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Securities and Exchange Commission
100 F St. NW
Washington, DC 20549-9303
Rule-comments@sec.gov

Re: Request for comment on ETPs

File 34-75165

Dear Securities and Exchange Commission:

Thank you for requesting comment on this important sector. Here are my comments:

Summary

- Real transactions costs to buy and sell ETPs are much higher than the bid-ask spread.
- NAV-based trading of ETPs provides a more fair and orderly market.
- IIVs are inaccurate when the underlying portfolio instruments do not trade.
- Settlement failures for ETPs are a continuing problem that needs to be addressed.
- Closed ETPs can create market dislocations that harm investors due to the inflexibility of Reg SHO.
- Fears of an ETP-driven bond blowout when rates rise illustrate the problems in fixed income market structure.
- Limit-Up-Limit-Down reference prices need to be fixed to prevent unnecessary trading halts.

- Long-term investors would benefit from leveraged ETPs with less frequent rebalancing intervals.

Exchange Traded Products (ETPs) provide extremely useful tools for investors. They permit rapid and efficient diversification, and they provide intelligent exposure to various investment views and asset classes. As the equity market structure is much more investor-friendly than the market structure in other asset classes, the transparency and low transactions costs of the equity mechanism have been a great benefit for investors. However, despite ETPs' amazing utility, there are some significant issues in this space that should be addressed.

Real transactions costs are much higher than the bid-ask spread for many ETPs.

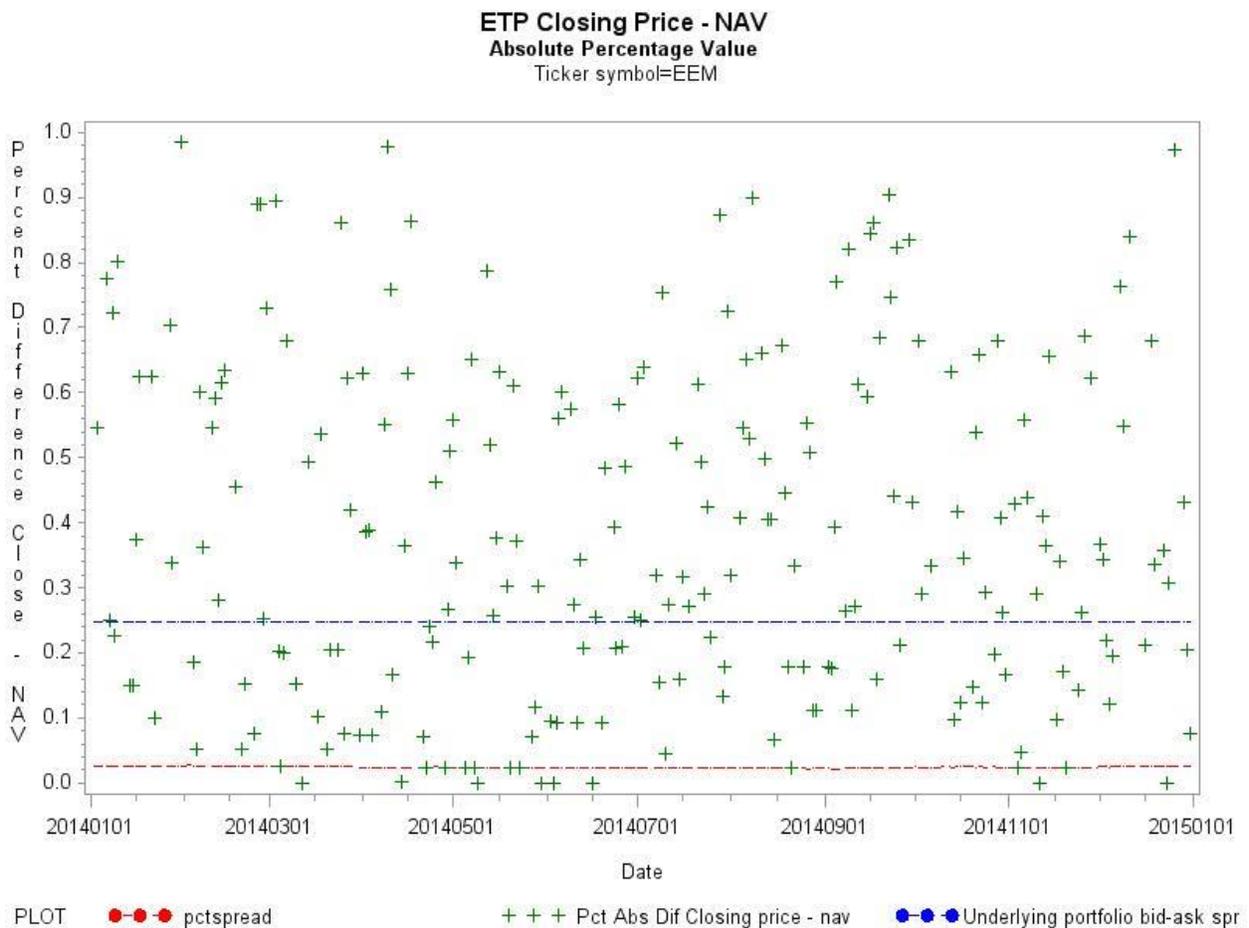
One common misconception is that all ETPs are inexpensive instruments to hold and trade. While broad market US-based ETFs like the SPY and VTI have rock bottom expense ratios and trading costs, this is not true of all ETPs.¹ Moreover, there is a largely hidden cost of trading ETPs, and that is the deviation between the market price and the actual value of the assets in the ETP. Arbitrage activity minimizes this discrepancy for ETFs whose constituents are liquid securities that trade during U.S. market hours. However, many ETPs hold securities that do not trade during U.S. market hours, and this makes arbitrage difficult. Investors and arbitrageurs are often flying blind when they trade such funds.

Many investors inadvertently incur high transaction costs when they buy into an ETP at prices higher than its NAV or when they sell at a lower price. For most ETPs, this discrepancy is often much larger than the bid-ask spread. The following chart demonstrates the absolute percentage deviations in price between the closing price and NAV of the iShares MSCI Emerging Markets Fund (EEM) during 2014.² The plus signs (“+”) indicate that absolute value of the percentage deviation in price between the closing price and the NAV. The red line indicates the percentage bid-ask spread, and the blue line the bid-ask spread for the underlying portfolio from Golub (2013). This fund is actively traded and generally has a one cent bid-ask spread, or about 3 basis points. This tiny spread looks quite a bargain, considering that the bid-ask

¹ A list of the funds with the highest expense ratios can be found at <http://etfdb.com/compare/highest-expense-ratio/>

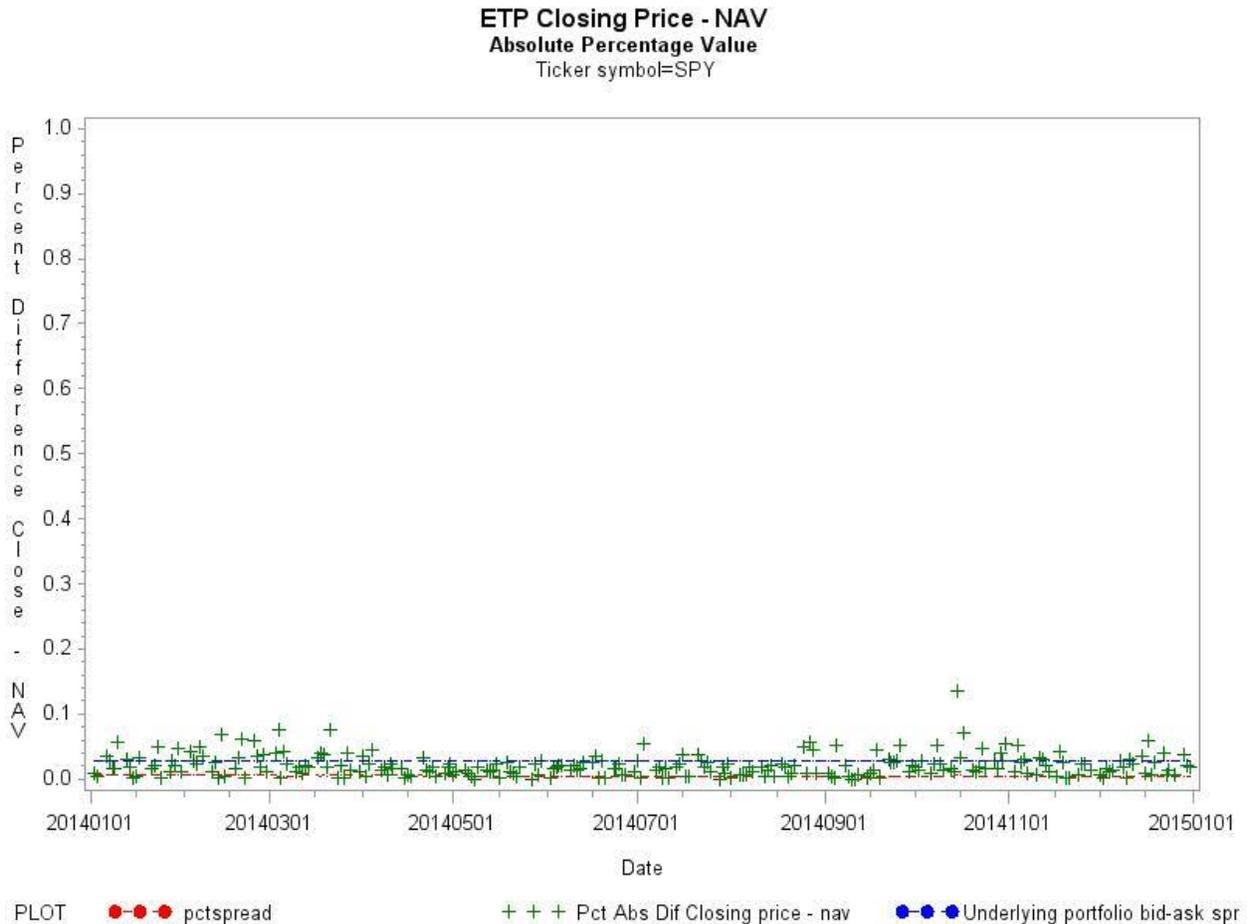
² The empirical data are part of a research project in progress with Gary Gastineau et al. which should be available shortly. The NAVs for ETPs were obtained from the CRSP mutual fund database and then compare with the closing prices from the CRSP daily stock file.

spread on the constituents in the underlying index is 24.8 basis points, as reported by Golub (2013).³ However, the closing price of EEM often deviates significantly from the NAV. As one can see from the chart below, the closing price is often different from the NAV by an amount far larger than the EEM's average bid-ask spread or even the bid-ask spread on EEM's underlying portfolio. During 2014, the closing price deviated from the NAV by an average of 48 basis points, nearly one half of one percent. And that is just an average. On some days, it is much higher than that. Intraday deviations may be much higher. These deviations imply that many investors are unwittingly paying much higher transactions costs than they realize.



³ See Golub, et al, Exchange Traded Products: Overview, benefits, and risks, <http://www.blackrock.com/corporate/en-dk/literature/whitepaper/viewpoint-etps-overview-benefits-myths-062013.pdf>

For U.S. equity-based large cap ETPs, the arbitrage mechanism works much better. The following chart displays the absolute values of the differences between the closing price and the NAV for the day for the venerable SPY. One can see from this chart that the closing price is often quite close to the NAV and usually comparable to the bid-ask spread on the underlying portfolio.



However, deviations such as those seen in the EEM are not an anomaly. Once one gets out of the easily arbitrated and liquid U.S. equity-based ETFs, substantial deviations from the NAV are more the norm than the exception. The following table displays the absolute percentage difference between the NAV and the closing price for approximately 1.5 million daily observations.⁴ While the median is a mere 15 basis points, on 5% of the observations (nearly 75,000 observations) the deviation is 136 basis points (1.36%) or more.

⁴ This is based on data for all ETPs from the CRSP mutual fund and daily stock price files for which matching data were available.

Distribution of Difference between ETP Closing Price and NAV	
Percentile	Percentage Absolute Difference (ETP Closing Price – NAV)
99%	2.95
95%	1.36
90%	0.900
75% Q3	0.420
50% Median	0.152
25% Q1	0.056
10%	0.020

Often there are good reasons for these deviations. When the market for the underlying portfolio securities is closed, it is more risky to provide liquidity. Market makers and arbitrageurs make use of whatever information they have, such as the prices of US ADRs of the portfolio securities, futures on foreign markets, and movements of similar securities in the U.S., to estimate the cost of providing liquidity. Transaction costs in the foreign market, including bid-ask spreads and market impact, along with foreign exchange costs, taxes, and capital controls are also involved. The costs of doing this are reflected in the prices seen in the market. However, many investors are unaware of their true transactions costs.

NAV-based trading of ETPs provides a more fair and orderly market.

There is a solution to the lack of transactions cost transparency raised by ETPs with illiquid constituents: Build upon the ancient practice of trading stocks as a percentage of par value, rather than in fixed dollar amounts. Prior to October 13, 1915, U.S. stocks were generally quoted and traded as a percentage of par value, just as bonds are today.⁵ No matter whether the par value of the stock was \$25, \$50, or \$100, stocks were quoted as a percentage of par value. Thus, if a stock with a \$50 par value was quoted at 90, the real transactions price would be \$45.⁶

We should apply and improve upon this old practice by using NAV-based trading for ETPs in parallel with traditional trading. In NAV-based trading, investors place orders to trade an ETP as a percentage discount or premium to the next-determined NAV.⁷ The precise amount of dollars to change hands will be determined at the end of the trading day when the NAV is promulgated.⁸ This is an innovation built upon the traditional mutual fund practice in which investors place orders for funds, but the actual share price is determined later.

Depending on the interaction of supply and demand at any particular moment, the price will vary from the NAV, but probably not by much. For example, a wave of purchase orders could push the price above NAV. This would attract arbitrageurs who would then sell to the buyers at a premium. These arbs could then transact with the fund manager to create more shares. The premium collected by the arbs would represent a convenience fee to the buyers. It also represents compensation to the arbs for providing liquidity as well as taking the time and expense to create more shares.

⁵ See Wall Street Journal, October 15, 1915, page 2, “Splitting the shares into available assets: Financiers scent danger in collateral values quoted far beyond the \$100 mark.”

⁶ Of course, most common stocks today have no or very low par stock. For some of the history see Problems of Par and No-Par Shares: A Reappraisal by Carlos L. Israels, *Columbia Law Review*, Vol. 47, No. 8 (Dec., 1947), pp. 1279-1300

⁷ For more details on how NAV-based trading will work, see https://www.nasdaqtrader.com/content/ETFs/ETMF_FAQs.pdf

⁸ Brokers, exchanges, and other risk managers can look to the IIV, as flawed as it is, in order to calculate credit exposures and margin requirements. Also, an official NAV could be promulgated more often than once a day, if the fund manager so desired.

NAV-based trading provides many advantages over conventional “just-like-a-stock” trading for ETPs. It provides a fair and orderly mechanism for trading more opaque products, such as actively managed ETPs or ETPs based on foreign securities with closed markets. Furthermore, NAV-based trading increases the transparency of trading costs to investors. Since most retail investors cannot understand or even figure out how to access, the IIVs, NAV-based trading will send clear signals to investors as to the real trading costs that they are experiencing.⁹ In addition, this increased transparency will make it easier not only for the usual liquidity providers to provide liquidity, but also other investors. A discount to NAV may alert buyers to the potential to snap up the ETP at a bargain and thus bring in price stabilizing activity that might not otherwise arrive in the market.

NAV-based trading will soon be used for Exchange Traded Managed Funds (ETMFs). It can be run in parallel with existing dollar-based trading for existing ETPs. I recommend that NAV-based trading be rolled out for most ETPs so that investors may trade them simultaneously in the traditional fixed dollar amounts or in the NAV-based manner.

The media are catching on to this discrepancy between NAVs and market prices, and it is likely that there will be a public demand for the SEC to do something to protect retail investors.¹⁰ Rolling out NAV-based trading for all ETPs is exactly the something that the SEC should do.

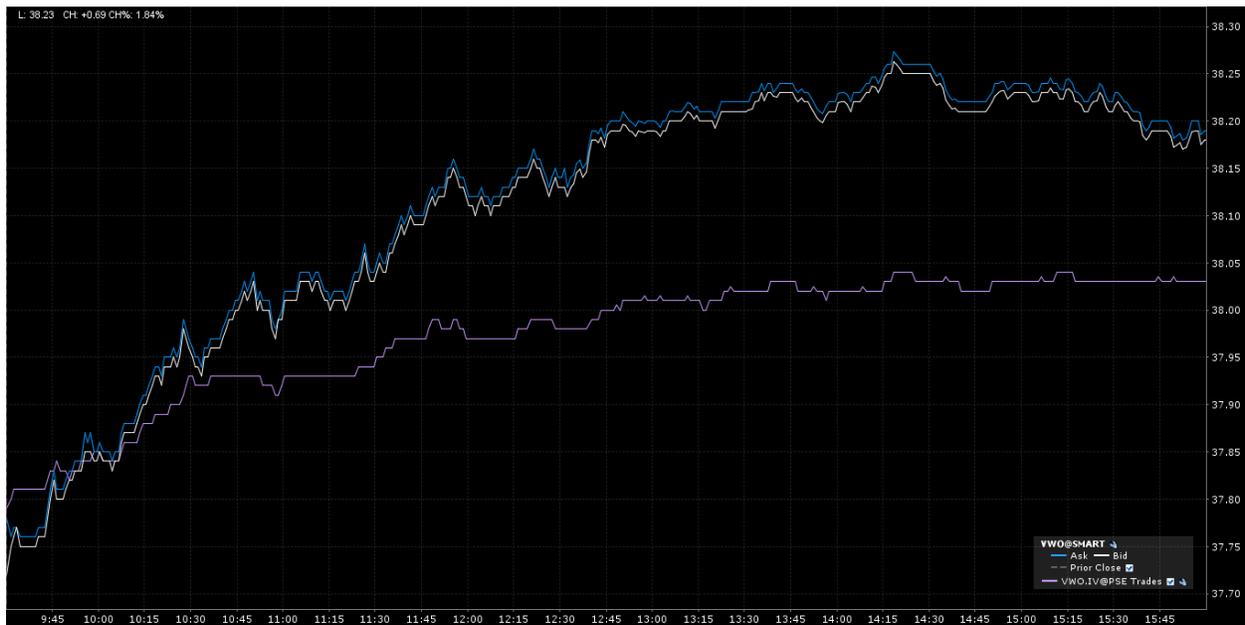
⁹ It is very difficult to find the IIV data on most financial and brokerage firm web sites, if it is available at all. On Yahoo, one can search for ^VTI-IV to get the IIV for VTI and eventually get there.

¹⁰ See, for example, <http://www.bloomberg.com/news/articles/2013-07-01/etf-investors-are-caught-by-surprise-as-prices-diverge>.

IIVs are inaccurate when the underlying portfolio instruments do not trade.

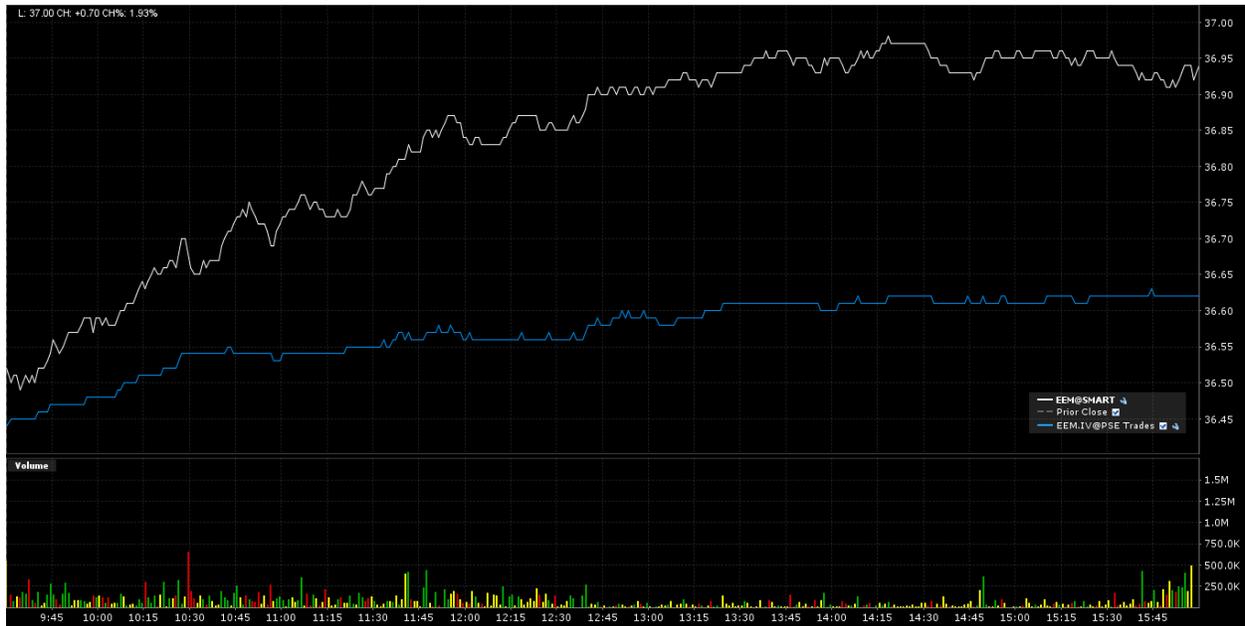
Although ETP managers promulgate “indicative intraday values” (IIVs) during the trading day, those numbers are just that, indicative. If the underlying instruments are very liquid, then the IIVs are not too bad, although they often represent stale prices. However, if the underlying instruments do not trade during U.S. market hours, which is the case for many ETPs that contain foreign securities, then the IIV becomes useless as a measure of current value.

Here is an example that demonstrates the problem with the IIV. The following chart demonstrates the bid and ask quotes along with the IIV for the Vanguard Emerging Markets Stock Index Fund (VWO) on August 10, 2015. Note that the bid-ask spread is quite narrow, usually a penny, but that the quotes are far away from the reported IIVs. At the end of the day, the fund closed at \$38.19 with the NAV at \$38.17, not too far off. Alas, the IIV at the close was \$38.03, much farther away from the official closing NAV than the market price was.



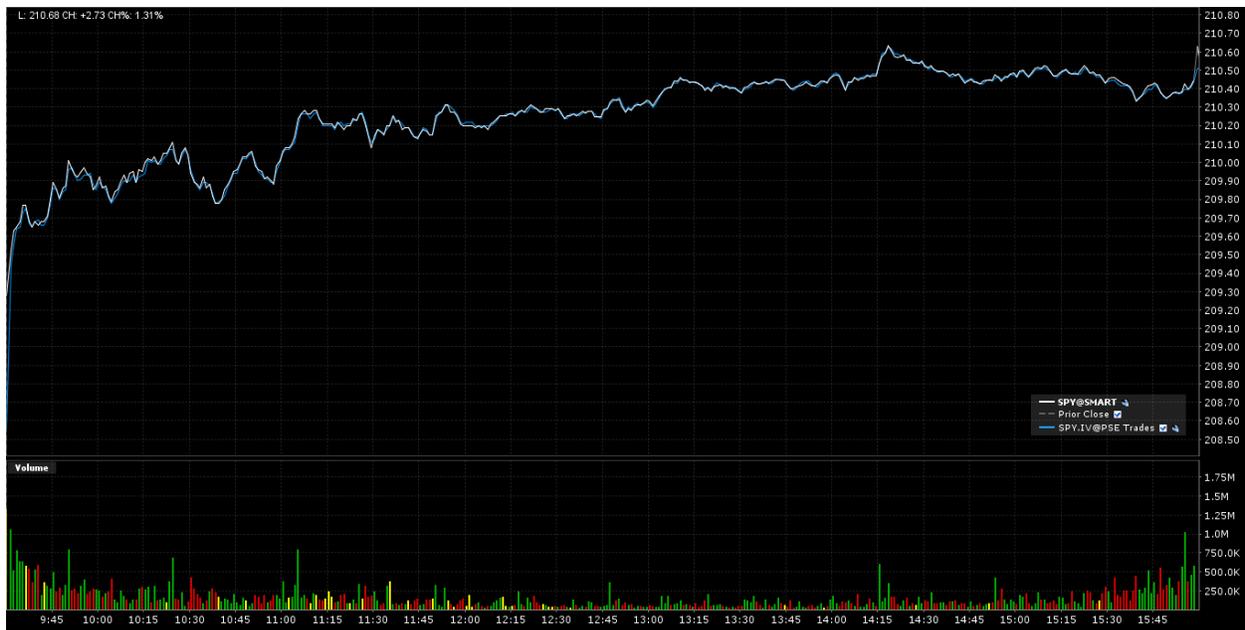
The VWO is not alone in this problem. Here is the chart for EEM on August 10, 2015. Note that on this day the fund closed at \$36.94, the NAV was \$36.58, a gap of \$.36, which is far larger than the typical

\$0.01 spread for the EEM. The IIV closed at \$36.62, much closer to the reported NAV for the day than the market price.¹¹



The IIV works does much better for liquid ETFs with liquid components that trade during the same hours as the ETF. The following chart shows the market price and the IIV for the SPY on August 10, 2015. The IIPV and the market price are so close that it is difficult to see any difference in the chart:

¹¹ Close observers will note the distinctly different relationship among the final IIV, NAV and closing price of VWO versus EEM in this example. For VWO, NAV and closing price are near each other, but at a distance from the reported final IIV. For EEM, NAV and the final IIV are quite close, but away from the closing price. My understanding is that this difference is explained by the application of “fair value pricing” by VWO to determine its daily NAV, but not its final IIV, whereas EEM did not apply fair value adjustments to either NAV or IIV. In fair value pricing, the values of fund holdings are adjusted from local closing prices to reflect changes in market levels between the local close and the time NAV is determined. As in this example, fair value pricing should generally result in a closer correspondence between closing prices and NAV than when fair value pricing is not applied.



Despite their flaws, IIVs do provide additional useful information to the market. Several improvements can be made, and the Commission should seek to determine whether the benefits of such improvements are worth the costs. These potential improvements include:

- Provide both an IIV-bid and IIV-ask, to demonstrate the transactions costs in the underlying. These should be in the standard SIP quote feeds so that they are easily accessible to all investors.
- Provide more timely updates to the IIV. Every 15 seconds is too slow. Consider updating the IIV whenever it changes by one tick or more.
- Each ETP sponsor should also post the IIV on its web site.

Settlement failures for ETPs are a continuing problem that needs to be addressed.

It is quite odd that the Commission' Request for Comment did not even mention the massive settlement failures that plague the ETP marketplace. This is only likely to get worse as more exotic ETPs are brought to the market.

When sellers fail to deliver shares on the usual settlement date, they are forcing the buyers who did not receive their shares into making a forced stock loan at below market rates. Such failures also require additional effort in the settlement process and increase credit risk from unsettled trades in the system. These failures are far more common in ETPs than in other securities.

In the midst of the financial crisis of 2008, the Commission hastily imposed Regulation 204T which generally requires delivery on T+3 or else an immediate buy-in on the morning of T+4 for most people.¹² Some type of clamp down was long overdue, and the now permanent Regulation 204 has ended most of the protracted settlement failures that were an embarrassment to the reputation of the U.S. markets.

However, the draconian black-and-white “must buy in” approach has also created distortions, especially for more thinly traded stocks. Given the fragmented and sometimes manipulated state of the stock lending market, it is sometimes impossible to borrow on fair and reasonable commercial stock lending terms. This sometimes leads to manipulative squeezes as happened in CYNK. I have long advocated for a system that imposes market related “late fees,” similar to what is done in Treasury bonds, rather than the all-or-nothing system we have today.¹³

Even through Regulation 204 has cleaned up most of the settlement failures in the system, it has not cleaned up all of them. The following table displays the 20 securities with the highest dollar value of fails from the SEC's Fail to Deliver Data for July 15, 2015, the most recent date available as of this writing.¹⁴ Nine of the top 10 and 16 of the top 20 securities on this list are ETPs. Indeed, 68 of the top 100 securities with the largest failures to deliver are ETPs. For the Industrial Sector SPDR (XLI) alone, the

¹² Market makers have until T+6 to deliver.

¹³ For example, see <http://www.sec.gov/comments/s7-19-07/s71907-117.pdf>.

¹⁴ <http://www.sec.gov/foia/docs/failsdata.htm>

value of the failed shares was \$182 million. The total dollar value of these failures to deliver in ETPs was \$1.7 billion, over two-thirds of the total dollar value of fails to deliver for all securities.

These failures are costly to the long investors awaiting delivery, who are losing potential stock lending revenue. At a 2% stock lending fee, that \$1.7 billion would generate \$34 million in annual stock lending revenue.¹⁵ These failures are also costly to the ETPs themselves. If instead of failing, those failing to deliver positions had been turned into newly created ETP shares, the industry would have another \$1.7 billion in assets under management. At a fee rate of 50 basis points, that represents \$8.5 million in lost revenue to the industry.

¹⁵ On August 17, 2015, the average stock lending fee rates for the 16 ETPs on this list from Interactive Brokers was 2.7%. The median was 1.7%.

Failures to Deliver
July 15, 2015
Top 20 Securities in Dollar Amounts of Failures to Deliver

Symbol	Number of shares failed to deliver	Description	Price	Dollar Amount
XLI	3,334,201	INDUSTRIAL SECTOR SPDR	54.77	\$ 182,614,189
EEM	4,024,493	ISHARES MSCI EMERGING MARKETS	38.7	\$ 155,747,879
HYG	903,911	ISHARES TR	88.88	\$ 80,339,610
ASHR	1,797,948	DEUTSCHE X-TRACKERS HARVEST CS	42.86	\$ 77,060,051
FXI	1,737,301	ISHARES TR	42.91	\$ 74,547,586
SHV	608,536	ISHARES TR	110.3	\$ 67,121,521
SMH	778,471	MARKET VECTORS ETF TR	53.36	\$ 41,539,213
MCHI	610,031	ISHARES MSCI CHINA ETF	52.55	\$ 32,057,129
RLJ	672,353	RLJ LODGING TR COM	30.97	\$ 20,822,772
EWZ	632,112	ISHARES MSCI BRAZIL CAPPED ETF	32.61	\$ 20,613,172
VTI	185,078	VANGUARD TOTAL STOCK MARKET ET	108.82	\$ 20,140,188
CHK	1,822,296	CHESAPEAKE ENERGY CORP	10.9	\$ 19,863,026
CTRP	265,847	CTRP COM INTL LTD 1 ADR TO 4	73.81	\$ 19,622,167
TLT	167,955	ISHARES BARCLAYS 20+ YEAR TREA	115.69	\$ 19,430,714
IPFF	1,003,479	ISHARES TRUST INTERNATIONAL PF	18.4	\$ 18,464,014
IEI	147,745	ISHARES BARCLAYS 3-7 YR TREAS	122.56	\$ 18,107,627
XOP	387,707	SPDR SER TR OIL & GAS EXPLORAT	43.9	\$ 17,020,337
HRG	1,253,960	HRG GROUP INC COM STK (DE)	13.35	\$ 16,740,366
UGAZ	7,583,578	CREDITSUISSE NASSAU BRH VELOCI	2.18	\$ 16,532,200

Note only are ETPs over represented in the daily numbers, they are also over represented on the Regulation SHO list of securities with protracted levels of high failures to deliver. Appendix A displays the Regulation SHO Threshold list for August 10, 2015 for NYSE, NYSE ARCA, and NASDAQ. Of the 85 securities on the list, 73 are ETPs.

The chronic high levels of fails to deliver in this space illustrate inefficiencies in the creation/redemption process as well as the stock lending market. Ideally the creation and redemption process should be so easy and cost effective that there should never be a reason to fail to deliver. One of the explanations I have heard for failures to deliver is that the sizes of creation/redemption units are too large. A dealer who is short less than a creation unit does not want to actually create one because then the dealer would have an unwanted long position. It is simpler to just fail to deliver on the expectation that the short position will disappear soon from the normal ebb and flow of market making activity. The Commission should seriously consider reducing the sizes of creation/redemption units. I see no reason for them to be as large as they are. ETP managers should support smaller creation/redemption unit sizes as it would help to increase assets under management.

The stock borrowing market should also be efficient enough that securities can be borrowed when needed at reasonable cost. Such inefficiencies could blow up into a real mess during a period of market stress. This is a problem that should be addressed sooner rather than later.

The Commission should examine potential methods for reducing chronic failures to deliver in ETPs. These include smaller-sized creation/redemption units, better enforcement of Regulation 204, plugging loopholes that permit extended fails, market structure improvements in the stock lending market, and charging penalty fees for late delivery to create better incentives for timely performance.

Closed ETPs can create market dislocations that harm investors due to the inflexibility of Reg SHO.

The Commission asks comment on the suspension of creations and redemptions of ETPs. This can occur when the sponsor decides to discontinue a product. The classic example of this is the Credit Suisse ELEMENTS MLCX Gold Index ETN and its sister ETNs.¹⁶ This ETN was linked to the price of gold. After its delisting in 2009, it soared to a premium of over 1,000% to its NAV. The inability to create or redeem, combined with the total inflexibility of the Regulation SHO buy in requirements, led to an extreme short squeeze that caused a severe dislocation in the price. This demonstrates the dangers that a closed ETP can present to investors, and the need to re-examine Regulation SHO's inflexible delivery demands. Again, a system that permits failures but charges an appropriate late fee will clean up most of the continuing failures but have the flexibility to prevent unfair and disorderly price spikes as occurred in this situation and in more recent cases such as CYNK.

The following Bloomberg screen shot displays the price trajectory.

¹⁶ The former NYSE ticker was GOE. After delisting, it became CDSUI on the OTC market, and CUSIP = 22542D209). See <http://investwithanedge.com/credit-suisse-finally-liquidates-etns-delisted-in-2009> for more details.



Fears of an ETP-driven bond blowout when rates rise illustrate the problems in fixed income market structure.

Some commentators have expressed concern that ETPs holding illiquid bonds will create a catastrophe in the bond market when interest rates go up. The story goes like this: When interest rates go up, panicky holders of bond ETPs will sell, leading to redemptions. Investors who are used to the mirage-like liquidity of ETPs will run for the exits all at the same time and discover how ephemeral that liquidity is. We saw during the Flash Crash that ETPs were especially vulnerable to liquidity disruptions. Thus, when the run comes on the ETPs, there will be no one willing to buy the bonds they have to sell and bond prices will crash, exacerbating the losses. The existence of ETPs will have amplified the problem and cause bond prices to crash further than they would have without them.

There is a small grain of truth to this logic, but the situation will not be much worse due to the existence of bond ETPs. When interest rates go up, anyone holding long-duration assets will incur losses. That is a mathematical certainty. Investors who can't do the math will be shocked, SHOCKED(!), that "safe" bond funds can go down. Credit spreads are likely to increase as well, increasing the losses. There will be much wailing and gnashing of teeth. It will be discovered that some investors who should not have been taking on interest rate risk took on too much, such as Orange County discovered back in 1994. There will be blood, and lots of it.

These losses would occur even if there were no ETPs and no dislocations in the market.

The real danger, as always, is leverage. Leverage will amplify the losses of those holding long-duration assets. This includes old-fashioned depository institutions who fail to manage their interest rate exposure, hedge funds attempting to profit from the carry trade, and others. Financial crises occur when large systemically important groups of leveraged institutions get hit with losses. Although ETPs can be leveraged (e.g. Daily 20 Year Plus Treasury Bull 3x Shares, TMF), and investors can use leverage to purchase ETPs, they can also get that leverage elsewhere through futures, options, and direct borrowing. Fixed-income ETPs likely add comparatively small amounts to the total leverage in the system, but I hope the economists at OFR and FSOC are watching total leverage in the financial system and not just ETPs.

Some argue that the problem in this interest rate cycle will be worse due to changes in the bond market. Regulatory changes including Basel III, Dodd-Frank and more are leading traditional bond dealers to hold less inventory. However, bond dealers are in the moving business, not the storage business. Their job is to provide very short-term liquidity, not to catch a falling knife. When the downturn hits, they will do whatever it takes not only to avoid bankruptcy, but to make a profit as well. In the end, prices will settle at the convergence of supply and demand regardless of the inventory levels of dealers.

The fixed income market is in serious need of overhaul, in several dimensions. We saw what happened during the financial crisis when the fixed income markets just froze. This could happen again in the next crisis unless steps are taken to fix the underlying problems in the fixed income marketplace. The equity markets did a pretty decent job of matching buyers and sellers and discovering the price. We may not have liked the news the market was delivering, but the equity market mechanism did not freeze up like the fixed income market did. I hope the FSOC pays attention to this.

First, one of the problems is the tremendous lack of standardization of fixed income issues. Although bond issues are *sort of* standardized, they aren't really. Who knows what obscure covenants or option features may be lurking deep in the documentation? This lack of standardization – even for instruments from the same issuer – makes it harder for secondary markets to treat fixed income products like the fungible commodities they ought to be.

Issuers have no one but themselves to blame for this fragmentation. They have been led to believe that custom tailoring every single debt issue with different terms gives them the best deal. This is a short-sighted attitude. In the long run, issuers will benefit from a more liquid secondary market because more liquid issues are worth more. Higher prices in the secondary market translate directly to higher prices in the primary market and thus a lower cost of capital.

Bond issuers should learn from the swaps and futures markets the advantage of standardized documentation and issuance terms that would help to make bonds even closer substitutes for each other. With truly standardized documentation (with a choice of standardized covenants), the term sheet for the bond would provide 100% of the information that investors need to analyze a bond (other than an issuer's normal financial statements.) Bond issuers should also learn from the U.S. Treasury the advantage of having regular, predictable issuance calendars with standardized product. In addition, bond issuers should be encouraged to re-open existing issues to create larger pools of more liquid instruments.

Standardized bonds would be easier to analyze, and thus less risky to hold and trade. Bonds from the same issuer would be near perfect substitutes. Bonds from similar high quality issuers would also be much closer substitutes than they are now, making it easier and less risky for investors and dealers to achieve their duration/yield/credit quality targets.

The Commission should work with issuers to encourage such standardization. Standardized bonds would simplify the issuance process and reduce the work needed by the SEC to oversee new bond offerings. One thing that the Commission can do to encourage standardization is to offer faster registration processes to standardized instruments. Similarly, the Commission could permit only standardized offerings to use shelf registrations.

Second, the secondary market structure of the fixed income market is badly in need of an overhaul. Investors, especially retail investors, still have trouble getting good information about the prices and quotes for particular bonds due to the fragmentation of the secondary market. Much progress has been made with Trace, but there is still more progress to be made. The Commission should encourage improvements in this area. One change that would help would be for the Commission (perhaps via FINRA) to clarify broker best execution and order protection requirements that would make them parallel to best execution requirements in equity transactions.

But, will fixed income ETPs bring about Armageddon when the inevitable bloodbath occurs in fixed income? I think this will be a minor problem compared to the losses that will occur from a general increase in rates. Bond managers can see this coming. They know what will happen and presumably have plans in place, Y2K style, for dealing with sudden redemptions. Let's think about what will happen when rates spike up. If investors, large or small, sell ETPs shares in a panic, the prices of the ETPs will fall and they will sell at a discount to the NAVs. The investors will get their cash, at a discount. Then arbitrage activity will kick in. The arbs will buy the cheap ETPs and some will hedge against other interest rate sensitive instruments, perhaps leading to no transactions in the underlying bonds. Other arbs will present creation unit blocks of ETPs back to the managers and wind up with a portfolio of bonds. They would only do this if they had a use for the bonds or were comfortable enough with market liquidity to take a position in the bonds while they sell them. Their willingness to actually buy ETP shares and exchange them for bonds will be a function of the expected price they will get for the bonds, so the cost of the liquidity will be built into the ETP shares.

There will be some problems with the ETPs that can be created or redeemed in cash, not by trading the underlying securities for ETP shares. If investors panic and start dumping the shares, arbs will step in to buy the shares at a discount and then redeem them for cash from the ETP manager. This is a more serious case, as now the ETP manager may need to liquidate portfolio securities, and quickly. It would appear that an ETP manager who is tracking an index would have little flexibility in choosing which bonds to sell, and will thus be forced to sell some bonds into an illiquid market at a loss. However, my understanding is that even these ETPs retain the right to redeem in kind, which they could and should use in a time of market turmoil. For this reason, the Commission should insist that all ETPs with redemption features retain the option for in-kind settlement, and the Commission staff should suggest that it be used in times of market turmoil.

However, it is the illiquidity of the secondary market for fixed income that is the real cause of the problems, not ETPs. With proper information about the issues and a functional market structure, fixed income instruments should not freeze up even when prices are declining for whatever reason. In theory, fixed income instruments are much easier to price accurately than equities, and this should make it easier for market intermediaries such as dealers to provide temporary liquidity. The solution to fears of Armageddon when rates rise is to work on improving the primary and secondary markets for fixed income instruments.

LULD opening reference prices need to be fixed, for ETPs as well as other stocks.

Following the Flash Crash in 2010, the U.S. markets instituted a number of volatility control measures including the “Limit-Up-Limit-Down” (LULD) system. LULD has gone a long way to prevent extreme volatility in the equity markets by dampening extreme price movements. In brief, the primary listing market calculates a trading band based around a “reference price”, and trading is prevented outside the band. The width of the band is a function of the type of stock and the time of day. The reference price is generally the average price over the last five minutes, updated not more than once every 30 seconds. If the bid quote equals the upper price band or the ask quote hits the lower price band for 15 seconds (a “limit state”), then a five minute trading pause occurs and the market restarts with an auction.

However, there is a severe problem for illiquid securities. If there is no trade in the opening auction, the opening reference price is based on the midpoint of the bid-ask spread. This sounds reasonable from a distance. Unfortunately, sometimes the opening quotes at 9:30:00.000001 are so wide that midpoint is absurd. For example, if market participants are a bit slow in getting around to quoting a thinly traded \$10 stock, the bid and ask at 9:30:00.000001 might be \$0.01 bid and \$99,999.99 ask, leading to an absurd midpoint of \$50,000.00 for a \$10 stock. The first attempt to put in a reasonable sell offer at the fair market value of \$10 triggers a limit state and then a halt.

This happens daily for dozens of thinly traded stocks and ETPs. On a typical day, there are a dozen or more LULD halts that occur shortly after the opening or around 9:45 when the LULD bands narrow. Sometimes a security gets stuck with a bad reference price, resulting in numerous repeated LULD trading halts.

The following screen shot of LULD halts from my email folder from August 11, 2015 is pretty typical:

Volatility Halt – NYSE/MKT/ARCA for OSMS - Trade Halt Notifications HALT DATE 8/11/2015 HALT TIME 10:05:03 STOCK SYM	10:05 am
Volatility Halt – NYSE/MKT/ARCA for JPEP - Trade Halt Notifications HALT DATE 8/11/2015 HALT TIME 10:02:54 STOCK SYM	10:03 am
Volatility Halt – NYSE/MKT/ARCA for UAG - Trade Halt Notifications HALT DATE 8/11/2015 HALT TIME 09:45:22 STOCK SYME	9:46 am
Volatility Halt – NYSE/MKT/ARCA for GBB - Trade Halt Notifications HALT DATE 8/11/2015 HALT TIME 09:45:15 STOCK SYME	9:46 am
Volatility Halt – NYSE/MKT/ARCA for INR - Trade Halt Notifications HALT DATE 8/11/2015 HALT TIME 09:45:15 STOCK SYMB	9:46 am
Volatility Halt – NYSE/MKT/ARCA for UBM - Trade Halt Notifications HALT DATE 8/11/2015 HALT TIME 09:45:15 STOCK SYMI	9:46 am
Volatility Halt – NYSE/MKT/ARCA for SPLX - Trade Halt Notifications HALT DATE 8/11/2015 HALT TIME 09:45:15 STOCK SYM	9:46 am
Volatility Halt – NYSE/MKT/ARCA for FMLP - Trade Halt Notifications HALT DATE 8/11/2015 HALT TIME 09:45:15 STOCK SYN	9:46 am
Volatility Halt – NYSE/MKT/ARCA for WIL - Trade Halt Notifications HALT DATE 8/11/2015 HALT TIME 09:45:15 STOCK SYMB	9:46 am
Volatility Halt – NYSE/MKT/ARCA for WBIH - Trade Halt Notifications HALT DATE 8/11/2015 HALT TIME 09:45:15 STOCK SYM	9:46 am
Volatility Halt – NYSE/MKT/ARCA for CCX - Trade Halt Notifications HALT DATE 8/11/2015 HALT TIME 09:39:27 STOCK SYME	9:39 am
Volatility Halt – NYSE/MKT/ARCA for TPUB - Trade Halt Notifications HALT DATE 8/11/2015 HALT TIME 09:35:39 STOCK SYN	9:36 am
Volatility Halt – NYSE/MKT/ARCA for USV - Trade Halt Notifications HALT DATE 8/11/2015 HALT TIME 09:33:08 STOCK SYME	9:34 am

The logic behind LULD halts is that when there is a potential market disruption, switching from a continuous auction to a one price call auction after a brief pause permits traders to process information. However, there is no need to switch to a one price auction for an illiquid stock shortly after an auction in which there was no trade.

There needs to be some sanity in the determination of the opening reference price. The previous closing price provides a more accurate starting point than the midpoint of extremely wide quotes. In addition, NAV-based trading would also provide a more robust system than is currently in place.

Long-term investors would benefit from leveraged ETPs with less frequent rebalancing intervals.

There are many leveraged ETPs that have daily rebalancing. These products are useful for intra-day traders who want to speculate on short-term price movements. However, the daily rebalancing leads to an unfortunate whipsaw effect: a 2X or 3X fund may deliver 2X or 3X on a single day, but typically does not deliver 2X or 3X the return over longer time periods because of the daily rebalancing. For example, if an index goes up 10% from 100 to 110 back to 100 on day 2 (-9.09%) , and then back to 110 on day 3, 2x ETP would go up 20% from 100 to 120 on day 1, then down 18.18% to \$98.18 on day 2 and then to 117.81 on day 3. Note that the total return over the three day period is not twice the 10% return of the index (20%), but only 17.81%. The rebalancing in between is what reduced the cumulative return. For a real world example, note that the ProShares Ultra S&P 500 (SSO), a 2X product, increased by 60.97% from June 30 2006 through January 4, 2014, while Vanguard's 500 Index Fund (VFINX) went up 69.66%, not the 139.32% that a naïve investor would have expected from a 2X fund.¹⁷

Although leverage adds risk, it is not necessarily evil as long as it is used properly by investors who understand the risk and who have the risk tolerance to bear that risk. It is unfortunate that investors with longer time horizons do not have access to leveraged ETPs with rebalancing intervals similar to their own time horizons. The SEC should foster the arrival of new leveraged products with rebalancing intervals of one month or one year. Better yet, the SEC should encourage the modification of existing daily rebalancing leveraged ETPs into ETPs with less frequent rebalancing. This would create products that deliver the long-term leveraged returns that many investors expect and prevent the unexpected rebalancing drag that many investors are now experiencing. This would benefit long-term investors who currently lack such tools, while day trading speculators and hedgers would still get deltas close enough to the 2X or 3X movements to meet their trading purposes.

Respectfully submitted,

James J. Angel, Ph.D., CFA

¹⁷ This and other examples are given in http://www.bogleheads.org/wiki/Inverse_and_leveraged ETFs.

Appendix: Regulation SHO Threshold List as of August 10, 2015

Under Regulation SHO, a stock with extended large settlement failures is placed on the “threshold list” if settlement failures exceed 10,000 shares and 0.5% of the shares outstanding for five consecutive settlement days. Special closeout requirements apply to securities that are on this list for 13 days or more. This list demonstrates the securities with protracted and large settlement failures.

NYSE/ARCA Regulation SHO Threshold List

August 10, 2015

Symbol	Security Name
ANGL	Market Vectors Fallen Angel High Yield Bond
ASHR	db X-trackers Harvest CSI 300 China A-Shares Fund
ASHS	db X-Trackers Harvest CSI 500 China-A Shares Small Cap Fund
BABS	SPDR Nuveen Barclays Capital Build America Bond ETF
BSCL	Guggenheim BulletShares 2021 Corporate Bond ETF
BZF	WisdomTree Dreyfus Brazilian Real Fund
CHAU	Direxion Daily CSI 300 China A Share Bull 2X Shares
CNXT	Market Vectors China AMC SME-ChiNext ETF
COPX	Global X Copper Miners ETF
DBEZ	Deutsche X-Trackers MSCI EMU Hedged Equity ETF
DBKO	db X-trackers MSCI South Korea Hedged Equity Fund
DGRO	iShares Core Dividend Growth ETF
DRV	Direxion Daily Real Estate Bear 3x Shares
DUST	Direxion Daily Gold Miners Bear 2X Shares
EDZ	Direxion Daily Emerging Markets Bear 3X Shares
EEMS	iShares MSCI Emerging Markets Small Cap Index Fund
ERY	Direxion Daily Energy Bear 3X Shares
EWM	iShares MSCI Malaysia Index Fund
FCG	First Trust ISE-Revere Natural Gas
FNDC	Schwab Fundamental International Small Company Index ETF
FNDE	Schwab Fundamental Emerging Markets Large Company Index ETF
FNDX	Schwab Fundamental U.S. Large Company Index ETF
FNY	First Trust Mid Cap Growth AlphaDEX
FXEU	PowerShares Europe Currency Hedged Low Volatility Portfolio
FXP	ProShares UltraShort FTSE China 25
FYC	First Trust Small Cap Growth AlphaDEX Fund
GASL	Direxion Daily Natural Gas Related Bull 3X Shares
GMM	SPDR S&P Emerging Markets ETF
IBDM	iShares iBonds Dec 2021 Corporate ETF
IBMH	iShares 2019 AMT-Free Muni Bond ETF
IGM	iShares S&P North American Technology Sector Index Fund

INTF	iShares FactorSelect MSCI International ETF
IXG	iShares S&P Global Financials Sector Index Fund
JDST	Direxion Daily Junior Gold Miners Index Bear 3X Shares
KOLD	ProShares UltraShort DJ-UBS Natural Gas ETF
MYY	ProShares Short MidCap 400
NFRA	FlexShares STOXX Global Broad Infrastructure Index Fund
OUSAA	O'Shares FTSE U.S. Quality Dividend ETF
	PowerShares FTSE RAFI Developed Markets ex-U.S. Small-Mid Portfolio
PDN	
PEZ	PowerShares Dynamic Consumer Discretionary Sector Portfolio
PICK	iShares MSCI Global Select Metals & Mining Producers Fund
PSL	PowerShares Dynamic Consumer Staples Sector Portfolio
PTH	PowerShares Dynamic Healthcare Sector Portfolio
RHS	Guggenheim S&P 500 Equal Weight Consumer Staples ETF
RUSS	Direxion Daily Russia Bear 3x Shares
RYF	Guggenheim S&P 500 Equal Weight Financials ETF
SCJ	iShares MSCI Japan Small Cap Index Fund
SMH	Market Vectors Semiconductor ETF
SMN	ProShares UltraShort Basic Materials
SRTY	ProShares UltraPro Short Russell2000
TLO	SPDR Barclays Capital Long Term Treasury ETF
TMV	Direxion Daily 20 Year Plus Treasury Bear 3x Shares
TNA	Direxion Daily Small Cap Bull 3X Shares
TOTL	SPDR Doubleline Total Return Tactical ETF
TWM	ProShares UltraShort Russell2000
UNG	United States Natural Gas
URTH	iShares MSCI World Index Fund/US
URTY	ProShares UltraPro Russell2000
UVXY	ProShares Trust Ultra VIX Short
XOP	SPDR S&P Oil & Gas Exploration & Production ETF
YANG	Direxion Daily China 3X Bear Shares

Source: <https://www.nyse.com/regulation/threshold-securities>

Note: The list for the NYSE only had five securities, no ETPs. There were none listed for NYSE MKT.

CLF	Cleveland Natural Resources Inc
EGIF	Eagle Growth and Incm Opp Fd
PVA	Penn Virginia
SFY	Swift Energy
SHAK	Shake Shack Inc.

The NASDAQ list for August 10, 2015 from
<http://www.nasdaqtrader.com/trader.aspx?id=regshothreshold>

	WISDOM TREE BARCLAYS US
AGZD	AGGREG
ARIS	ARI NETWORK SVCS INC
	AXION PWR INTL INC COM STK
AXPW	(DE
	FIRST TR FD II NASDAQ CEA
CIBR	CYBE
EXXI	ENERGY XXI LTD COM SHS
	FIRST TRUST SWITZERLAND
FSZ	ALPHAD
	FIRST TRUST LOW BETA INCOME
FTLB	ET
	FIRST TRUST DORSEY WRIGHT
IFV	INTE
	JACKSONVILLE BANCORP INC
JAXB	FLA
	PRIMA BIOMED LTD SPONSORED
PBMD	ADR
SPDC	SPEED COMMERCE, INC COM STK
	PROSHARES ULTRAPRO SHORT
SQQQ	QQQ N
TUTT	ETFIS SER TR I TUTTLE TACTICAL
	CREDIT SUISSE NASSAU VS BRH
TVIX	EX
	PROSHARES TR ULTRAPRO
UBIO	NASDAQ B
	VELOCITYSHARES 3X LONG
UGLD	GOLD ET
VDSI	VASCO DATA SECURITY INTL INC
	VANGUARD SHT-TRM GOVT BD
VGSH	ETF
	VANGUARD RUSSELL 2000
VTWG	GROWTH E