

## RealMoney Investment &amp; Trading Ideas

**Inconsistency in ETF Returns**

By **Scott Rothbort**  
RealMoney Contributor  
12/23/2008 3:43 PM EST

Earlier this month, I wrote an [article](#) titled "Market Impact of ETFs and Futures." My three conclusions at the end of the article were as follows:

1. Market volatility tends to be a result of futures activity rather than ETF activity.
2. Index ETFs and derivatives are more likely to impact the indices and are not targeted at individual stocks.
3. Sector-specific ETF trading can have an impact on individual stocks.

I decided to take a closer look at the returns on ETFs to again see if there was a breakdown in relationships between long and short ETFs, ultra ETFs and any linkage to market volatility.

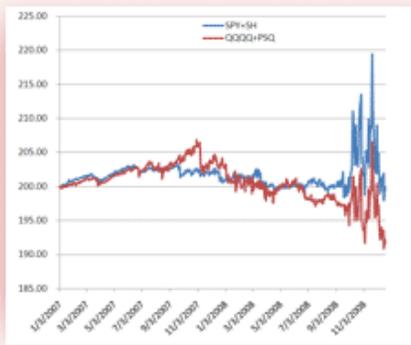
My basic thinking was as follows. If one were to buy a stock and short that same stock, excluding some transactional or financing noise, the net return to the investor would be zero. For example, if I bought **Verizon** (VZ) in one account and then shorted Verizon in a second account, with an equal amount of capital and market value, then I should have an equal amount of capital in the long run despite what happens to the price or dividend of Verizon.

I extended that hypothesis to ETFs. I began with the simplest ETFs, the non-leverage variety. Take the **S&P 500**, for example, which has two mirror-imaged ETFs that are non-leveraged: the long **SPDRs** (SPY) and the short variety **Short S&P 500 ProShares** (SH). Going back to January 2007, I assumed that I bought \$100 of both the SPY and the SH. I calculated on a daily basis through Friday, Dec. 19, 2008, factoring in the effect of dividends, the daily value of my long/short portfolio. This portfolio should be valued at or close to \$200 on a consistent basis.

I performed the exact same analysis on the long/short **Nasdaq** ETF pair: the long **PowerShares QQQ** (QQQQ) and the **Short QQQ ProShares** (PSQ) on the short side. Similarly, this portfolio should be valued at or close to \$200 on a consistent basis.

The daily valuation is presented in the chart below.

Long/Short S&P 500 vs.  
Long/Short Nasdaq



[+ LARGER IMAGE](#)

**SOURCE:**  
LakeView Asset  
Management

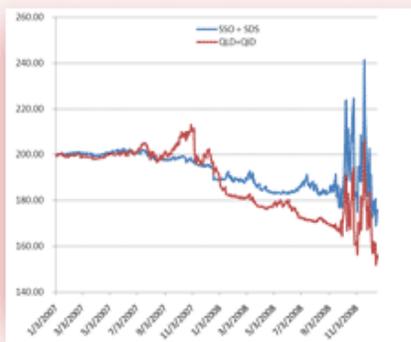
A few observations are worth noting:

- The valuation of the long/short package was nearly \$200 and usually within 1% of the targeted value for most of the period under review for both index pairs, with the average of the SPY/SH portfolio at \$201.714, with a standard deviation of \$2.075, and the average of the QQQQ/PSQ portfolio at \$200.550, with a standard deviation of \$2.700.
- The portfolios did not begin to exhibit dramatic variation to the mean until the excessive period of market volatility began in September 2008. The peak valuation for the SPY/SH portfolio occurred on Nov. 12, 2008, and for the QQQQ/PSQ portfolio on Nov. 20, 2008, and both were fairly consistent with the recent market lows. The valuation lows were on Dec. 16, 2008, and were concurrent with the recent **FOMC** interest rate decision.

The next step in this analysis was to move to the leveraged, or "Ultra," ETF varieties of the same two indices. I created a portfolio for the S&P 500 pair: the long **Ultra S&P 500 ProShares** (SSO) and the short **UltraShort S&P 500 ProShares** (SDS) . And I created a similar portfolio for the Nasdaq pair: the long **Ultra QQQ ProShares** (QLD) and the **UltraShort QQQ ProShares** (QID) on the short side.

Using the same static \$100 initial investment for each half of the pair, see how the valuation chart turned out below.

Ultra Long/Short S&P 500 vs.  
Ultra Long/Short Nasdaq



[+ LARGER IMAGE](#)

**SOURCE:**  
LakeView Asset  
Management

As we can see the valuations are quite skewed compared to those of the nonleveraged varieties:

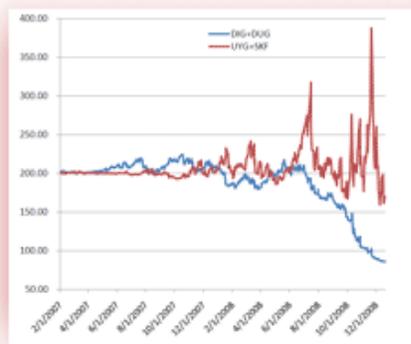
- There was a steady deterioration in both Ultra pairs, since the market hit record levels and began to fall in the fourth quarter of 2007.

- The valuation of the long/short Ultra packages were consistently not near \$200 and varied dramatically from the \$200 target valuation for most of the period under review for both index pairs, with the average of the SSO/SDS portfolio at \$193.492, with a standard deviation of \$8.418, and the average of the QLD/QID portfolio at \$188.269, with a standard deviation of \$13.975.
- The valuations of both Ultra portfolios spiked as the markets hit low levels and volatility spiked.

Finally, I extended the Ultra analysis to two widely traded pairs of sector-specific ETFs, the financials and oil & gas services. The data for this aspect of the study began on Feb. 1, 2007, and extended through Dec. 19, 2008. The portfolio packages include the long **Ultra Oil & Gas ProShares** (DIG) and short-biased **UltraShort Oil & Gas ProShares** (DUG) for the oil & gas service sector and the long **Ultra Financials ProShares** (UYG) and the **UltraShort Financials ProShares** (SKF) on the financials end.

Consistent creation of \$100 initial investment for each half of the pairs resulted in the valuation chart below.

Ultra LongShort Energy vs.  
Ultra LongShort Financials



LARGER IMAGE

SOURCE:

LakeView Asset  
Management

These charts yield some very inconsistent and frankly unexpected results:

- The valuations of the long/short Ultra packages were nearly valued at \$200 until the markets collapsed and volatility began to soar in the summer, with the average of the DIG/DUG portfolio at \$187.469, with a standard deviation of \$34.021, and the average of the UYG/SKF portfolio at \$206.936, with a standard deviation of \$21.988.
- The valuation of the financial package spiked as the market hit new lows and volatility spiked but the oil & gas portfolio just continued a downward trajectory since the summer. Frankly these inconsistent patterns are inexplicable thus leading me to believe that something more sinister may be at work.

## Conclusions

These analyses have some interesting implications for investors and perhaps provide us with a bit more insight into the construction of leveraged ETFs and the relationship between leveraged ETFs and market volatility.

In particular, there appears to be some consistency between the pricing of nonleveraged long and short index ETFs, although some slight variance or noise may exist from time to time especially during periods of excessive market volatility. Meanwhile, the leveraged indexed ETFs appear to have inconsistent pricing between the long- and short-biased funds, which could be due to the constant need to re-gear the leverage of each individual Ultra fund. They also appear to have wild valuation swings as market volatility picks up.

The question that remains with the leveraged index ETFs is whether they are a contributing cause of market volatility, or does market volatility create nonlinear pricing changes in the UltraShort ETFs? Also, do these ETFs require a pricing model in the spirit of an options pricing model?



As for the leveraged sector ETFs, they appear to have inconsistent and random pricing relative to the long/short relationship such that the long and short varieties trade independent of one another despite being targeted to the same portfolio. They also appear to have far more volatile re-gearing issues than the indexed Ultra ETFs.

The question that remains here is whether the Ultra sector ETFs are vehicles of single stock manipulation? It does appear that the random nature of sector ETF relationships does add some circumstantial evidence to my contention that these ETFs are being used not for investment but for manipulative purposes.

The unintended consequences of the pricing anomalies of leveraged ETFs leads one to question the suitability of these instruments and whether the **SEC** should halt further approvals until we fully understand the cause and effect relationship of leveraged ETFs and the marketplace. Once again, more work needs to be done on the subject of the leveraged ETFs. I would welcome a grant to have the talented faculty of academics and practitioners at the Seton Hall University Stillman School of Business perform an independent study.

#### RELATED STORIES

This Forecaster Sees a Full-On Depression  
Why Dividends Have Outlived Their Use  
Cheap Is a Relative Term

At the time of publication, Rothbort was long the Ultra S&P 500 ProShares and Ultra Financials ProShares, although positions can change at any time.

Scott Rothbort has over 20 years of experience in the financial services industry. In 2002, Rothbort founded LakeView Asset Management, LLC, a registered investment advisor based in Millburn, N.J., which offers customized individually managed separate accounts, including proprietary long/short strategies to its high net worth clientele. He also is the founder and manager of the social networking educational Web site [TheFinanceProfessor.com](http://TheFinanceProfessor.com).

Immediately prior to that, Rothbort worked at Merrill Lynch for 10 years, where he was instrumental in building the global equity derivative business and managed the global equity swap business from its inception. Rothbort previously held international assignments in Tokyo, Hong Kong and London while working for Morgan Stanley and County NatWest Securities.

Rothbort holds an MBA in finance and international business from the Stern School of Business of New York University and a BS in economics and accounting from the Wharton School of Business of the University of Pennsylvania. He is a Term Professor of Finance and the Chief Market Strategist for the Stillman School of Business of Seton Hall University.

For more information about Scott Rothbort and LakeView Asset Management, LLC, visit the company's Web site at [www.lakeviewasset.com](http://www.lakeviewasset.com). Scott appreciates your feedback; [click here](#) to send him an email.

Read our [conflicts and disclosure policy](#).

