

Market Impact of ETFs and Futures

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Years ago, we had a simpler configuration of derivative and proxy instruments for the markets: index futures and options. More recently, exchanges and sponsors have introduced "emini" futures and exchange traded funds (ETFs), which have broadened the availability of speculative and hedging instruments to an even wider group of investors and traders.

There is much confusion, speculation, lack of knowledge, etc. regarding the impact of ETFs upon the overall market. The introduction of leveraged or "ultra" ETFs has only resulted in exacerbating the mystery of the effect of ETFs upon the indices, including the recent volatility that has gripped the markets from a day-to-day perspective and, more importantly, during the final half hour to hour of trading.

We need to look at these phenomena from three perspectives: ETF construction, trading activity and non-futures-related ETF/stock manipulation.

ETF Construction

ETFs are created by placing assets or total return swaps into a trust. The trust then issues certificates or fund shares that are listed on an exchange in the form of ETFs. Some ETFs are constructed from a combination of assets or swaps. Total return swaps are over-the-counter contracts that specify the exchange of economic values based on the movement of an index or asset between two parties.

For example, a total return swap on the **S&P 500** would call for Party A (the payer) to pay the upside price return of the S&P 500 plus dividends to Party B (the receiver). In return, Party B would pay to Party A the downside price return of the S&P 500 plus an interest payment, which is typically pegged to an interest rate such as LIBOR.

A plain vanilla ETF such as the **SPDRs (SPY)**, which is targeted to provide the return of the S&P 500, is constructed by the trust purchasing all of the constituent stocks of the S&P 500. The more complex **Short S&P 500 ProShares (SH)** is constructed by a combination of short stocks and short swaps, the ETF being Party A in this example.

The ultra varieties, which are leveraged versions of the basic ETFs, will also use stocks and swaps to obtain their desired return. The **Ultra S&P 500 ProShares (SSO)** uses stocks, while the **UltraShort S&P 500 ProShares (SDS)** uses a combination of both. In order to obtain a properly indexed ultra position, the swaps have to be dynamically managed so as to generate the leveraged gearing that the ETF purports to deliver.

Most recently, we have witnessed the introduction of the 3x ETFs, including the **Direxion Shares ETF Trust Large Cap Bull 3x** (BGU) and **Direxion Shares ETF Trust Large Cap Bear 3x** (BGZ) , which triple the long or short exposure to an index or portfolio. According to the **SEC** filing for these 3x funds:

Each Bull and Bear Fund invests significantly in swap agreements, forward contracts, reverse repurchase agreements, options, including futures contracts, options on futures contracts and financial instruments such as options on securities and stock indices options, and caps, floors and collars.

Trading Activity

Many intelligent professionals on this site and elsewhere hypothesize that ETF activity -- and, in particular, the ultra or 3x funds -- is largely responsible for the huge market volatility that we are currently experiencing. I decided to take a look at one day's activity to analyze the massive amount of dollar volume that is taking place to see if we can ascertain a causal relationship between ETFs, futures and the market indices.

For Tuesday, Nov. 25, 2008, the S&P 500 moved in a range between \$834.99 and \$868.94 and closed higher on the day by 0.66%. The following table estimates the dollar equivalent value of the exchange's ETFs and emini futures (after accounting for the security or contract leverage) traded that day based on my research and calculations:

| Symbol | Description | Dollar equivalent of trades | Leveraged | Long or short | Type |
|---------|------------------------------|-----------------------------|-----------|---------------|--------|
| SPY | SPDRs | 38.75 billion | No | Long | ETF |
| SH | Short S&P 500 ProShares | 0.23 billion | No | Short | ETF |
| SSO | Ultra S&P 500 ProShares | 5.29 billion | 2x | Long | ETF |
| SDS | UltraShort S&P 500 ProShares | 14.14 billion | 2x | Short | ETF |
| Dec SPX | Emini future | 132.5 billion | 50x | Long | Future |

Source: LakeView Asset Management, LLC

It is clear that there is a huge amount of money being thrown around, but the overwhelming preponderance of traded equivalent value takes place in the futures pits, which seem to dwarf the ETF dollar equivalent volumes. *(Note: Excluded from my table above are related instruments that also need to be factored in such as index options, both exchange traded and OTC, and swaps. Swaps and OTC options data are not available given the current lack of regulation and a central clearing system. Listed options trades are available, but the analysis would have been far too complex for this brief article. In the end, based on my quick scan, options turn out not to be a big factor, and my conclusion that futures are responsible for most of the current index volatility still stands.)*

I would say that it is a reach to conclude that index ETFs alone (levered or unlevered) are the tail wagging this doggy market. On the other hand, futures appear to have a much larger footprint on the activity of speculators and hedgers. Clearly, ETF activity can spill over to futures and/or stocks as market participants seek to offload or hedge risk. The causal flow may also be reversed as futures participants use ETFs and/or stocks to hedge or offset risk. The data suggests that ETF activity is only a fraction of

futures activity, however, and thus we should look to the futures pits for indication of market volatility and manipulation.

Most stocks represent a fraction of the composition of an individual index. For example, **Exxon Mobil** (XOM) represents 5.42% of the S&P 500, and **Procter & Gamble** (PG) represents 2.44% of that index. Using index ETFs or derivatives as a means to manipulate either of those stocks would be a difficult task. Therefore, a causal link between index activity and individual stocks cannot be ascertained from index derivative and ETF activity alone. Put another way, index activity affects portfolio beta returns but not individual stock alpha returns. We have to search further to see how individual stocks can be impacted by ETF activity.

Non-Futures-Related ETF/Stock Manipulation

There are a multitude of ETFs for which no futures are available. These tend to exist in the class of ETFs (levered or non-levered) that are sector specific. Examples of these ETFs would be the **Semiconductor HOLDRs** (SMH) , **Ultra Financials ProShares** (UYG) or the **UltraShort Oil & Gas ProShares** (DUG) .

Moving these ETFs in a particular direction will have an offsetting movement in the underlying shares of the ETF, the options on the ETF or the options on the underlying stocks. It is far easier to manipulate the price of **Intel** (INTC) , **Citigroup** (C) or Exxon Mobil with those ETFs than with the broad array of S&P 500-related index ETFs.

For example, on Nov. 25, 2008, 10.5 million Semiconductor HOLDRs shares traded, with an approximate value of \$168 million. Approximately, 23.2% of the Semiconductor HOLDRs' holdings is in shares of Intel. Thus, the amount of Intel represented by the Semiconductor HOLDRs' activity on Nov. 25 was about \$39 million, or nearly 3.0 million shares. Intel traded 84.2 million shares on the day. While this represents only 3.5% of Intel's volume, carefully placed Semiconductor HOLDRs trades could have a second-order effect on shares of Intel.

Conclusions

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