address the question this week, potentially as the basis for another article.

28 Jan 2016, 09:16 AM

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bobtcat2
Here's the thing with shorting VXX- back in 2011, when yahoo message boards were more active, there was a guy with the ID "tinger" who made a killing shorting VXX all the way down to 20. Then went it went from 20 to 60, he ended up filing for bankruptcy. During that period you would have had -210% return shorting VXX and "only" lost 80% long XIV.

28 Jan 2016, 11:26 AM

ikkyu
Never get tired of this discussion... thanks.

If you leverage ZIV (or VX5) to the same volatility as XIV, you will see it wins at nearly every time frame.

28 Jan 2016, 07:41 AM

bobtcat2
Exactly- if you planned to invest 100K in XIV, just invest 200K in ZIV instead.

28 Jan 2016, 11:25 AM

itscalledcommonsense
I think actually VX3 is best to short and VX2 is best to go long, given current term structure dynamics.

As VX3 moves to VX2 it goes from overpriced to ridiculously underpriced. AS VX2 moves to VX1 it goes from ridiculously underpriced to merely underpriced.

31 Jan 2016, 04:35 PM

jz30
Looking at your chart somebody could devise a strategy where after so much underperformance on XIV compared to ZIV they can buy XIV. Then when the XIV outperformance is so much over ZIV switch back over to ZIV, rinse and repeat. Of course this will always be easier on paper looking backwards compared to implementing it on a forward basis.

That being said right now looks like it would be a bad time to switch from XIV to ZIV, as the former is probably due to outperform at some point.

28 Jan 2016, 11:58 AM

bobtcat2
Good point- it looks like the Fed will not only not raise rates again, they will cut them back to 0 and then do QE4. It doesn't really matter that this will continue to exacerbate the unaffordable housing crisis that is killing most Americans, or permanently kill the retirement dreams of seniors. QE4 could take XIV from current levels around 20 to $15000 per share.

28 Jan 2016, 02:18 PM

woody5023
I've made a good fortune with volatility products. However, they come with big risk. I learned a hard lesson on Aug 24, 2015 when I was short TVIX and long XIV and TQQQ. That's the morning the VIX spiked overnight from around 20 to 50. That spiked caused TVIX to double and XIV to tank almost 50 percent in just a matter of hours. That's also the same morning that some brokerages were so overloaded that I couldn't even log in to adjust my portfolio. I'll never forget that day and will always remember to trade these

products very carefully. 3 months of calm "easy" volatility investing can be erased in just a matter of hours. One must also remember that these products move on a daily percentage basis from the VIX futures curve. If XIV falls from 50 to 15, then getting back to 50 is going to take a long time. A 100% gain will only get it back to 30. That's why decay causes the VIX and XIV values to stray from each other.

30 Jan 2016, 09:37 PM

bobtcat2
Glad you made it out the other side. A bunch of people in 2011 lost over 100% of their net worth on VXX short, and I bet the same happened in August.

01 Feb 2016, 01:40 AM

bobtcat2
Looking again at the charts since ZIV was introduced in 2011. ZIV is up 170%, XIV is up 70%, and S&P is up 50%. I don't have a great handle on how ZIV NAV is calculated, I understand VXX/XIV with rolling the front two months. But in most times, 50% return in 5 years doesn't seem that unusual, so that's a nice return for ZIV. If we go to 1200 area for S&P 500, it probably would make sense to switch from ZIV to XIV. But it seems that over most holding periods, ZIV is the better product.
:)

06 Feb 2016, 04:54 PM