



The Trouble With Inverse ETFs (And Other Structured Securities)

At *Mercenary Trader*, we consistently get emails from readers with great questions regarding position structuring, market expectations, and trading theory. Unfortunately, we're restricted from answering many of these questions directly as our legal counsel is concerned with "offering individual investment advice."



Occasionally, these questions lead into great concepts for discussion with the broad *Mercenary Community* – and responding to these questions in a public post keeps us from saying anything that could be construed as "individual" advice...

Live Feed subscriber Ken O. had a question related to our recent article on the [Euro Endgame...](#)

I don't have access to FOREX trading (and don't fully understand it), so I am looking at some alternatives...

Given the fact that it might take a little time for the scenario to play out, I am reluctant to look at an inverse ETF on the Euro (EUO) because I have read that they have inherent structure problems if held over any period of time beyond a day.

Many individual AND professional investors don't have the ability to trade currencies directly because of regulatory restrictions or account structure. For many Registered Investment Advisers (RIAs) and even hedge funds, it is impossible to trade the FOREX market without placing your firm under the CFTC (as well as the SEC).

But that doesn't mean these managers can bypass their fiduciary duties to manage currency risk – and in some cases to take advantage of currency trading opportunities.

There are still a number of alternatives available to these traders, but it's important to understand the characteristics of these securities.

To begin with, let's take a look at inverse ETFs and figure out exactly *why* they make poor long-term securities. We'll also take a look at some of the other "structured ETFs" – leveraged funds and *inverse leveraged* funds and see how they perform in different environments.



Daily Rebalancing Creates Compounding Issues

For inverse ETFs, the compound math creates some interesting issues. On the surface, inverse ETFs actually “do what they’re supposed to do” for the most part. And even holding these securities for a few days or a few weeks may still be a viable option. But investors should realize that as the fund manager rebalances the fund on a regular basis, the natural tendency to *buy high and sell low* eventually takes its toll.

To see how this process works, let’s take an extreme volatility example and see how it affects the price action of a “perfectly run” ETF. For this example, we’re going to assume there are no capital contributions or distributions. So the manager is simply rebalancing the fund based on how the price action affects the fund assets.

Below is a table for a theoretical currency pair with extreme volatility. On the left, the currency pair decreased by 30%, but the ETF only gain 28.6%. The returns are still close, but the fund slightly lags the performance one would have expected if he took a direct bearish position in the currency.

On the right, the currency pair increased by 30% over the period, but a perfectly run inverse ETF would have decreased by a full 36.5% – much more than a manager would have lost by taking a direct short position in the currency.

	Currency Price	Inverse Return	Fund NAV		Currency Price	Inverse Return	Fund NAV
Day 1	1.00		\$1,000,000	Day 1	1.00		\$1,000,000
Day 2	1.20	-20.0%	\$ 800,000	Day 2	0.80	+20.0%	\$1,200,000
Day 3	0.90	+25.0%	\$1,000,000	Day 3	1.10	-37.5%	\$ 750,000
Day 4	0.70	+28.6%	\$1,286,000	Day 4	1.30	-18.2%	\$ 613,500

The reason the math works out this way is that the ETFs are built to reflect the inverse daily percentage gain or loss of the underlying security. So when the security shows a loss (creating a profit for the ETF) the manager must reinvest the profits by taking a larger short position in the underlying security. Essentially, he is “selling low”

Conversely, when the security appreciates, the manager must reduce his short position in the underlying security. The value of the fund has decreased, and so the manager must also decrease his nominal exposure. In this case, the manager is “buying (to cover) high.”



Obviously, the example is magnified by using an extremely volatile example, but the math works the same (just less magnitude) for securities with more normal price swings.

An interesting way to play this phenomenon is to consider shorting an inverse ETF to take a bullish position. The natural tendency is for this ETF to decline in value – and if you tack that on top of a good bullish market call it can accentuate your returns.

Leveraged ETFs – Another Layer of Complexity

Leveraged ETFs also get a bum rap because of their compound interest characteristics. A number of articles have been written about how these securities are poor investments when held for any extended period of time, but often these arguments fail to explain the whole story.

The truth about leveraged ETFs is that they work phenomenally well during trending periods, but they are poor vehicles to hold during mean reverting periods. Once again, the concept comes into play when managers must rebalance the ETF exposure on a daily basis.

Take a look at the table below. On the left is a leveraged bullish fund during a trending period. Notice how the returns are actually well above double the return of the underlying security. This is because a leveraged fund actually reinvests the profits into a margined position in the underlying security.

On the right side, however, you can see that volatility decreases the expected return.

This is because the fund rebalances by buying more exposure after a rally, and then takes a larger loss when the security reverts back. The same is true for selling after a decline.

	Index Price	ETF Return	Fund NAV		Index Price	ETF Return	Fund NAV
Day 1	100.00		\$1,000,000	Day 1	100.00		\$1,000,000
Day 2	120.00	+40.0%	\$1,400,000	Day 2	85.00	-30.0%	\$ 700,000
Day 3	135.00	+25.0%	\$1,750,000	Day 3	115.00	+70.0%	\$1,190,000
Day 4	150.00	+22.2%	\$2,138,500	Day 4	100.00	-26.1%	\$ 879,410

So for leveraged ETFs, the bad rap is only deserved for volatile periods. The industry dubs this underperformance “volatility decay” and it’s basically the negative effects of compound returns on a leveraged position. That compound math works in our favor when positions are trending.



For choppy periods like we experienced in 2011, one of the best trading strategies for leveraged ETFs is to short the leveraged ETF that seeks returns in the opposite direction of your market call. In this case, the volatility decay works in your favor, along with what is hopefully an accurate market call.

*Note: Leveraged and inverse ETFs are often hard to borrow for a number of brokerages and trading platforms. We have had good success in locating shares using **TradeStation Prime Services**. They have access to a very large book of accounts, which makes it easier for their short desk to locate shares.*

Direxion Mutual Funds Offer Rebalancing Solution



For IRAs and investment pools that don't have the ability to short securities, the Direxion family of mutual funds may offer a helpful alternative.

The Direxion mutual funds are engineered to rebalance on a monthly basis – keeping volatility decay to a minimum. The monthly rebalancing creates some unique challenges because if you invest in one of these funds mid-month, your exposure level may be different than you expect.

For instance, if you are investing in a leveraged long ETF after the market has dropped significantly, your exposure will be more than 2X the underlying security. The market has already decreased the value of the fund, and the manager has not rebalanced the fund to decrease the nominal number of shares (or nominal exposure to the index).

Direxion helps investors adjust the size of their purchase or sale, by offering [calculators that are tied in with the fund's exposure level](#) and can tell you exactly how much to buy or sell based on your desired exposure level.

Since mutual funds only trade on an "end of day" basis, investors don't have the ability to take advantage of intra-day moves. For sophisticated traders, it may make sense to use the leveraged or inverse ETFs on a daily basis – and then enter Market-On-Close orders to exit the ETF position at the end of the day – while simultaneously entering the Direxion mutual fund.

Getting back to the euro discussion, the **Direxion Monthly Dollar Bull 2X Fund (DXDBX)** may be a good proxy for shorting the euro. Obviously, the correlation isn't



perfect as the dollar bull fund will trade against a basket of currencies. But the euro / US dollar exposure makes up a material portion of the fund's exposure – and at this point most currency pairs are correlated to this relationship.

Ultimately, the most efficient way to short the euro is to directly trade in the FOREX market. But there are some very attractive alternatives for traders with restricted access to these markets.

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p.p.s. If you haven't already, check out [the Mercenary Live Feed!](#)

